SCH NO. 2021100263

Addendum to the City of Santee Housing Element Rezone Program Implementation PEIR

Cottonwood and Park Project

AUGUST 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
AEP	Association of Environmental Processionals
Alquist–Priolo Act	Alquist–Priolo Earthquake Zoning Act
ALUCP	Airport Land Use Commission Plan
ASTM	American Society of Testing and Materials
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code, Title 24, Part 11
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
City of Santee	City
City's Housing Element	City of Santee Housing Element 6th Cycle 2021-2029
CLOMR	Conditional Letter of Map Revision
CO	Carbon monoxide
Cortese List	Government Code Section 65962.5
DIF	Development Impact Fee
DOC	California Department of Conservation, Division of Land Resource Protection
DPM	Diesel particulate matter
EI	Expansion index
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GUHSD	Grossmont Union High School District
HCP	Habitat Conservation Plan
Housing Rezone Program	Approved Project
LDA	Light duty autos
LOS	Level of service
LRA	Local Responsibility Area
mgd	Million gallons per day

Acronym/Abbreviation	Definition
MM	Mitigation measure
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MSCP	Multiple Species Conservation Plan
MTS	Metropolitan Transit System
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NPDES	National Pollutant Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
PDMWD	Padre Dam Municipal Water District
PEIR	Programmatic Environmental Impact Report
PLF	Point Loma Facility
PM	Particulate matter
PPV	Peak particle velocity
Project/ Proposed Project / Site 17	Cottonwood and Park Project
R-14	Medium-High Density Residential
RAQS	Regional Air Quality Strategy
RHNA	Regional Housing Needs Assessment
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
Santee City Council	Lead Agency
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority
SFD	Santee Fire Department
SIP	State Implementation Plan
SMC	Santee Municipal Code
SR	State Route
SSD	Santee School District
SSP	Sustainable Santee Plan
SWQMP	Storm Water Quality Management Plan
TAC	Toxic air contaminant
TDM	Transportation Demand Management
TIA	Traffic Impact Assessment
USACE	United States Army Corps of Engineers

Acronym/Abbreviation	Definition
VMT	Vehicle Miles Traveled
WEAP	Worker Environmental Awareness Program
WQIP	Water Quality Improvement Program
WRF	Water Recycling Facility

1 Introduction

This document is an Addendum to the City of Santee Housing Element Rezone Program Implementation Program Environmental Impact Report (Santee Housing Element Implementation PEIR) adopted in 2022 by the City of Santee (City). The Santee Housing Element Implementation PEIR and this Addendum, serve as the environmental review for the Cottonwood and Park Project (Project, proposed Project, or Site 17) as required by the California Environmental Quality Act ([CEQA] [Public Resources Code Section 21000 et seq.]) and the CEQA Guidelines (14 California Code of Regulations Sections 15000-15387). Specifically, this addendum addresses minor modifications to Site 17, a proposed multi-family residential development on 22.17 acres of land (City of Santee Assessor's Parcel No. 381-051-18-00) designated as R-14 zone within the Santee Housing Element Implementation PEIR.

1.1 CEQA Requirements

Pursuant to CEQA Public Resources Code Section 21166 and CEQA Guidelines Section 15162, when an Environmental Impact Report (EIR) has been certified or a Negative Declaration adopted for a project, no subsequent or supplemental EIR or negative declaration shall be prepared for the project unless the lead agency determines that one or more of the following conditions are met:

- Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted shows any of the following:
  A. The project will have one or more significant effects not discussed in the previous EIR or Negative Declaration.
  B. Significant effects previously examined will be substantially more severe than identified in the previous EIR.
  C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives.
  D. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

In the event that one of these conditions would require preparation of a subsequent EIR, but "only minor additions or changes would be necessary to make the EIR adequately apply to the project in the changed situation," a lead agency may instead issue a supplement to the EIR (14 CCR 15163(a)).

In the alternative, where the changes or new information will result in no new impacts, or no more severe impacts than any that were disclosed in the EIR, a lead agency "shall prepare an addendum" pursuant to CEQA Guidelines Section 15164. That section states that an addendum should include a "brief explanation of the decision not to prepare a subsequent EIR pursuant to § 15162" supported by substantial evidence (14 CCR 15164(e)). The addendum need not be circulated for public review but may simply be attached to the final EIR (14 CCR 15164(c), 15164(e)).

As the lead agency for the Approved Project and the proposed Project, the City must determine whether the proposed Project creates previously undisclosed significant environmental impacts or a substantial increase in the severity of previously disclosed impacts (14 CCR 15162, 15163, 15164(a), 15088.5(a), and 15088.5(b)). As the following discussion demonstrates, it is appropriate for the City to prepare this Addendum to the Santee Housing Element Rezone Program Implementation PEIR, pursuant to CEQA Guidelines Section 15164, because there are no new impacts or substantial increase in the severity of previously disclosed impacts.

2 Project Description

2.1 Project Location and Regional Setting

The approximately 22.17-acre Project site is located in the southeastern part of the City, which is located within the East County region of San Diego County. The Project site is located between Cottonwood Avenue and Park Center Drive and is bound by the San Diego River to the south; Town Center Community Park East to the west; residential uses and Cottonwood Avenue to the east; and Park Center Drive and vacant land to the north (see Figure 1, Project Location). Regional access to the proposed Project is provided via State Route (SR) 67 located approximately 1.6 miles south of the Project site. Local access to the Project is provided via Cottonwood Avenue, Park Center Drive, and River Bluff Drive.

2.2 Project Overview

Approved Project

The City of Santee Housing Element Rezone Program Implementation PEIR (SCH 2021100263) analyzed impacts related to the implementation of Programs 9 and 10 of the City of Santee Housing Element 6th Cycle 2021-2029 (City's Housing Element), The 6th Cycle Housing Element includes Program 9, which commits the City to evaluate candidate housing sites and rezone as appropriate to achieve adequate housing capacity. As part of this rezoning, a minimum of 25 acres must be rezoned, within 18 months of the adoption of the Housing Element (which occurred on July 14, 2021), to permit by-right (without discretionary action) multifamily development, consistent with Program 10 of the 6th Cycle Housing Element. The Housing Element Rezone Program Implementation was approved by the Santee City Council on October 12, 2022 (Approved Project). These rezone actions, including implementation of a by-right development process for housing that provides qualifying low-income units, were analyzed pursuant to the CEQA. The Santee Housing Element Implementation PEIR was certified by the Santee City Council (lead agency) on October 12, 2022.

Proposed Project

The Proposed Project is Site 17 analyzed in the Santee Housing Element Implementation PEIR located near the southwest corner of Cottonwood Avenue and Park Center Drive in the City of Santee, California (see Figure 1, Project Location and Figure 2, PEIR Rezones Sites) The Assessor's Parcel Number is 381-051-18-00. The Project is proposing to develop 285 multifamily residential units on approximately 22.17 (gross) acres, plus off-site improvements on approximately 1.18 acres of City road right of way and land owned by the County of San Diego. The Project would consist of 54 (2-story rowhomes), 136 (3-story interlock townhomes), and 95 (3-story rowhomes), a total of 645 parking spaces, which would include 570 garage parking spaces and 75 open parking spaces (see Figure 3, Site Plan). The total building square footage includes 237,780 ground square feet and 458,530 net square feet. The Project would include a pedestrian connection to a trail located on the southern side of the project site, pocket parks, a playground, and open space. Additionally, a 100-foot buffer from the edge of the riparian habitat associated with the San Diego River would be established within the Project site and would be managed for natural biological values as part of the City of Santee's Preserve system. The Project would install a storm drain outfall located on County-owned property and will require an easement issued by the County. The Project's designated zoning is Medium-High Density Residential (R-14), which allows for a density range of 14-22

dwelling units per acre. The overall density proposed for this project is 12.86 dwelling units per acre. However, approximately 3.5 acres of the Project Site is undevelopable due to mitigation measure MM-BIO-6 and the incorporation of a 100-foot buffer, as discussed above, resulting in a buildable Project Site of 18.75 acres (gross). Based on the buildable acreage of the Project Site, the overall density proposed for this project is 15.20 dwelling units per developable acre.

3 Environmental Checklist

1. **Project title:**

   Cottonwood and Park Project

2. **Lead agency name and address:**

   City of Santee
   10601 N. Magnolia Avenue
   Santee, California 92071

3. **Contact person and phone number:**

   Rachael Lindebrekke
   Associate Planner
   Planning and Building Department
   619.258.4100 x 205
   rlindebrekke@cityofsanteeca.gov

4. **Project location:**

   Cottonwood Avenue & Park Center Drive
   Santee, California
   APN: 381-051-18-00

5. **Project sponsor's name and address:**

   City Ventures Homebuilding, LLC.
   3121 Michelson Drive, Ste. 150
   Irvine, California 92612

6. **General plan designation:**

   TC/R-14 Town Center - Medium High Density Residential

7. **Zoning:**

   R-14 Medium High Density Residential

8. **Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   The Project is proposing to develop 285 multifamily residential units on approximately 22.17 (gross) acres, plus off-site improvements on approximately 1.18 acres. The Project is located near the southwest corner of Cottonwood Avenue and Park Center Drive in the City of Santee, California. The Accessors Parcel

Number is 381-051-18-00. The Project would consist of 2-story row homes, 3-story interlock townhomes, and 3-story row homes, a total of 645 parking spaces, which would include 570 garage parking spaces and 75 open parking spaces. Additionally, the Project would include a pedestrian connection to a trail located on the southern side of the Project site, pocket parks, a playground, and open space. A 100-foot buffer from the edge of the riparian habitat associated with the San Diego River would be established within the Project site and would be managed for natural biological values as part of the City of Santee's Preserve system. A storm drain outfall would be installed on County-owned property and will require an easement issued by the County.

9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

- North: Vacant Land/Park Center Drive
- South: San Diego River
- East: Residential
- West: Town Center Community Park

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

- California Department of Fish and Wildlife (CDFW) – Section 1601 Lake and Streambed Alteration Agreement for impacts to riparian habitat.
- County of San Diego – Easement for the placement of a storm drain outfall on County owned land.
- Airport Land Use Commission of San Diego County – Influence Area 1 Consistency Determination for Gillespie Field
- Federal Emergency Management Agency (FEMA) - Conditional Letter of Map Revision (CLOMR)

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

A response letter from the Native American Heritage Commission (NAHC) was received on March 9, 2021, indicating positive results for their search of the Sacred Lands File for the proposed Project area (Appendix D of the Santee Housing Element Implementation PEIR). The NAHC recommended that the City contact the Barona Group of the Capitan Grande and the Viejas Band of Kumeyaay Indians as well as the Kumeyaay Cultural Repatriation Committee. The NAHC also provided a list of other sources of cultural resources to contact for information regarding known and recorded sites (see Appendix D of the Santee Housing Element Implementation PEIR).

Based on the NAHC response, a tribal cultural resource is known in the vicinity of the Rezone Sites. Tribal cultural resources may include sacred lands, burial grounds, archaeological sites, and other areas of cultural significance. Pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18, on December 3, 2021, the City notified California Native American tribes identified by the NAHC or included on the City's list of tribes seeking notice of projects subject to CEQA review. The City received no requests for consultation regarding the Project's potential impacts on tribal cultural resources.

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND or MND or previously certified EIR adequately discusses the potential impacts of the project without modification.

☒ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND, MND or previously certified EIR adequately discusses the potential impacts of the project; however, minor changes require the preparation of an ADDENDUM.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous ND, MND or EIR due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, all new potentially significant environmental effects or substantial increases in the severity of previously identified significant effects are clearly reduced to below a level of significance through the incorporation of mitigation measures agreed to by the project applicant. Therefore, a SUBSEQUENT MND is required.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, only minor changes or additions or changes would be necessary to make the previous EIR adequate for the project in the changed situation. Therefore, a SUPPLEMENTAL EIR is required.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, a SUBSEQUENT EIR is required.

Section 15168(c) of the CEQA Guidelines provides that when the lead agency adopts a program EIR, subsequent activities in the program are examined in light of the program EIR to determine whether an additional environmental document must be prepared. Pursuant to Section 21166 of CEQA and Section 15162 of the CEQA

Guidelines, the lead agency shall not prepare a subsequent or supplemental EIR unless the agency determines that one or more of the following conditions are met for the project:

1. Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR or Negative Declaration;
    b. Significant effects previously examined will be substantially more severe than identified in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives; or
    d. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

Where none of the conditions specified in Section 15162 are present, the lead agency does not need to prepare a subsequent or supplemental EIR (CEQA Guidelines Section 15162(a)), but may prepare a negative declaration, an addendum, or no further CEQA documentation. Section 15164 of the CEQA Guidelines states that an addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

In accordance with the CEQA Guidelines, the City has determined that an Addendum to the PEIR is the appropriate environmental document for the Project. This Addendum reviews the changes proposed by the Project and any pertinent changes to the circumstances under which the Project is undertaken that have occurred since the PEIR was certified. It also reviews any new information of substantial importance that was not known and could not have been known with exercise of reasonable diligence at the time that the PEIR was certified. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required. This examination includes an analysis of the provisions of Section 21166 of CEQA and Section 15162 of the CEQA Guidelines and their applicability to the Project.

Signature Date

Evaluation of Environmental Impacts

1. A finding of "No New Impact/No Impact" means that the potential impact was fully analyzed and/or mitigated in the prior CEQA document and no new or different impacts will result from the proposed activity. A brief explanation is required for all answers except "No New Impact/No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No New Impact/No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No New Impact/No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. A finding of "New Mitigation is Required" means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document and that new mitigation is required to address the impact.
3. A finding of "New Potentially Significant Impact" means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document that cannot be mitigated to below a level of significance or be avoided.
4. A finding of "Reduced Impact" means that a previously infeasible mitigation measure is now available, or a previously infeasible alternative is now available that will reduce a significant impact identified in the previously prepared environmental document.
5. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analyses Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis. Describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the proposed action.
    c. Infeasible Mitigation Measures. Since the previous EIR was certified or previous ND or MND was adopted, discuss any mitigation measures or alternatives previously found not to be feasible that would in fact be feasible or that are considerably different from those previously analyzed and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternatives.
    d. Changes in Circumstances. Since the previous EIR was certified or previous ND or MND was adopted, discuss any changes in the project, changes in circumstances under which the project is undertaken and/or "new information of substantial importance" that cause a change in conclusion regarding one or more effects discussed in the original document.
7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

8. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
9. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
10. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question;
    b. differences between the proposed activity and the previously approved project described in the approved ND or MND or certified EIR; and
    c. the previously approved mitigation measure identified, if any, to reduce the impact to less than significant.

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the Project:				
Issue 1: Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
Issue 2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
Issue 3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
Issue 4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
Issue 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
Issue 3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☒	☐
Issue 4: Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
Issue 5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:				
Issue 1: Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
Issue 2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
Issue 3: Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES – Would the Project:				
Issue 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
Issue 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
Issue 3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
Issue 4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
Issue 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐
V. CULTURAL RESOURCES – Would the Project:				
Issue 1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☒	☐
Issues 2 and 4: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; religious uses or tribal cultural resources?	☐	☐	☒	☐
Issue 3: Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
VI. ENERGY – Would the Project:				
Issue 1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? Issue 2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐
VII. GEOLOGY AND SOILS – Would the Project:				
Issue 1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
Issue 2: Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
Issue 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
Issue 4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
Issue 5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
Issue 6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the Project:				
Issue 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
Issue 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the Project:				
Issue 1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
Issue 2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
Issue 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
Issue 4: Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☒	☐
Issue 6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
Issue 7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐
X. HYDROLOGY AND WATER QUALITY – Would the Project:				
Issue 1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
Issue 2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
Issue 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
Issue 4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
Issue 5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐
XI. LAND USE AND PLANNING – Would the Project:				
Issue 1: Physically divide an established community?	☐	☐	☒	☐
Issue 2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
XII. MINERAL RESOURCES – Would the Project:				
Issue 1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐
XIII. NOISE – Would the Project result in:				
Issue 1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
Issue 2: Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
Issue 3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☒	☐
XIV. POPULATION AND HOUSING – Would the Project:				
Issue 1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
Issue 2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
XV. PUBLIC SERVICES – Would the Project:				
Issue 1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐
XVI. RECREATION				
Issue 1: Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
Issue 2: Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐
XVII. TRANSPORTATION – Would the Project:				
Issue 1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
Issue 2: Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
Issue 3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 4: Result in inadequate emergency access?	☐	☐	☒	☐
XVII. TRIBAL CULTURAL RESOURCES				
Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
Issue 1: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☒	☐
Issue 2: A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐
XVII. UTILITIES AND SERVICE SYSTEMS – Would the Project:				
Issue 1: Require or result in the relocation or construction of new or expanded water, waste water treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
Issue 3: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 3: Result in a determination by the waste water treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
Issue 4: Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
Issue 5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐
XIX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
Issue 1: Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
Issue 2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
Issue 3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐

	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/No Impact	Reduced Impact
Issue 4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.1 Aesthetics

3.1.1 Analysis

Issue 1: Scenic Vistas

Would the Project have a substantial adverse effect on a scenic vista?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR acknowledged that certain rezone sites, including Site 17, are largely undeveloped open land located north of the San Diego River and that development within these sites could impede views to and from the river. The PEIR noted that future ministerial and discretionary development would be required to adhere to relevant portions of the Santee Municipal Code (SMC) including Chapter 13.08, et.seq., which establishes the City's development review procedures. The PEIR further required development adjacent to the San Diego River to be subject to applicable Draft Santee MCSP Subarea Plan setback and buffer requirements. The Santee Housing Element Implementation PEIR concluded that the development of Rezone Sites would result in less-than-significant impacts on scenic vistas because the development standards would ensure consistency with General Plan policies and development regulations from the Town Center Specific Plan. Additionally, the Development Review process consistent with SMC 13.08 would ensure that future development would not have a substantial adverse effect on scenic vistas and views.

Proposed Project Analysis

The proposed Project would substantially alter the existing visual landscape by increasing density, intensity of use, and human activity on the Project site and in the Project area. The proposed Project would incorporate open space buffers adjacent to the City of Santee's Preserve system and the San Diego River to maintain the scenic value of these areas. As mentioned, a 100-foot buffer from the edge of the riparian habitat associated with the San Diego River would be established within the Project site. The Santee Housing Element Implementation PEIR specifically addressed the potential impacts to views to and from the San Diego River by development on rezone sites near the San Diego River. Additionally, the Project has been designed to recognize the San Diego River as a focal point by orienting buildings toward the open space, with some of the buildings oriented at an angle so additional units get visual access to the open space. The Project design incorporates open space in the form of passive uses, view parks, communal space and pedestrian trails. Impacts to scenic vistas were determined to be less than significant because development of the site would be required to comply with General Plan policies, design review procedures and adjacency requirements of the Draft Santee MSCP Subarea Plan. In addition, the Santee Housing Element Implementation PEIR concluded that development would be consistent with surrounding areas and would not affect existing views. Because the proposed Project would implement General Plan policies, design review procedures and adjacency requirements of the Draft Santee MCSP Subarea Plan, and the Project would maintain the scenic value of the area through the 100-foot buffer, the proposed Project's impact would be the same as that envisioned for Site 17 under the Santee Housing Element Implementation PEIR. Therefore, the proposed Project would not result in any new impacts, no previously identified significant impacts would substantially increase in severity, and potential impacts to scenic vistas would remain less than significant.

Issue 2: Scenic Resources

Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the ministerial and discretionary development of Rezone Sites would not be located near a designated State Scenic Highway. The closest designated State Scenic Highway is the segment of SR-52 between Santo Road east to Mast Boulevard, which is located in the City of San Diego. Due to its distance and intervening topography, the PEIR concluded that the Rezone Sites would not be seen from this location. Further, the PEIR concluded that adherence to the requirement for development review consistent with Municipal Code Chapter 13.08 and the Town Center Specific Plan development regulations would ensure consistency with General Plan policies and applicable design and development review requirements. Application of these regulatory requirements would ensure that future development would not degrade scenic resources including but not limited to trees, rock outcroppings, and historic buildings within a State Scenic Highway. Impacts would be less than significant.

Proposed Project Analysis

The proposed Project would not substantially damage scenic resources within a State Scenic Highway. The proposed development would be within an urbanized area. Additionally, the proposed Project would be consistent with Municipal Code Chapter 13.08 which would ensure consistency with General Plan policies and applicable design and development review requirements. Because the proposed Project would implement those regulations, and the Project would not degrade scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within State Scenic Highway, the impacts would be the same as that envisioned for Site 17 under the Santee Housing Element Implementation PEIR. Therefore, the proposed Project would not result in any new impacts, no previously identified significant impacts would substantially increase in severity, and potential impacts to scenic resources would remain less than significant.

Issue 3: Visual Character or Quality

In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the ministerial and discretionary development of Rezone Sites would not substantially degrade the existing visual character or quality of public views, since the majority of the Rezone Sites are located near the outer urbanization area of the City. However, the PEIR acknowledges that residential development of Site 17 could affect the visual character and quality of views of the San Diego River. Further, the introduction of medium-density residential development on Site 17 would change the visual makeup of the Town Center and surrounding area. The PEIR concluded that adherence to regulatory requirements including Development Review consistent with municipal Code Chapter 13.08 and implementation

of the Town Center Specific Plan development regulations would ensure that future development would not substantially degrade scenic resources. Impacts would be less than significant.

Proposed Project Analysis

The proposed Project could substantially degrade the existing visual character or quality of public views and quality of public views toward the San Diego River. While the tallest buildings would be up to 37 feet tall, open space buffers adjacent to the San Diego River would maintain the scenic value of these areas. As mentioned, a 100-foot buffer from the edge of the riparian habitat associated with the San Diego River would be established within the Project site, which would help protect the visual character and quality of the area. Building heights would not exceed allowable building heights per the SMC. However, the Project site is designated R-14, and development of medium-high density residential at this location was considered and approved under the Town Center Specific Plan. Further, the proposed Project would undergo Development Review that would ensure the proposed Project is consistent with the General Plan policies and applicable design requirements of the Town Center Specific Plan. Thus, the proposed Project would not conflict with applicable zoning and other regulations governing scenic quality. The Project's impacts would be the same as that envisioned for Site 17 under the Santee Housing Element Implementation PEIR. Therefore, the proposed Project would not result in any new impacts or increase the severity of impacts, and potential impacts to visual quality would remain less than significant.

Issue 4: Light or Glare

Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the impacts from ministerial and discretionary development of the Rezone Sites would be less than significant in regard to creating a new source of substantial light or glare. The majority of the Rezone Sites are located in urbanized areas and would be required to comply with Santee Municipal Code standards related to light and glare. These standards require outdoor lighting be directed away from adjacent properties and set in a way to avoid any detriment to the surrounding area. Further, the Community Enhancement Element of the General Plan includes the standard for lighting and signage to minimize spillover of lighting through use of directional, cut-off and non-glare fixtures. All future projects must comply with regulatory requirements, such as the General Plan and undergo development review. Therefore, the Santee Housing Element Implementation PEIR concluded that with adherence to regulatory requirements impacts related to creating a new source of substantial light or glare would be less than significant.

Proposed Project Analysis

Currently, there are no existing lighting sources on the Project site since it is undeveloped and vacant. However, the proposed Project is located within an urbanized area with existing sources of light and glare. The proposed Project is a residential development which would include exterior lighting for safety and security purposes. The project would comply with the California Green Building Standards, the City's Municipal Code and General Plan requirements with respect to lighting. Site lighting would incorporate cutoff lenses to keep light from spilling over onto adjacent properties and to keep light sources from being visible on or directing light rays onto adjoining property as

established in Section 13.08.070(G) of the City's Municipal Code. Therefore, based on compliance with local requirements, the Project's impacts would be the same as that envisioned for Site 17 under the Santee Housing Element Implementation PEIR. Therefore, the proposed Project would not result in any new impacts or increase the severity of impacts, and potential impacts to associated with light and glare would remain less than significant.

3.1.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures.

3.2 Agriculture and Forestry Resources

3.2.1 Analysis

Issues 1 through 5:

Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

City of Santee Housing Element Implementation PEIR Analysis

The California Department of Conservation, Division of Land Resource Protection (DOC) has not identified the Rezone Sites as Prime Farmland or Unique Farmland through its Farmland Mapping and Monitoring Program (FMMP). The majority of the Rezone Sites and the surrounding area are designated as "Urban and Built-up Land," "Other Land," and "Grazing Land" by the DOC and are not considered a significant farmland resource under CEQA. Although a few Rezone Sites are designated as "Farmland of Local Importance", including the Project site (Site 17), there is no recent history of agricultural use at those sites Additionally, none of the Rezone Sites are subject to a Williamson Act Contract or located on forestland within the City. The City does not possess any zoning designations for forestland, timberland, or timberland production zones. Therefore, the Santee Housing Element Implementation PEIR determined no impacts to agricultural and forestry resources would occur and included the discussion of agricultural and forestry resources in the *Effects Found Not to be Significant* analysis.

Proposed Project Analysis

According to the FMMP, the proposed Project is designated "Farmland of Local Importance" and "Other Land," however as noted above, there is no recent history of agricultural use at the proposed Project site (DOC 2022). In this case, the DOC's designation does not recognize the fact that the site has a land use designation and zoning for residential uses and is surrounded on three sides by residential land uses. This suggests a potential use for farmland is highly unlikely to occur because of the site location. Additionally, the proposed Project site is not located on land subject to a Williamson Act Land Use Contract nor forestland or timberland. Therefore, the proposed Project would not result in any new impacts or increase the severity of impacts related to agricultural and forestry resources and no impacts associated with agricultural or forestry resources would occur.

3.2.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.3 Air Quality

The analysis in this section was completed in compliance with the following report:

- Cottonwood & Park Air Quality, Greenhouse Gas, and Energy Impacts Study for City Ventures, prepared in April 30, 2025 by MD Acoustics, LLC and included as Appendix A of this Addendum.

3.3.1 Analysis

Issue 1: Consistency with Air Quality Plans

Would the Project conflict with or obstruct implementation of the applicable air quality plan?

City of Santee Housing Element Implementation PEIR Analysis

The San Diego Air Pollution Control District (SDAPCD) and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the San Diego Air Basin (SDAB), specifically the 2022 Regional Air Quality Strategy (RAQS) and the 2020 Plan for Attaining the National Ambient Air Quality Standards (NAAQS) for Ozone, which is part of the State Implementation Plan (SIP).

The San Diego-specific SIP components and RAQS rely on information from the California Air Resources Board (CARB) and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in both the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of their General Plans.

If a project proposes development that is greater than that anticipated in the local adopted plan and SANDAG's growth projections, the project has potential to conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality.

The Santee Housing Element Implementation PEIR determined that the Rezoning Sites would conflict with or obstruct implementation of the applicable air quality plan since there would be an increase in development and in traffic generation. Overall, the development would exceed the assumptions used to develop the RAQS, therefore the PEIR concluded that the impacts would be significant and unavoidable.

Proposed Project Analysis

The City's General Plan Land Use Map and Zoning Map designates the Project site as R-14, which allows for a density range of 14-22 dwelling units per acre (City of Santee 2017). The proposed Project would be consistent with the existing General Plan and zoning for the City of Santee as well as the land use assumed in the Santee Housing Element Implementation PEIR. Furthermore, operational emissions generated by the Project would be below the established significance thresholds for criteria pollutants as shown in Table 3.3.1-2. Therefore, the proposed Project would not result in a new or substantially more severe impact that would conflict with or obstruct implementation of the RAQS. Impacts would be less than significant.

Issue 2: Cumulative New Increases of Criteria Pollutants

Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold for ozone precursors)?

City of Santee Housing Element Implementation PEIR Analysis

According to the Santee Housing Element Implementation PEIR, the construction and operational emissions associated with the individual Rezone Sites would be less than the applicable thresholds for all criteria pollutants compared to the SDAPCD project-level screening levels. Therefore, project-level impacts for each individual Rezone Site would be less than significant. However, the scale and extent of construction activities associated with buildout of the Rezone Sites may result in some instances where future development would occur simultaneously and would cumulatively exceed the relevant thresholds. Therefore, cumulative construction-related regional air quality impacts would be potentially significant.

The City would require future developments to implement construction Best Management Practices consistent with SDAPCD rules and regulations. Additionally, the construction of future developments shall comply with California Code of Regulations, Title 12, Section 2449 and SDAPCD rules 51, 52, 54, 55, and 67. Though a site-specific project may not exceed the SDAPCD regional significance threshold, the scale and extent of construction activities would create impacts associated with criteria air pollutants that are significant and unavoidable. The PEIR included mitigation measure MM-AQ-1 to be applied as a requirement of the City's objective design and performance standards adopted as part of the project. The Santee Housing Element Implementation PEIR concluded for operational emissions from the project as a whole, impacts would remain significant and unavoidable even with mitigation because the significant air quality impact stems from an inconsistency between the Project and the adopted land use plan upon which the RAQS is based.

Proposed Project Analysis

Construction

Emissions from construction of the proposed Project were estimated using California Emissions Estimator Model (CalEEMod) Version 2022.1.1.22. Default values provided by the program were used where detailed proposed Project information was not available. The Project would comply with SDAPCD Rules 52, 54, and 55 to reduce fugitive dust emissions during construction, and mitigation measure MM-AQ-1 from the PEIR would apply to this project. Construction would begin no earlier than August 2024 and would last approximately 18 months. A detailed depiction of the construction scenario assumptions—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Appendix A. Table 3.3.1-1 shows the estimated maximum daily construction emissions associated with the proposed Project prior to implementation of MM-AQ-1 but with adherence to SDAPCD Rules 51, 52, 54, 55, 67, and 1200.

Table 3.3.1-1. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Daily Construction Emissions (pounds/day)						
2024	3.80	47.10	35.60	0.12	9.41	5.45
2025	2.74	14.70	31.90	0.04	4.20	1.33
2026	72.43	7.33	10.59	0.01	0.66	0.33
Maximum	***72.43***	***47.10***	***35.60***	***0.12***	***9.41***	***5.45***
SDAPCD Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Construction Emissions (tons/year)						
2024	0.14	1.26	1.43	0.00	0.26	0.11
2025	0.35	1.88	3.83	0.00	0.53	0.17
2026	***1.28***	***0.07***	***0.14***	***0.00***	***0.01***	***0.01***
Maximum	***1.28***	***1.88***	***3.83***	***0.00***	***0.53***	***0.17***
SDAPCD Threshold	*13.7*	*40*	*100*	*40*	*15*	*10*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2022.1.1.22, Appendix A
The grading phase incorporates anticipated emissions reductions required by SDAPCD Rules 52, 54, and 55 to reduce fugitive dust.
The architectural coating phase incorporate anticipated emissions reductions required by SDAPCD Rule 67.0.1.

As shown in Table 3.3.1-1, the estimated maximum daily construction emissions would not exceed the SDAPCD thresholds of significance. Further, Table 3.3.1-1 shows more conservative results, since implementation of MM-AQ-1 would further reduce emissions. Therefore, no new significant impacts would occur, and no previously identified significant air quality impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Operation

Emissions from operation of the proposed Project were also estimated using CalEEMod. The operating emissions were based on year 2026, which is the anticipated opening year for the project.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

The architectural coating phase involves the greatest release of VOCs. The emissions modeling for the Project includes the use of low-VOC paint (50 grams per liter [g/L] for not flat coatings for the buildings and 100 [g/L] for parking lot striping) as required by SDAPCD Rule 67.0.1

Energy Sources

2022.1.1.22 CalEEMod defaults were utilized.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed Project. The vehicle trips associated with the proposed Project are based upon the trip generation rates provided by SANDAG's Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). The trip generation shows a rate of 2,368 trips per day.

The program then applies the emission factors for each trip, which is provided by the EMFAC2017 model, to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A for details.

Table 3.3.1-2 presents the proposed Project's estimated maximum daily operational criteria air pollutant emissions. The values shown are the maximum summer or winter daily emissions (i.e., worst-case) results from CalEEMod.

Table 3.3.1-2. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Activity	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Daily Operation Emissions (pounds/day)						
Area Sources[1]	12.70	0.30	32.80	0.00	0.03	0.02
Energy Usage[2]	0.11	1.86	0.79	0.01	0.15	0.15
Mobile Sources[3]	9.53	7.10	67.10	0.16	14.00	3.63
Total Emissions	***22.34***	***9.26***	***100.69***	***0.17***	***14.18***	***3.80***
SDAPCD Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Operation Emissions (tons/year)						
Area Sources[1]	1.96	0.03	2.95	0.00	0.00	0.00
Energy Usage[2]	0.02	0.34	0.14	0.00	0.03	0.03
Mobile Sources[3]	1.68	1.28	11.60	0.03	2.54	0.66

Table 3.3.1-2. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Activity	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Total Emissions	*3.66*	*1.65*	*14.69*	*0.03*	*2.57*	*0.69*
SDAPCD Thresholds	*13.7*	*40*	*100*	*40*	*15*	*10*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod Version 2022.1.1.22, Appendix A
1 Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
2 Energy usage consists of emissions from on-site natural gas usage.
3 Mobile sources consist of emissions from vehicles and road dust

As shown in Table 3.3.1-2, emissions from the operation of the proposed Project would not exceed SDAPCD thresholds. Therefore, no new significant impacts would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issue 3: Sensitive Receptors

Would the Project expose sensitive receptors to substantial pollutant concentrations?

City of Santee Housing Element Implementation PEIR Analysis

Toxic air contaminants (TACs) and fine particulate matter ($PM_{2.5}$) are defined as airborne pollutants that may pose a present or potential hazard to human health and can potentially cause a wide range of health effects. Additionally, SDAPCD identified local community risks from air pollutants which include exposure to TACs and $PM_{2.5}$ concentrations. Gas stations, dry cleaners, diesel backup generators, on-road motor vehicles (e.g., trucks and cars) and off-road sources (e.g., construction equipment, ships, and trains) are common sources of TACs and $PM_{2.5}$. The future development of residential uses is generally not a source of TACs. The Santee Housing Element Implementation PEIR concluded that the buildout of the Project would not result in a CO hotspot. Additionally, construction and operation of future development would not result in the exposure of sensitive receptors to TACs from construction activities, stationary sources, or mobile sources, and impacts would be less than significant.

Proposed Project Analysis

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. As such, sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptors to the Project site are single-family residences located approximately 200 feet east of the Project site.

The greatest potential for TAC emissions during construction is diesel particulate emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. Additionally, Carbon Monoxide (CO) is a pollutant of major concern along roadways, because the majority source of CO is motor vehicles.

Localized Carbon Monoxide Hot Spots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed "CO hotspots." The transport of CO is extremely limited, as it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot.

The SDAB is classified as a state attainment area and as a federal maintenance area for CO. Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. The violations that took place in 2003 were likely the result of massive wildfires that occurred throughout the county. No violations of the state or federal CO standards have occurred since 2003.

Small-scale, localized concentrations of CO above the state and national standards have the potential to occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. CO hot spots are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO. Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. The SDAB is a CO maintenance area under the federal CAA. This means that SDAB was previously a non-attainment area and is currently implementing a 10-year plan for continuing to meet and maintain air quality standards.

The SDAB is a CO maintenance area (western and central part of the SDAB only). As a screening analysis, the SCAQMD conducted CO modeling for the 2003 AQMP (Appendix V: Modeling and Attainment Demonstrations, SCAQMD 2003) for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 ppm at the Sunset Boulevard and Highland Avenue intersection in 2002; the maximum 8-hour CO concentration was 3.4ppm at the Wilshire Boulevard and Veteran Avenue in 2002. Therefore, an intersection would need over 200,000 vehicles per day to exceed the 8-hour CO CAAQS (9.0 ppm) or 400,000 vehicles per day to exceed 1-hour CO CAAQS (20 ppm).

Accordingly, CO concentrations at congested intersections would not exceed the 8-hour CO CAAQS if projected daily traffic would generate less than 200,000 vehicles per day or the 1-hour CO CAAQS for less than 400,000 vehicles per day. The proposed Project is anticipated to generate approximately 2,368 vehicle trips per day. Therefore, the proposed Project would not be anticipated to increase daily traffic volumes at any study intersection to more than 200,000 vehicles per day, a CO hotspot is not anticipated to occur, and associated impacts would remain less than significant. No new significant impacts would occur, and no previously identified

significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

Toxic Air Contaminants

In addition to impacts from criteria pollutants, Project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (immediate) and/or chronic (cumulative) non-cancer health effects. A toxic substance released into the air is considered a TAC. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC (CARB 2024a).

TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air (CARB 2023). In addition, the California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere (CARB 2024b).

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills.
Project construction would result in emissions of diesel particulate matter (DPM) from heavy construction equipment and trucks accessing the site. DPM is characterized as a TAC by the State of California.

State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and has adopted appropriate control measures for sources of these TACs. The following measures are required by state law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Air Toxic Control Measures to reduce DPM emissions. The Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure but has not identified health effects due to short-term exposure to diesel exhaust. According to OEHHA, health risk

assessments should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the Project (OEHHA 2015).

The duration of proposed construction activities (approximately 18 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. As shown in Table 3.3.1-1, the Project would result in maximums of 0.53 tons per year of PM_{10} and 0.17 tons per year of $PM_{2.5}$, which are less than the threshold for PM_{10} and $PM_{2.5}$ which are 15 and 10 tons per year, respectively. Furthermore, as shown in Table 3.3.1-1, maximum daily particulate matter (i.e., PM_{10} or $PM_{2.5}$) emissions generated by construction equipment operation and haul-truck trips during construction (exhaust particulate matter or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, is minimal and less than SDAPCD thresholds, which account for OEHHA guidelines. Compliance with CARB In-Use Off-Road Diesel-Fueled Fleets Regulation limits unnecessary idling to 5 minutes, requires all construction fleets to be labeled and reported to CARB, bans Tier 0 equipment, and phases out Tier 1 and 2 equipment thereby replacing fleets with cleaner equipment, and requires that fleets comply with Best Available Control Technology requirements. These regulatory measures would further ensure construction equipment generated emissions would not exceed thresholds for TAC exposure. Further, emissions during construction would not be concentrated in one area of the site but would be spread over the entirety of the site. Construction emissions would not be continuous and would cease once construction is complete. Therefore, the Project would not expose sensitive receptors to substantial quantities of TACs during construction. Impacts would be less than significant.

After proposed construction is completed, there would be no long-term source of TAC emissions during operation as TACs are typically associated with heavy-duty equipment and industrial processes. The Project would not require the extensive operation of heavy-duty diesel construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions, routine use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure, once construction is completed, or industrial processes such as chemical manufacturing. Therefore, the Project would not expose sensitive receptors to substantial quantities of TACs during operation and impacts would be less than significant.

No residual TAC emissions and corresponding health risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the Project. The Project would not include any land uses associated with generation of TAC emissions. Potential impacts associated with exposure of sensitive receptors to TACs would be less than significant.

It is expected that operation of the Project would not result in any non-permitted direct emissions (e.g., those from a point source such as diesel generators) that could be a TAC source and, as discussed previously, is anticipated to result in irregular and minimal operational activity, including diesel vehicle travel. Therefore, the Project would not result in exposure of sensitive receptors in the vicinity of the Project site to substantial TAC concentrations due to either construction or operation and impacts would be less than significant. No new significant impacts would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

Issue 4: Odors

Would the Project result in other emissions (such as those leading to odors) affecting a substantial number of people?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR identified typical examples of odor-generating uses or activities including wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, food-processing plants, dairies, painting/coating operations, or rendering plants agricultural uses. Additionally, the PEIR acknowledged that the City's existing odor-generating sources, including the Sycamore Landfill and a water reclamation plant, are located one mile or more from the Rezone Sites and therefore, would not affect substantial numbers of people.

Emissions from construction equipment would potentially generate odors from the diesel exhaust, volatile organic compounds, architectural coatings, paving activities, however these odors would be temporary and are not expected to affect a substantial number of people. Construction emissions (those leading to odors) would be less than significant. Once operational, future development would include residential and associated commercial uses that are generally not a source of objectionable odors. Therefore, the Santee Housing Element Implementation PEIR concluded that the operation of future developments would not result in odors adversely affecting a substantial number of people, and impacts would be less than significant.

Proposed Project Analysis

Odors are the form of air pollution that is most obvious to the general public and can present problems for both the source and surrounding community. The occurrence and severity of potential odor impacts depends on numerous factors: the nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen complaints.

SDAPCD Rule 51, commonly referred to as the public nuisance rule, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The potential for an operation to result in odor complaints from a "considerable" number of persons in the area would be considered to be a significant, adverse odor impact.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement and architectural coatings. The objectionable odors that may be produced during the construction process are short-term in nature, and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the Project, which are objectionable to some; however, emissions would disperse rapidly from the Project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Furthermore, construction emissions would not exceed SDAPCD thresholds. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed Project.

Land uses and operations typically associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, refineries, landfills, dairies, and fiberglass molding. The anticipated uses for the proposed residential use are not typically associated with objectionable odors. Therefore, impacts would remain less than significant. No new significant impacts would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

3.3.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-AQ-1: The City shall require Project applicants to identify the measures that would be taken at the construction site to reduce construction-related criteria air pollutants such that they do not exceed the SDAPCD screening thresholds. Based on typical construction emissions, implementation of the following measures would be sufficient to reduce air pollutant emissions during construction:

- Requiring fugitive dust control measures that exceed SDAPCD's Rules 52, 54, and 55, such as:
  - Requiring use of non-toxic soil stabilizers to reduce wind erosion.
  - Applying water every four hours to active soil-disturbing activities.
  - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) emission limits, applicable for engines between 50 and 750 horsepower.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating materials can be found on the SCAQMD's website at: http://www.aqmd.gov/prdas/brochures/SuperCompliant_AIM.pdf.

In regard to operational emissions, measures included as part of the Sustainable Santee Plan, such as expansion of the pedestrian and bicycle networks, installation of electric vehicle charging stations, and solar photovoltaics requirements, would also reduce criteria air pollutants within the City. However, because the Project would exceed the growth projections used to develop the RAQS, no mitigation measures are available that would reduce impacts below the screening thresholds.

3.4 Biological Resources

The analysis in this section was completed in compliance with the following report:

- Cottonwood and Park Biology Technical Report, prepared in June 2025 by Dudek and included as Appendix B of this Addendum.

3.4.1 Analysis

Issue 1: Sensitive Species

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Sites could have the potential to substantially adverse effect special status plant and wildlife species. Potential impacts to sensitive plants and wildlife were identified on Site 17 (Project site). Additionally, mitigation would be implemented by both discretionary and by-right development projects. The following mitigations measures (MM) MM-BIO-1, MM-BIO-2, MM-BIO-4, MM-BIO-5 and MM-BIO-6 would be implemented and the direct and indirect impacts to sensitive plants and sensitive wildlife would be reduced to less than significant with mitigation incorporated.

Proposed Project Analysis

Direct and Indirect Impacts

Direct impacts to special-status plant and wildlife species could potentially result from the removal of occupied habitat through grading and other land development activities. Additionally, indirect impacts to special-status plant or wildlife species could also result from excess noise, lighting, or runoff generated during project construction. Implementation of the Santee Housing Element Implementation PEIR (City of Santee 2022) proposed MM-BIO-1 would reduce potential direct and indirect impacts special-status species to less than significant.

One special-status plant species, white rabbit-tobacco, was observed within the Project site and immediately adjacent to the Project site boundary. No other special-status plant species included in Appendix C to the Biological Technical Report for the Project (Appendix B) are expected to occur within the Project site. All white rabbit-tobacco individuals (0.20 acres; 15 individuals) would be avoided by the proposed Project with establishment of the 100-foot buffer required by MM-BIO-6.

A pair of least Bell's vireos were observed during protocol-level breeding season surveys within the riparian habitat within the Project site, and two other least Bell's vireo pairs were detected in the riparian habitat areas within the Project site's 500-foot buffer. Direct impacts to least Bell's vireo individuals are not anticipated due to the Project's avoidance of impacts to occupied habitat through the establishment of a 100-foot buffer from the edge of the riparian habitat. However, indirect impacts to least Bell's vireo from construction noise would be significant, and impacts would be mitigated through implementation of the Santee Housing Element Implementation PEIR MM-BIO-2, which would require noise attenuation measures for occupied habitat. Protocol-level surveys for least Bell's vireo required by MM-BIO-2 were conducted as part of the evaluation for this Project.

The Santee Housing Element Implementation PEIR (City of Santee 2022) identified potential significant direct and indirect impacts to coastal California gnatcatcher (*Polioptila californica californica*) within the Project site. However, there is no suitable habitat for this species within the Project site, and this species was not incidentally observed during field surveys. Therefore the Santee Housing Element Implementation PEIR MM-BIO-3 does not apply to this Project.

Direct impacts to nesting birds protected under Section 3503 of the California Fish and Game Code could occur within vegetated areas of the Project site. Project implementation of the Santee Housing Element Implementation PEIR proposed MM-BIO-4 would reduce potential direct impacts to nesting birds (including least Bell's vireo) to a less-than-significant level through performance of a pre-construction nesting bird survey if construction occurs during the nesting season. Therefore, no new significant direct impacts to nesting birds are anticipated with Project implementation.

Three special-status wildlife species were either within the Project site (i.e., monarch and least Bell's vireo) or immediately outside the Project site within the 500-foot buffer (i.e., yellow warbler). One monarch individual was observed passing through the Project site during the biological surveys. However, the Project site is not an established overwintering area for this species, the site does not provide any host plants (i.e., milkweed), and the site supports very limited nectar plants (i.e., the majority of the site contains non-native grasses); therefore, direct or indirect impacts to this species are not anticipated. Additionally, a total of nine special-status wildlife species have moderate potential to occur, and one special-status wildlife species has high potential to occur within the Project site or adjacent to the Project site within the San Diego River corridor due to the presence of suitable habitat for the southern California legless lizard (*Anniella stebbinsi*), San Diegan tigar whiptail (*Aspidoscelis tigris stejnegeri*), two-striped gartersnake (*Thamnophis hammondii*), yellow-breasted chat (*Icteria virens (nesting)*), pallid bat *(Antrozous pallidus),* Townsend's big-eared bat *(Corynorhinus townsendii),* western yellow bat (*Dasypterus xanthinus*), western mastiff bat (*Eumops perotis californicus*), pocketed free-tailed bat (*Nyctinomops fermorosaccus*), western red bat (*Lasiurus frantzii*) *(*see Appendix D of Appendix B). Direct impacts to foraging or nesting habitat for special-status species would be reduced to less than significant with implementation of the Santee Housing Element Implementation PEIR proposed MM-BIO-5, which would require the Applicant to provide evidence in the form of a dedicated easement, proof of purchase of mitigation credits, or other method of conservation for the preservation of the suitable habitats.

The Project site does not occur within USFWS-designated critical habitat for plant or wildlife species. Therefore, no new direct impacts would occur to USFWS-designated critical habitat with Project implementation and would not result in any new or increased impacts in this regard. No new significant impacts to special status species would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issue 2: Sensitive Vegetation Communities

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined the rezones would not specifically propose vegetation removal, however, future development of the Rezone Sites could potentially directly and indirectly impact sensitive vegetation communities through grading and construction activities. The PEIR concluded that development of Site 17 could directly impact sensitive vegetation communities. Direct impacts to sensitive vegetation communities within Rezone Sites would be potentially significant and implementation of mitigation measures MM-BIO-1 and MM-BIO-5 would reduce impacts to less than significant with implementation of mitigation.

Proposed Project Analysis

Direct Impacts

A total of 11.26 acres of sensitive vegetation communities would be impacted with Project implementation (Figure 4, Biological Resources). Table 3.4.1-1 summarizes the permanent and temporary direct impacts to sensitive vegetation communities within the Project site. Communities listed by the CDFW as high priority for inventory (i.e., State Rank [S] 1, 2, or 3) are considered sensitive and typically require mitigation (CDFW 2023). Southern cottonwood–willow riparian forest and arrowweed scrub both have a CDFW state ranking of S3 (CDFW 2023). Therefore, impacts to these vegetation communities would be considered significant and require mitigation. Mitigation shall include reestablishment of the permanent impact acreage at a minimum ratio of 1:1 to meet the regional MSCP (City of San Diego 1998) "no net loss" policy. Additionally, although non-native grassland (including broadleaf-dominated) is not considered sensitive by CDFW, direct impacts to non-native grassland (including broadleaf-dominated) would require mitigation to comply with regional MSCP conservation goals (City of San Diego 1998).

Table 3.4.1-1. Permanent and Temporary Impacts to Sensitive Vegetation Communities within the Project Site (Acres)

Vegetation Community	Holland/Oberbauer Code	Perm (acres)	Temp (acres)[1]	Total (acres)
Riparian/Bottomland Vegetation Communities				
Southern Cottonwood–Willow Riparian Forest	61330	<0.01	0.01	0.01
Arrowweed Scrub	63820	2.49	0.03	2.52
Riparian/Bottomland Vegetation Communities Subtotal		*2.49*	*0.03*	*2.53*
Upland Vegetation Communities				
Non-native Grassland	42200	6.09	0.08	6.17
Non-native Grassland (broadleaf-dominated)	42210	2.32	0.24	2.56
Upland Vegetation Communities Subtotal		*8.41*	*0.32*	*8.73*
Total		**10.90**	**0.35**	**11.26**

Note: Totals may not sum due to rounding.
N/A = not applicable; Perm = permanent direct impacts; Temp = temporary direct impacts.

[1] All temporary direct impact areas will be restored in-place to pre-Project conditions or biologically superior conditions. In accordance with PEIR MM-BIO-5 and MM-BIO-6, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared for the project and will include restoration of the temporary impact areas. If restoration is not feasible, all temporary impacts would be considered permanent impacts and mitigated according to the ratios provided in Table 3.4.1-2.

[2] Permanent impacts to Southern Cottonwood – Willow riparian forest totals 0.004 acres.

Mitigation for the permanent loss of sensitive vegetation communities would occur through implementation of MM-BIO-5 and MM-BIO-6. Per Table 3.4.1-2, the proposed Project would require 15.89 acres of mitigation for impacts to sensitive vegetation communities within the Project site. Implementation of MM-BIO-6 would provide a portion of the arrowweed scrub mitigation requirements (approximately 2.49 acres) through the establishment of this vegetation community within the 100-foot buffer area adjacent to the San Diego River. The existing arrowweed scrub is approximately 130 feet north of the riparian edge of the San Diego River with no direct surface connection to the river or any other watercourse. This community occurs within a flat area on the western boundary of the Project site approximately 15 feet in elevation above the San Diego River. The arrowweed scrub is at least in part being fed by irrigation from the community park off-site and is completely surrounded by non-native land covers (i.e. non-native grassland, disturbed habitat, and developed lands). Therefore, establishing a minimum of 2.49 acres of arrowweed scrub within the on-site 100-foot buffer area would provide higher value habitat than at its current location (i.e. connectivity to native habitats associated with the San Diego River, increase in species diversity, increase in aerial extent, and a reduction in edge effects) and would satisfy the "no net loss" requirement for riparian communities as would the establishment of 0.01 acres of southern cottonwood -willow riparian forest within the 100-foot buffer. Should more than 2.49 acres of arrowweed scrub establishment occur within the 100-foot buffer, acreages identified under **Arrowweed Scrub** options 2 through 7, as described below, would be reduced proportionally. Portions of the site that will be revegetated in compliance with MM-BIO-6 shall be designated as biological open space and incorporated into the City of Santee's Preserve System, including recordation of an easement to ensure their protection in perpetuity. Designated biological open space easement areas will be detailed on Project building and landscape plans.

Table 3.4.1-2. Mitigation for Permanent Impacts to Sensitive Vegetation Communities within the Project Site

Vegetation Community	Holland/Oberbauer Code	Perm Impact Total (acres)	Mitigation Ratio[1]	Required Mitigation (acres)
Riparian/Bottomland Vegetation Communities				
Southern Cottonwood–Willow Riparian Forest	61330	<0.01[2]	3:1	0.01
Arrowweed Scrub	63820	2.49	3:1	7.47
Riparian/Bottomland Vegetation Communities Subtotal		*2.49*	*N/A*	*7.48*
Upland Vegetation Communities				
Non-native Grassland	42200	6.09	1:1	6.09
Non-native Grassland (broadleaf-dominated)	42210	2.32	1:1	2.32
Upland Vegetation Communities Subtotal		*8.41*	*N/A*	*8.41*
Total		**10.90**	**N/A**	**15.89**

Note: Totals may not sum due to rounding.
N/A = not applicable; Perm = permanent direct impact.

1. Because the Draft Santee MSCP Subarea Plan has not yet been approved, the mitigation ratios provided are based on typical upland and wetland mitigation ratios to meet the overall Multiple Species Conservation Program (City of San Diego 1998) conservation goals.

[2] Permanent impacts to Southern Cottonwood – Willow riparian forest totals 0.004 acres. Therefore, at a 3:1 ratio, the required mitigation totals 0.01 acres.

Implementation of the Santee Housing Element Implementation PEIR MM-BIO-5 would satisfy the remaining mitigation requirements for southern cottonwood – willow riparian forest, arrowweed scrub and non-native grassland through the following methods:

Southern Cottonwood – Willow Riparian Forest

1. Establishment of a minimum of 0.01 acres of southern cottonwood – willow riparian forest within the Project Site 100-foot buffer;

   if option 1 is not available, option 2 would be considered

2. Restoration of 0.01 acres of southern cottonwood – willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit;

   if option 2 is not available, option 3 would be considered

3. Preservation of 0.01 acres of existing southern cottonwood – willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit through a dedicated conservation easement;

   if option 3 is not available, option 4 would be considered

4. In-kind creation of 0.01 acres of southern cottonwood – willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit to be preserved in perpetuity through a dedicated conservation easement;

   if option 4 is not available, option 5 would be considered

5. In-kind creation of 0.01 acres of southern cottonwood – willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan (other subunits) to be preserved in perpetuity through a dedicated conservation easement;

   if option 5 is not available, option 6 would be considered

6. Purchase of 0.01 acres of riparian forest mitigation credits from a mitigation bank whose service area includes the Draft Santee MSCP Subarea Plan;

   if option 6 is not available, option 7 would be considered

7. Purchase of 0.01 acres of riparian forest mitigation credits from a mitigation bank whose service area is outside of the Draft Santee MSCP Subarea Plan, and within San Diego County.

Arrowweed Scrub

1. Establishment of a minimum of 2.49 acres of arrowweed scrub within the Project Site 100-foot buffer;

   And a combination of the following, in the preferred order as follows:

2. Restoration of up to 4.98 acres of arrowweed scrub or up-tiered restoration of mule fat scrub within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit;

   if option 2 is not available, option 3 would be considered

3. Preservation of up to 4.98 acres of existing arrowweed scrub within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit through a dedicated conservation easement;

   if option 3 is not available, option 4 would be considered

4. In-kind creation of up to 4.98 acres of arrowweed scrub within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit to be preserved in perpetuity through a dedicated conservation easement;

   if option 4 is not available, option 5 would be considered

5. In-kind creation of up to 4.98 acres of arrowweed scrub within the boundary of the Draft Santee MSCP Subarea Plan (other subunits) to be preserved in perpetuity through a dedicated conservation easement;

   if option 5 is not available, option 6 would be considered

6. Purchase of up to 4.98 acres of riparian forest mitigation credits from a mitigation bank whose service area includes the Draft Santee MSCP Subarea Plan;

   if option 6 is not available, option 7 would be considered

7. Purchase of up to 4.98 acres of riparian forest mitigation credits from a mitigation bank whose service area is outside of the Draft Santee MSCP Subarea Plan, and within San Diego County.

Non-Native Grassland

1. Purchase of 8.41 acres of non-native grassland mitigation credits from Cleveland Corridor Mitigation Bank.

Habitat Mitigation Monitoring Plan (HMMP)

The Project applicant will submit an HMMP for establishment and in-kind creation within the 100-foot San Diego River buffer and off-site mitigation areas (if acquired). The HMMP will include:

- goals and objectives
- regulatory setting
- site selection criterion
- baseline site condition information
- restoration design approach
- rationale for success
- implementation program (including the construction period and a 5-year maintenance and monitoring program)
- annual performance standards for native and non-native vegetation cover designed to assess progress toward final mitigation goals (e.g. by the end of Year 5, the establishment area is expected to achieve at least 75% absolute native vegetation cover, non-native plant cover should not exceed 10%, with perennial invasive species maintained at 0%)
- long-term site protection and management

The HMMP shall detail the final mitigation implementation for permanent impacts to arrowweed scrub and southern cottonwood-willow riparian forest (i.e., establishment), temporary impact areas to be restored in-place to pre-Project conditions or biologically superior conditions, and preservation areas (i.e., southern cottonwood-willow riparian forest and freshwater marsh). The HMMP will be submitted to CDFW and the City for review and approval. Once the HMMP is approved by CDFW and the City, the Project applicant will record a conservation easement in perpetuity and enter the land into the City of Santee's Preserve system.

As a condition of approval and in conformance with MM-BIO-5, prior to issuance of the first grading permit for the Project, the Project applicant will submit a biological mitigation compliance memo to the City outlining the feasibility of each method, identifying the selected approach(es) and providing verification that mitigation for impacts to arrowweed scrub, southern cottonwood – willow riparian forest, and non-native grassland has been satisfied. Mitigation of impacts through the proposed implementation strategy would reduce Project impacts to these sensitive vegetation communities to less than significant. No new significant impacts to sensitive vegetation communities would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Indirect Impacts

Project implementation has the potential to result in indirect impacts to sensitive vegetation communities occurring adjacent to the Project site.

Construction-Related*:* Sensitive vegetation communities may be indirectly impacted during construction of the proposed Project. Potential short-term or temporary indirect impacts to sensitive vegetation communities resulting from construction activities include inadvertent spillover impacts, including unintentional clearing, trampling, or grading outside of the Project footprint; generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; and the adverse effect of invasive plant species. These potential construction-related, indirect impacts to sensitive vegetation communities would be potentially significant absent mitigation.

Implementation of the Santee Housing Element Implementation PEIR proposed MM-BIO-1 would minimize the effect of construction-related indirect impacts to sensitive vegetation communities to less than significant. . No new significant indirect impacts to sensitive vegetation communities would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issue 3: Wetlands

Would the Project have a substantial adverse effect on wetlands as defined by Section 404 of Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that impacts to jurisdictional waters and wetlands within Rezone Sites, including the Project site would be potentially significant. The Project site is mapped in the PEIR as potentially containing “Unmapped Wetlands/ Waters and further lists the Project site as having “Previously Recorded Wetlands or Waters”. However, additional site-specific field surveys would be required to determine if there would be substantial adverse effects on wetlands as defined by Section 404 of Clean Water Act. The PEIR concluded that implementation of mitigation measure MM-BIO-6 would reduce impacts to jurisdictional waters and wetland to less than significant.

Proposed Project Analysis

According to the federal Clean Water Act, Section 404, wetlands are defined as:

> Those areas that are inundated or saturated by surface or ground water (hydrology) at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation (hydrophytes) typically adapted for life in saturated soil conditions (hydric soils). Wetlands generally include swamps, marshes, bogs, and similar areas.

Direct Impacts

There are no impacts within USACE or RWQCB jurisdictional aquatic resources. A total of 2.53 acres of CDFW-regulated riparian habitat would be impacted by the proposed Project, as summarized in Table 3.4.1-3. Impacts to CDFW riparian habitat would be potentially significant and require mitigation. Mitigation shall include reestablishment of the permanent impact acreage at a minimum ratio of 1:1 to meet the regional MSCP (City of San Diego 1998) "no net loss" policy.

Table 3.4.1-3. Permanent Impacts to Potential Jurisdictional Aquatic Resources within the Project Site

Vegetation Community	Perm (Acres)	Temp (Acres)[1]	Total Impacts (Acres
CDFW Riparian Habitat			
Southern Cottonwood–Willow Riparian Forest	<0.01	0.01	0.01
Arrowweed Scrub	2.49	0.03	2.52
Total	**2.49**	**0.03**	**2.53**

Note: Totals may not sum due to rounding.
CDFW = California Department of Fish and Wildlife; N/A = not applicable; Perm = permanent direct impacts; Temp = temporary direct impacts.

1 All temporary direct impact areas will be restored in-place to pre-Project conditions or biologically superior conditions. In accordance with PEIR MM-BIO-5 and MM-BIO-6, a Habitat Mitigation and Monitoring Plan shall be prepared for the project and will include restoration of the temporary impact areas. If restoration is not feasible, all temporary impacts should be considered permanent impacts and mitigated according to the ratios provided in Table 3.4.1-2.

All jurisdictional aquatic resources would be avoided by the proposed Project to the extent feasible. All impacts to the riparian resources within the main stem of the San Diego River would be avoided by the proposed Project, with the exception of a small impact (less than 0.01 acres of southern cottonwood-willow riparian forest) occurring from the Project's proposed storm drain outfall (i.e., desiltation or erosion control facilities or other improvements necessary to protect the habitat). The storm drain outfall is located on County-owned property and will require an easement issued by the County. Storm basin overflow discharging into the river would not be considered an impact as the quantity and quality of the discharge is consistent with the City's Municipal Separate Storm Sewer System (MS4) permit (see Section 3.10, Hydrology and Water Quality for more information.)

Implementation of PEIR MM-BIO-6 would provide a portion of the arrowweed scrub mitigation requirements (a minimum of 2.49 acres) through the establishment of this vegetation community within the 100-foot buffer adjacent to the San Diego River. The existing arrowweed scrub is approximately 130 feet north of the riparian edge of the San Diego River with no direct surface connection to the river or any other watercourse. This community occurs within a flat area on the western boundary of the Project site approximately 15 feet in elevation above the San Diego River. The arrowweed scrub is at least in part being fed by irrigation from the community park off-site and is completely surrounded by non-native land covers (i.e. non-native grassland, disturbed habitat, and developed lands). Therefore, establishing a minimum of 2.49 acres of arrowweed scrub within the on-site

100-foot buffer area would provide higher value habitat than at its current location (i.e. connectivity to native habitats associated with the San Diego River, increase in species diversity, increase in aerial extent, and a reduction in edge effects) and would satisfy the "no net loss" requirement for riparian communities as would the establishment of 0.01 acres of southern cottonwood -willow riparian forest within the 100-foot buffer. Should more than 2.49 acres of arrowweed scrub establishment occur within the 100-foot buffer, acreages identified under **Arrowweed Scrub** options 2 through 7, described in Section 3.4.1 (b) would be reduced proportionally. Portions of the site that will be revegetated in compliance with MM-BIO-6 shall be designated as biological open space and incorporated into the City of Santee's preserve system, including recordation of an easement to ensure their protection in perpetuity. Designated biological open space easement areas will be detailed on Project building and landscape plans. Implementation of the Santee Housing Element Implementation PEIR MM-BIO-5 would satisfy the remaining mitigation requirements for southern cottonwood–willow riparian forest, arrowweed scrub and non-native grassland through the methods described in Section 3.4.1 (b). An HMMP shall be prepared for the project's on-site 100-foot buffer area and shall include the following information: details on the mitigation plan's goals and objectives; site selection; baseline information; restoration design approach; rationale for success; the implementation program (including the construction period and the 5-year maintenance and monitoring program); annual performance standards for native and non-native vegetation cover designed to assess progress toward final mitigation goals (e.g. by the end of Year 5, the establishment area is expected to achieve at least 75% absolute native vegetation cover, non-native plant cover should not exceed 10%, with perennial invasive species maintained at 0%); and long-term site protection and management. The Project's HMMP for the Project's on-site 100-foot buffer area shall include the mitigation for permanent impacts to arrowweed scrub (i.e. establishment), temporary impact areas to be restored in-place to pre-Project conditions or biologically superior conditions, and preservation of existing sensitive vegetation communities within the 100-foot buffer area (i.e. southern cottonwood-willow riparian forest and freshwater marsh).

Portions of the site to be revegetated in compliance with MM-BIO-6 and shall be designated biological open space and incorporated into the City of Santee's Preserve System, including recordation of an easement to ensure their protection in perpetuity. Designated biological open space easement areas will be detailed on Project building and landscape plans. Mitigation for the remaining loss of CDFW riparian habitat areas will occur through implementation of MM-BIO-6, which requires in-kind creation to prevent any net loss of wetland functions and values. Implementation of PEIR MM-BIO-5 would satisfy the remaining mitigation requirements for arrowweed scrub and southern cottonwood-willow riparian forest through a combination of establishment, restoration and conservation of sensitive habitats as described above in section 3.4.1 (b). The proposed Project will meet the mitigation requirements for CDFW riparian habitat in accordance with the ratios listed in Table 3.4.1-2. No new significant impacts to wetlands would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Indirect Impacts

Project implementation has the potential to result in indirect impacts to jurisdictional aquatic resources associated with the San Diego River occurring within 500 feet of the Project site.

Construction-Related: Jurisdictional aquatic resources of the United States/state may be indirectly impacted during construction. Potential short-term or temporary indirect impacts to jurisdictional aquatic resources resulting from construction activities include the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; and unintentional clearing,

trampling, or grading outside of the proposed construction zone. Construction-related indirect impacts to jurisdictional aquatic resources would be potentially significant.

Implementation of the Santee Housing Element Implementation PEIR mitigation measure MM-BIO-1 would minimize construction-related indirect impacts through biological monitoring, a Worker Environmental Awareness Program that will cover the special-status resources and mitigation requirements for the Project, delineation of Project boundaries, implementation of standard dust control measures, development of a stormwater pollution prevention plan, and requiring all vehicles and equipment to be serviced in designated staging areas. No new significant impacts to sensitive vegetation communities would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issue 4: Wildlife Corridors

Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that impacts related to wildlife corridors would be less than significant due to the majority of the Rezone Sites being primarily located in areas where corridors would be restricted by roads and other development. The PEIR specifically noted that a portion of the Project site contains areas associated with the San Diego River and its tributaries, which are identified as a regionally significant wildlife movement corridor within the Draft Santee MSCP Subarea Plan however the PEIR stated the project site is outside of the City of Santee's Preserve system. The proposed Project would be required to comply with State and Federal requirements to avoid wetlands and additionally implement MM-BIO-6 to ensure wetland resources are avoided or mitigated and adequate buffers are retained adjacent to the San Diego River.

Proposed Project Analysis

Direct Impacts

The Project site is not mapped as a core area or habitat linkage under the MSCP (City of San Diego 1998) and is identified in the Draft Santee MSCP Subarea Plan as an anticipated development area (City of Santee 2022). The Draft Santee MSCP Subarea Plan does not identify the Project site as an established wildlife corridor or habitat linkage. However, the Project site is currently undeveloped land adjacent to the San Diego River, and the site could potentially function as a wildlife corridor for local populations of common species. Species most likely to use this area include coyote, raccoon, striped skunk, and Virginia opossum. None of these species are special status, and they would continue to use the areas adjacent to the Project site after buildout. Impacts to aquatic resources associated with the San Diego River corridor are minimal and would be reduced to less than significant with implementation of the Santee Housing Element Implementation PEIR MM-BIO-6. Based on the Draft Santee MSCP Subarea Plan mapping available at the time of drafting this document, no portion of the Project site overlaps with the Draft Santee MSCP Subarea Plan Preserve system and a very small portion of the Project's impact footprint would occur within the Draft Santee MSCP Subarea Plan's San Diego River Subunit (Appendix B, Figure 1). The Project would have 0.01 acres of permanent impacts within the San Diego River Subunit; however,

the Project would add the 100-foot buffer area to the City of Santee's Preserve system through implementation of MM-BIO-6. Therefore, no new significant impacts to potential wildlife corridors would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Indirect Impacts

Project implementation has the potential to result in indirect impacts to the San Diego River corridor, which is located adjacent to the Project site and functions as a local wildlife corridor.

Construction-Related: The San Diego River wildlife corridor may be indirectly impacted during construction of the proposed Project. Potential short-term or temporary indirect impacts to biological resources within the San Diego River wildlife corridor resulting from construction activities include inadvertent spillover impacts, including unintentional clearing, trampling, or grading outside of the Project footprint; generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; night-time lighting; and the adverse effects of invasive plant species. These potential construction-related, indirect impacts to the San Diego River wildlife corridor would be potentially significant absent mitigation. The Santee Housing Element Implementation PEIR identified MM-BIO-1 to reduce indirect impacts to the San Diego River corridor. No new significant impacts to potential wildlife corridors would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issue 5: Habitat Conservation Planning

Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that impacts related to conflicts with the Draft Santee MSCP Subarea Plan, or any other local, regional, and state habitat conservation plans would be less than significant due to implementation of MM-BIO-1 through MM-BIO-6, which would ensure that future development, such as the proposed Project, is consistent with the Draft Santee MSCP Subarea Plan. The Draft Santee MSCP Subarea Plan requires site specific field surveys be conducted to determine the presence of any sensitive biological resources, to determine the extent of any potential impacts, and to provide mitigation to reduce the impacts to below a level of significance.

Proposed Project Analysis

MSCP Plan and Draft Santee MSCP Subarea Plan

The Project site is within the boundaries of the MSCP Plan (City of San Diego 1998). The Draft Santee MSCP Subarea Plan would serve as a Habitat Conservation Plan (HCP) under the MSCP Plan (City of San Diego 1998) pursuant to Section 10(a)(1)(B) of Federal Endangered Species Act (FESA) and as a Natural Community Conservation Plan (NCCP) pursuant to the California Natural Community Conservation Planning Act of 1991. The Draft Santee MSCP Subarea Plan, once finalized, will contribute to the regional MSCP for preservation, mitigation for impacts, and conservation of sensitive biological resources within San Diego County. The Draft Santee MSCP

Subarea Plan is also intended to provide cumulative mitigation for impacts to Covered Species within the City's jurisdiction, as long as projects are consistent with and covered by provisions of the Santee MSCP Subarea Plan, and to ensure sufficient biological resources are conserved to assist in the conservation and recovery of Covered Species under the MSCP. Although the Draft Santee MSCP Subarea Plan has not yet been approved or permitted, it is used as the guidance document for projects occurring within the City. The Proposed Project is an anticipated development area under the Draft Santee MSCP Subarea Plan (City of Santee 2022).

The portion of the San Diego River that is adjacent to the southern boundary of the project site is part of the Draft Santee MSCP Subarea Plan's San Diego River Subunit. This portion of the San Diego River is County-owned and contributes to the overall functional east-west ecological linkage and wildlife corridor through the Subarea Plan Area but is not currently part of the City of Santee's Preserve system. As directed by MM-BIO-6, the Project would establish a 100-foot buffer from the riparian edge to avoid any impacts to the San Diego River corridor (Figure 4). PEIR MM-BIO1 through MM-BIO-6 would be implemented to prevent any direct or indirect impacts to special-status species, sensitive vegetation communities, and/or jurisdictional aquatic resources associated with the San Diego River Preserve. Furthermore, Project implementation would not significantly conflict with the provisions of the MSCP Plan or Draft Santee MSCP Subarea Plan, nor would it prevent the Draft Santee MSCP Subarea Plan from being approved or compromise continued implementation of the MSCP in San Diego County. Therefore, impacts to habitat conservation plans would be less than significant with the implementation of the 'PEIR mitigation measures.

Issue 6: Policies and Ordinances Protecting Biological Resources

Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that any proposed activities would not conflict with any local policies or ordinances protecting biological resources. The Santee Housing Element Implementation PEIR would require future development to implement mitigation measures MM-BIO-1 through MM-BIO-6, in order to ensure that impacts related to biological resources are less than significant. Additionally, future development would be required to comply with the City's Municipal Code Chapter 8.06, Chapter 11.8, Chapter 13.08 and 13.16 to ensure the protection of biological resources.

Proposed Project Analysis

City of Santee

The City's Urban Forestry Ordinance contains tree-related policies, regulations, and generally accepted standards for planting, trimming, and removing trees on public property and public rights-of-way (Santee Municipal Code, Section 8.06 [City of Santee 2020]). The ordinance gives the City control of all trees, shrubs, and other plantings in any street, park, public right-of-way, landscape maintenance district or easement, or other City-owned property. City staff review of development plans for the City-owned and maintained property would ensure that the proposed landscaping and maintenance requirements conform to the Urban Forestry Ordinance. The proposed Project would not require removal of any trees within the City's purview according to Santee Municipal Code

Section 8.06 (City of Santee 2020). Therefore, as no impacts are proposed by the Project, the Project would comply with the Urban Forestry Ordinance, and no mitigation measures are required.

Biological resources are discussed, and specific objectives and policies are presented, in the Conservation Element of the City of Santee General Plan (City of Santee 2003). The proposed Project does not conflict with any objectives or policies as presented in the Conservation Element of the Santee General Plan. No new significant impacts to local policies and ordinances would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

3.4.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-BIO-1 Applications for future development, where the City has determined a potential for impacts to sensitive biological resources, shall be required to comply with the following mitigation measure.

a) Prior to issuance of any construction permit or any earth-moving activities, a site-specific general biological resources survey shall be conducted to identify the presence of any sensitive biological resources, including any sensitive plant or wildlife species. A biological resources report shall be submitted to the City to document the results of the biological resources survey. The report shall include: (1) the methods used to determine the presence of sensitive biological resources; (2) vegetation mapping of all vegetation communities and/or land cover types; (3) the locations of any sensitive plant or wildlife species; (4) an evaluation of the potential for occurrence of any listed, rare, and narrow endemic species; and (5) an evaluation of the significance of any potential direct or indirect impacts from the proposed project. If suitable habitat for sensitive species is identified based on the general biological survey, then focused presence/absence surveys shall be conducted in accordance with applicable resource agency survey protocols and incorporated into the biological resources report. If potentially significant impacts to sensitive biological resources are identified, project-level grading and site plans shall incorporate project design features to avoid or minimize direct impacts on sensitive biological resources to the extent feasible, and the report shall also recommend appropriate mitigation to reduce the impacts to below a level of significance, where feasible. Mitigation measures shall be consistent with the standards contained in Section 5.3 of the 2018 Draft Santee MSCP Subarea Plan, and projects shall be required to obtain all necessary permits to ensure compliance with applicable federal, state, and local regulations, such as the federal and state Endangered Species Acts.

b) Environmentally Sensitive Areas shall be identified in the biological resources report and avoided to the maximum extent practicable. In areas near or adjacent to Environmentally Sensitive Areas (i.e., natural habitats and vegetation, wetlands, wildlife areas, wildlife corridors), the biological resources report will consider the following measures:

Avoidance of Environmentally Sensitive Areas. In areas near or adjacent to Environmentally Sensitive Areas, construction limits shall be clearly demarcated using highly visible barriers (such as silt fencing), which shall be installed under the supervision of a qualified biologist prior to the

commencement of work. Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint, including designated staging areas, and routes of travel. The construction areas shall be limited to the minimal area necessary to complete the proposed project. The fencing shall remain in place until the completion of all construction activities and shall be promptly removed when construction is complete.

Biological Monitoring. A qualified biological monitor shall conduct construction monitoring of all work conducted within/adjacent to environmentally sensitive areas during all vegetation removal and ground-disturbing activities such as staging and grading, for the duration of the proposed project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat outside the project footprints and to survey for sensitive wildlife species. When vegetation removal and ground-disturbing activities are not occurring, as-needed monitoring at the project sites shall occur.

Worker Environmental Awareness Program. In areas near or adjacent to Environmentally Sensitive Areas, a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) training session for project and construction personnel prior to the commencement of work. The training shall include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA), the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries.

Best Management Practices. During future project construction activities, the following best management practices (BMPs) shall be implemented:

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive upland habitat areas. The designated upland areas shall be located to prevent runoff from any spills from entering Waters of the US.
- A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan shall be developed (where requirements are met) to minimize erosion and identify specific pollution prevention measures that shall eliminate or control potential point and nonpoint pollution sources on site during and following the project construction phase. The SWPPP shall identify specific BMPs during project construction to prevent any water quality standard exceedances. In addition, the SWPPP shall contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.
- Trash shall be stored in closed containers so that it is not readily accessible to scavengers and shall be removed from the construction site on a daily basis.
- Water quality shall be visually monitored by the biological monitor to ensure that no substantial increases in turbidity occur during construction.
- All relevant natural resource permits and authorizations shall be obtained from appropriate agencies (i.e., USACE, RWQCB, and CDFW) prior to the initiation of construction activities. Permit conditions contained within the permits and authorizations shall be employed throughout the duration of the project.

- Hydrologic connectivity shall be maintained within drainages during the duration of construction. Brush, debris material, mud, silt, or other pollutants from construction activities shall not be placed within drainages and shall not be allowed to enter a flowing stream.
- Dust control measures shall be implemented by the contractor to reduce excessive dust emissions. Dust control measures shall be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, the use of soil binders on dirt roads, and wetting or covering stockpiles.
- No pets shall be allowed in, or adjacent to, the project sites.
- Rodenticides, herbicides, insecticides, or other chemicals that could potentially harm wildlife or native plants shall not be used near or within Environmentally Sensitive Areas within or near the roadway segments.
- Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction.
- The cleaning of equipment will occur at least 300 feet from Environmentally Sensitive Area fencing.

Use of Native Plants. All project-related planting and landscaping shall not use plants listed on California Invasive Plant Council. Locally native plants shall be used near open space and native areas to the greatest extent feasible.

MM-BIO-2 Applications for future development, wherein the City has determined a potential for impacts to least Bell's vireo, shall be required to comply with the following mitigation framework. Prior to issuance of a permit for grading or vegetation removal, USFWS protocol surveys for least Bell's vireo shall be required should project construction occur within 300 feet of riparian habitat during the breeding season (April 10 to July 31). If least Bell's vireo are identified during the protocol surveys, then noise attenuation measures shall be required to ensure that noise levels from construction do not exceed a 60 dB(A) hourly average per hour at the edge of the riparian habitat or to the ambient noise level if it exceeds 60 dB(A) prior to construction. Construction noise monitoring shall be required to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average unless an analysis completed by a qualified acoustician shows that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat.

MM-BIO-4 Applications for future development, where the City has determined a potential for impacts to mature trees and/or native vegetation suitable for nesting birds, shall be required to comply with the following mitigation framework. If any construction commences during the bird breeding season, a preconstruction survey for nesting birds shall occur within three days prior to construction activities by an experienced avian biologist. The survey shall occur within all suitable nesting habitat within the project impact area and a minimum 250-foot buffer (or as otherwise mandated by wildlife agencies [CDFW and USFWS]). If nesting birds are found, an avoidance area shall be established, in consultation with the wildlife agencies as appropriate, by a qualified biologist around the nest until a qualified avian biologist has determined that young have fledged

or nesting activities have ceased. The project site shall be re-surveyed if there is a lapse in construction activities for more than 3 days.

MM-BIO-5 Prior to issuance of any grading or removal of sensitive vegetation communities, the applicant shall provide evidence to the City that replacement habitats have been preserved in accordance with the mitigation ratios in the 2018 Draft Santee MSCP Subarea Plan. The required acreages and types of replacement habitat shall be included as a note on the grading plans and the City shall require evidence of satisfaction prior to grading. Replacement habitats may be in the form of a dedicated easement, proof of purchase of mitigation credits, or other method of conservation. The applicant shall additionally implement all feasible avoidance and minimization measures to protect habitats remaining on site.

MM-BIO-6 Applications where the City has determined a potential for impacts to jurisdictional waters and wetlands, shall be required to comply with the following mitigation framework. Prior to issuance of any construction permit or any earth-moving activities, a site-specific general biological resources survey (BIO-1) shall be conducted to identify the presence of any sensitive biological resources, including any wetlands. Should any potential jurisdictional waters or wetlands be identified on site during the general biological resources survey, then a jurisdictional wetlands delineation shall be conducted following the methods outlined in the USACE's 1987 Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Delineation Manual for the Arid West Region. The limits of any wetland habitats on site under the sole jurisdiction of CDFW shall also be delineated, as well as any special aquatic sites that may not meet federal jurisdictional criteria but are regulated by the RWQCB. Avoidance measures based on project-level grading and site plans shall be incorporated into the project design to minimize direct impacts to jurisdictional waters consistent with federal, state, and City guidelines. Unavoidable impacts to wetlands shall be minimized to the maximum extent practicable and would be subject to alternatives and mitigation analyses consistent with U.S. Environmental Protection Agency 404(b)(1) findings and procedures under the USACE's permit process. Unavoidable impacts would require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values. Wetland creation on site or within the same wetland system shall be given preference over replacement off site or within a different system. The City shall also control use and development in surrounding areas of influence to wetlands with the application of buffer zones. Buffer widths shall be 50 to 200 feet from the edge of the wetland/riparian habitat, unless the applicant demonstrates that a buffer of lesser width would protect the resources of the wetland based on site-specific information related to construction and operation. Use and development within buffer areas shall be limited to minor passive recreational uses with fencing, desiltation or erosion control facilities, or other improvements deemed necessary to protect the habitat, to be located in the upper (upland) half of the buffer when feasible wetlands and buffers shall be permanently conserved or protected through the application of an open space easement or other suitable device.

Additional requirements apply for development along the San Diego River to implement Draft Santee MSCP Subarea Plan Section 5.3.4. Specifically, wherever development is proposed in or adjacent to riparian habitats along the main stem San Diego River, the riparian area and other wetlands or associated natural habitats located on the project site shall be designated as biological open space and incorporated into the preserve, including recordation of an easement

to ensure their protection in perpetuity. In addition, a minimum 100-foot biological buffer shall be established for upland habitats, beginning at the outer edge of riparian vegetation. Within the 100-foot biological buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. In the event that natural habitats do not cover the 100-foot buffer area at the time of the proposed action, habitats appropriate to the location and soils shall be restored as a condition for the proposed action. In most cases, coastal sage scrub vegetation shall be the preferred habitat to restore within the biological buffer.

3.5 Cultural Resources and Tribal Cultural Resources

The analysis in this section was completed in compliance with the following report:

- Phase I Environmental Site Assessment for City Ventures, prepared on November 29, 2023, by Stantec Consulting Services Inc., and included as Appendix C of this Addendum.

3.5.1 Analysis

Issue 1: Historic Resources

Would the Project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR identified historic maps and aerial photographs available online which encompass the proposed Project Site 17. Historic photos show the Project site to have been mowed periodically to maintain weed control. The earliest photograph reviewed for all Rezone Sites was from 1953. Site 17 showed vacancy with evidence of vehicle and foot traffic. In 1998, an aerial photograph of Site 17 showed that the southwest corner showed evidence of grading and in 1999 the site served as a storage yard. Overall, Site 17, showed some level of ground-disturbing activities. The Santee Housing Element determined that the Rezone Sites could result in significant impacts to historic resources and proposed mitigation measure MM-CUL-1. MM-CUL-1 would verify the age of buildings and structures that could be impacted by future development and would reduce impacts associated to historical resources to be less than significant.

Proposed Project Analysis

As stated above, the proposed Project could potentially result in significant impacts due to historic resources, however the proposed Project would implement MM-CUL-1 as recommended in the Santee Housing Element Implementation PEIR. No new significant impacts to historic resources would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issues 2 and 4: Archaeological Resources, Religious and Sacred Uses or Tribal Cultural Resources

Would the Project result in substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; religious uses or tribal cultural resources?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR evaluated sites that were identified eligible for by-right development including Site 17 at a site-specific level, which included completion of cultural resource records search and surveys to identify the potential for archaeological resources. One historic-period archaeological site within four Rezone Sites was identified during the records search. Additionally, the records search and survey identified one prehistoric resource and one isolated artifact within a Rezone Site. However, the historic-period archaeological site was determined not eligible for listing on the CRHR, the one isolated artifact does not possess characteristics that qualify as significant under CEQA, and lastly, one prehistoric resource could potentially be significant and further testing is required to determine the significant impact. The location of potential archaeological sites is undisclosed for confidentiality per 14 California Code of Regulations Section 15120 (d); however, the City maintains a record of the survey results and is able to use these findings to determine applicability of mitigation measures.

Site 17 was identified as having a moderate potential for Register Eligible buried archaeological sites, and therefore potential direct and/or indirect impacts related to archaeological resources and/or tribal cultural resources would be potentially significant without mitigation. MM-CUL-2 and MM-CUL-3 would be implemented during the development review process and/or during future development, which would require significance evaluation of archaeological resources, mitigation for potential impacts to these resources, and a requirement for archaeological and Native American monitoring during ground disturbing activities to avoid significant impacts to unknown buried archaeological resources. Therefore, after implementation of MM-CUL-2 and MM-CUL-3, impacts related to archaeological resources and/or tribal cultural resources would be less than significant.

Proposed Project Analysis

As stated above, the Project site is identified as having a moderate potential for intact cultural deposits to exist within native soils to the depths of assumed ground disturbance. Therefore, the proposed Project site should be treated as potentially sensitive for archaeological and/or tribal cultural resources. In the event unanticipated archaeological and/or tribal cultural resources are encountered during project implementation, impacts to these resources would be potentially significant.

Thus, mitigation is required to address impacts related to the inadvertent discovery of archaeological and/or tribal cultural resources during construction. MM-CUL-2 and MM-CUL-3 would be implemented during the development review process and/or during future development, which would require significance evaluation of archaeological resources, mitigation for potential impacts to these resources, and a requirement for archaeological and Native American monitoring during ground disturbing activities to avoid significant impacts to unknown buried archaeological and/or tribal cultural resources.

No new significant impacts to archaeological, religious and sacred uses or tribal cultural resources would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

Issue 3: Human Remains

Would the Project result in disturbance of any human remains, including those interred outside of formal cemeteries?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that no known burial sites or cemeteries are located within the vicinity of the Rezone Sites, including Site 17. However, in the unlikely event that human remains are discovered, then "provisions set forth in California PRC Section 5097.98 and state Health and Safety Code Section 7050.5 would be implemented in consultation with the assigned Most Likely Descendant as identified by the NAHC. No further construction activities would be permitted until the coroner is contacted, as well as any applicable Native American tribes. The City shall be required to comply with the California Native American Graves Protection and Repatriation Act (2001), the federal Native American Graves Protection and Repatriation Act (1990), as well as AB 52 early consultation requirements. As regulations are in place to treat any inadvertent uncovering of human remains during grading, impacts to human remains would be less than significant," (City of Santee 2022).

Proposed Project Analysis

No prehistoric or historic period burials, including those buried outside of formal cemeteries, were identified within the proposed Project site. As stated above, in the event that human remains are inadvertently encountered during ground disturbing activities, they shall be treated consistent with state and local regulations including California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and the California Code of Regulations Section 15064.5(e). In accordance with these regulations, if human remains are found, the County Coroner must be immediately notified of the discovery. No further excavation or disturbance of the project site or any nearby (no less than 100 feet) area reasonably suspected to overlie adjacent remains can occur until the County Coroner has determined if the remains are potentially human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she is required to notify the NAHC which would then notify those persons believed to be the most likely descendant. The most likely descendant shall determine, in consultation with the property owner, the disposition of the human remains. Compliance with these regulations would ensure that impacts to human remains resulting from the proposed Project would remain less than significant. No new significant impacts to inadvertent discovery of human remains would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

3.5.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-CUL-1: Applications for future development of project areas, wherein the City Development Services Director has determined a potential for impacts to historical resources, shall be required to comply with the following mitigation framework:

a) Prior to the issuance of any permit for a future development project, the age and original structural integrity and context of any buildings/structures occurring on the project areas shall be verified. A

staff level evaluation is required in conjunction with the development permit application to verify the age and original structural integrity of all on-site structures.

b) For any building/structures in excess of 50 years of age having its original structural integrity intact, a qualified professional historian may be required to determine whether the affected building/structure is historically significant. The evaluation of historic architectural resources shall be based on criteria such as age, location, context, association with an important person or event, uniqueness, or structural integrity, as indicated in CEQA Guidelines Section 15064.5. A historical resource report shall be prepared by a Secretary of Interior's Standard Historic Architect or Architectural Historian and submitted by the project applicant to the City and shall include the methods used to determine the presence or absence of historical resources, identify potential impacts from the proposed Project, evaluate the significance of any historical resources, and identify mitigation measures.

c) Future development at Rezone Site 20 shall be required to obtain the services of a Secretary of Interior's Standard Historic Architect or Architectural Historian to submit a report to the City demonstrating how development adjacent to the Polo Barn would adhere to Secretary of Interior Standards for the Treatment of Historic Properties and standards and guidelines prescribed by the State Office of Historic Preservation to ensure indirect impacts are avoided. Development on Site 20 is not subject to items (a) and (b) above as the Polo Barn is already known to be a significant historical site.

MM-CUL-2: Applications for future development, wherein the City Development Services Director has determined a potential for impacts to subsurface archaeological resources, shall be required to comply with the following mitigation framework:

Prior to the issuance of any permit for future development consistent with the project and if the project has not been surveyed within the last five years, an archaeological survey shall be conducted by a qualified archaeologist to evaluate the presence of archaeological resources and the need for project impact mitigation by preservation, relocation, or other methods. The archaeological survey shall include a records search at the South Coastal Information Center branch of the California Historical Research Information System, to determine if previously recorded prehistoric or historic archaeological resources exist on the housing site. In addition, the Native American Heritage Commission should be contacted to perform a Sacred Lands File Search. An archaeological resource report detailing the results of the record search, Sacred Lands Search, and the field survey of the project area shall be submitted by the Project applicant to the City. The report shall include the methods used to determine the presence or absence of archaeological resources, identify potential impacts from the proposed Project, and evaluate the significance of any archaeological resources identified. If potentially significant impacts to an identified archaeological resource are identified, the report shall also recommend appropriate mitigation to reduce the impacts to below a level of significance, which could include avoidance as the preferred method, a data recovery program and/or construction monitoring. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure. Reports shall be submitted to the South Coastal Information Center upon finalization.

MM-CUL-3: Applications for future development wherein the City Development Services Director or a site-specific report has determined a potential for discovery of buried archaeological resources shall be required to comply with the following mitigation framework for archaeological and Native American construction monitoring:

Prior to issuance of a grading permit, the City's Project Planner at the City must verify that the requirements for archaeological and Native American construction monitoring have been noted on the construction documents.

The applicant must provide written verification to the City Project Planner stating that a Secretary of Interior's Standards qualified archaeologist and Native American monitor have been retained by the owner/applicant to implement construction monitoring.

The qualified archaeologist and Native American monitor shall be invited to attend the pre-construction meeting with the contractor and any subcontractors to describe the goal of construction monitoring.

Archaeological and Native American monitors shall be present during ground disturbing activities (grubbing, demolition of foundations, grading, trenching) that have the potential to unearth unknown subsurface archaeological deposits or Tribal cultural resources. If archaeological or Tribal cultural resources are discovered, both monitors may halt or divert ground-disturbing activities within 50 feet to allow for a determination of the resource's potential significance. The qualified archaeologist shall notify the City Project Planner of the discovery. Isolates and non-significant deposits shall be minimally documented in the field. Significant archaeological discoveries include intact features, stratified deposits, previously unknown archaeological sites, and human remains.

If a significant discovery is made, the qualified archaeologist shall prepare a data recovery plan in consultation with the Native American monitor to submit for approval by the City Project Planner. The plan shall be implemented using professional archaeological methods. Construction ground-disturbing activities, including grubbing, grading, and trenching, would be allowed to resume after the completion of the recovery of an adequate sample and recordation of the discovery.

All cultural material collected during the monitoring and data recovery program shall be processed and curated at a San Diego facility that meets federal standards per 36 CFR Part 79 unless the tribal monitors request the collection.

If human remains are discovered, work shall halt in that area and the procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) will be followed. The qualified archaeologist shall contact the County Coroner.

After the completion of the monitoring, an appropriate report shall be prepared by Project archaeologist. If no significant cultural resources are discovered, a brief letter to City Project Planner and South Coastal Information Center shall be prepared by the Project archaeologist. If significant cultural resources are discovered, a report with the results of the monitoring and data recovery (including the interpretation of the data within the research context) shall be prepared

by Project archaeologist, reviewed by a Native American representative, and submitted to the City Project Planner and South Coastal information Center.

3.6 Energy

The analysis in this section was completed in compliance with the following report:

- Cottonwood & Park Air Quality, Greenhouse Gas, and Energy Impacts Study for City Ventures, prepared in April 30, 2025, by MD Acoustics, LLC and included as Appendix A of this Addendum.

3.6.1 Analysis

Issue 1 and 2:

Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

City of Santee Housing Element Implementation PEIR Analysis

Construction

The Santee Housing Element Implementation PEIR concluded that there are no conditions in the Rezone Sites that would require non-standard equipment or construction practices that would increase the fuel-energy consumption above typical rates. All Rezone Sites would need to be consistent with state requirements, and all construction equipment would have to meet California Board (CARB) Tier 3 In-Use Off-Road Diesel Engine Standards. Tier 3 In-Use Off-Road Diesel Engine Standards would require that construction equipment fleets are cleaner and in the long term use less energy. Therefore, the Santee Housing Element Implementation PEIR determined that the Rezone Sites would not result in a wasteful, inefficient, or unnecessary consumption of energy resources during future development and impacts would be less than significant.

Long-term Operations

Transportation

The Santee Housing Element Implementation PEIR determined that the Rezone Sites would consume energy associated transportation uses by individuals traveling to, from, and within the Rezone Sites. The majority of the trips would rely on passenger vehicles or public transportation. In which, the passenger vehicles would be powered by gasoline, diesel or electricity. The Santee Housing Element Implementation PEIR determined that the Rezone Sites would potentially result in a reduction of vehicle miles traveled (VMT) per capita and lead the City to a citywide VMT per capita reduction. However, due to the City's RHNA needs and planned growth, the Rezone Sites can help reduce the VMT by being located in areas with existing retail sites, which would reduce the non-commute vehicle trips. Additionally, the Santee Housing Element Implementation PEIR states that future projects shall comply with the Mobility Element Policies 9.1 through 9.5, which includes the Transportation Demand Management (TDM) strategies such as ride sharing programs, flexible work schedule programs and incentives for

employees to use transit. Future projects would be required to comply with the Sustainable Santee Plan by promoting non-motorized transportation options, improving bicycle transit, installing electric charging stations and improving traffic flow. With the implementation of Mobility Element policies, TDM, and Sustainable Santee Plan, Rezone Sites would not a result in a wasteful, inefficient, or unnecessary consumption of energy resources during future development and impacts would be less than significant.

Electricity and Natural Gas

The Santee Housing Element Implementation PEIR determined that future development would comply with the Renewable Portfolio Standard (RPS), SB 350, SB 100, California Code of Regulations, including 2019 Energy Code, 2019 CALGreen standards, and the Sustainable Santee Plan. Therefore, compliance with the the state, federal regulations and the Sustainable Santee Plan would reduce the City's operational energy use. Impacts associated with electricity and natural gas would not result in a wasteful, inefficient, or unnecessary consumption of energy resources during future development and impacts would be less than significant.

Energy Plans

As stated above, future development would be required to comply with CALGreen, the California Energy Code, RPS, and the Sustainable Santee Plan. Therefore, future projects would not conflict or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

Proposed Project Analysis

The proposed Project is included in the future development of the Rezone Sites that was the subject of the PEIR. Additionally, the proposed Project would comply with the required state regulations and local plans, including CALGreen, the California Energy Code, RPS, and the Sustainable Santee Plan, therefore, the impacts associated with wasteful, inefficient, or unnecessary consumption of energy resources due to the construction and operation of the proposed Project would remain less than significant and no new significant impacts would occur and no previously identified significant impacts would substantially increase in severity. Calculations associated with the proposed Project's energy consumption are provided below.

Construction

Construction Equipment Fuel Estimates

Using the CalEEMod data input, the Project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal[1]. As presented in Table 3.6.1-1 below, Project construction activities would consume an estimated 41,824 gallons of diesel fuel.

[1] Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp -hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).

Table 3.6.1-1: Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/ day	Total Fuel Consumption (gal diesel fuel)[1]
Site Preparation	10	Rubber Tired Dozers	3	8	367	0.4	3,523	1,904
	10	Tractors/Loaders/ Backhoes	4	8	84	0.37	995	538
Grading	30	Excavators	2	8	36	0.38	219	355
	30	Graders	1	8	148	0.41	485	787
	30	Rubber Tired Dozers	1	8	367	0.4	1,174	1,904
	30	Scrapers	2	8	84	0.4	538	872
	30	Tractors/Loaders/ Backhoes	2	8	84	0.37	497	806
Building Construction	300	Cranes	1	7	367	0.29	745	12,081
	300	Forklifts	3	8	82	0.2	394	6,383
	300	Generator Sets	1	8	14	0.74	83	1,344
	300	Tractors/Loaders/ Backhoes	3	7	84	0.37	653	10,584
	300	Welders	1	8	81	0.42	166	2,685
Paving	20	Pavers	2	8	81	0.42	544	588
	20	Paving Equipment	2	8	89	0.36	513	554
	20	Rollers	2	8	36	0.38	219	237
Architectural Coating	35	Air Compressors	1	6	37	0.48	107	202
							Construction Fuel Demand (gallons of diesel fuel)	**41,824**

Notes: [1]Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.
Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf

Construction Equipment Electricity Usage Estimates

Electrical service will be provided by SDG&E. Based on the 2017 National Construction Estimator, Richard Pray (2017)[2], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. The Project plans to develop the site with 458,530 square feet of new residential structures over the course of approximately 18 months. Based on Table 3.6.1-2, the total power cost of the on-site electricity usage during the construction of the proposed Project is estimated to be approximately $19,148. As shown in Table 3.6.1-2, the total electricity usage from Project construction related activities is estimated to be approximately 348,149 kWh.[3]

2 Pray, Richard. 2017 National Construction Estimator. Carlsbad: Craftsman Book Company, 2017

Table 3.6.1-2: Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)	Construction Duration (months)	Total Project Construction Power Cost
$2.32	458.530	18	$19,148.21

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.24	348,149

Notes: Assumes the Project will be under Schedule TOU-A rate under SDG&E and, to be conservative, uses the lower anticipated cost per kWh.
Assumes the project will be under Schedule TOU-A rate under SDG&E and, to be conservative, uses the lower anticipated cost per kWh. Source: https://www.sdge.com/sites/default/files/regulatory/3 -1-21%20Small%20Commercial%20Total%20Rates%20Table.pdf.
Source: https://www.sdge.com/sites/default/files/regulatory/3-1 21%20Small%20Commercial%20Total%20Rates%20Table.pdf

Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 1,405,452 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis using information generated using CARB's EMFAC model (see Appendix A for details). Table 3.6.1-3 shows that an estimated 45,410.4 gallons of fuel would be consumed for construction worker trips.

Table 3.6.1-3: Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	17.50	12	2,100	30.95	67.9
Grading	30	20.00	12	7,200	30.95	232.6
Building Construction	300	378.00	12	1,360,800	30.95	43,967.7
Paving	20	15.00	12	3,600	30.95	116.3
Architectural Coating	35	75.60	12	31,752	30.95	1,025.9
				Total Construction Worker Fuel Consumption		**45,410.4**

Notes: Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.22 defaults.

Construction Vendor/Hauling Fuel Estimates

Tables 3.6.1-4 and 3.6.1-5 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 270,786 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Tables 3.6.1-4 and 3.6.1-5 show that an estimated 32,363 gallons of fuel would be consumed for vendor and hauling trips.

Table 3.6.1-4: Construction Vendor Fuel Consumption Estimates (MHD Trucks)

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	0.00	7.63	0	9.22	0
Grading	30	0.00	7.63	0	9.22	0
Building Construction	300	85.20	7.63	195,023	9.22	21,152
Paving	20	5.00	7.63	763	9.22	83
Architectural Coating	35	0.00	7.63	0	9.22	0
					Total Vendor Fuel Consumption	**21,235**

Notes: Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.22 defaults.

Table 3.6.1-5: Construction Hauling Fuel Consumption Estimates (HHD Trucks)

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	0	20	0	6.74	0
Grading	30	125.0	20	75,000	6.74	11,128
Building Construction	300	0	20	0	6.74	0
Paving	20	0	20	0	6.74	0
Architectural Coating	35	0	20	0	6.74	0
					Total Construction Hauling Fuel Consumption	**11,128**

Notes: Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.22 defaults.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 18-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the Project has been designed in compliance with California's Energy Efficiency Standards and 2022 CALGreen Standards.

Construction of the proposed residential development would require the typical use of energy resources. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the proposed

Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel. No new or increased significant impacts associated with energy consumption during construction of the proposed Project would occur and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

Operation

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation

The largest source of operational energy use would be vehicle operation of customers. The site is located in a suburban area just in close proximity to transit stops. Using the CalEEMod output, it is assumed that an average trip is 8.3 miles. To show a worst-case analysis, as the proposed Project is a residential project, it was assumed that vehicles would operate 365 days per year. Table 3.6.1-6 shows the worst-case estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks. Table 3.6.1-6 shows that an estimated 299,263 gallons of fuel would be consumed per year for the operation of the proposed Project.

Table 3.6.1-6: Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	1,205.9	8.30	10,009.2	31.82	314.56	114,813
Light Truck	Automobile	129.9	8.30	1,078.3	27.16	39.70	14,491
Light Truck	Automobile	426.2	8.30	3,537.2	25.6	138.17	50,432
Medium Truck	Automobile	404.1	8.30	3,353.8	20.81	161.16	58,824
Light Heavy Truck	2-Axle Truck	85.9	8.30	712.6	13.81	51.60	18,833
Light Heavy Truck 10,000 lbs +	2-Axle Truck	21.5	8.30	178.5	14.18	12.59	4,595
Medium Heavy Truck	3-Axle Truck	26.4	8.30	219.5	9.58	22.91	8,363
Heavy Heavy Truck	4-Axle Truck	68.1	8.30	565.6	7.14	79.21	28,911
Total		2,368	-	19,655	--	819.90	--
						Total Annual Fuel Consumption	**299,263**

Notes: [1]Per CalEEMod assumptions, the project is to generate 2,368 total net new trips. Default CalEEMod vehicle fleet mix utilized.

[1] Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation generated by the proposed Project are consistent with other similar residential uses of similar scale and configuration as reflected in the traffic data. That is, the proposed Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips, nor associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary. No new or increased significant impacts associated with energy consumption due to the proposed Project's vehicle operations fuel consumption would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

Electricity and Natural Gas

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 3.6.1-7.

Table 3.6.1-7: Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year
Condo/Townhouse	7,362,174
Total	**7,362,174**
Electricity Demand	**kWh/year**
Condo/Townhouse	1,478,309
Enclosed Parking Structure	1,002,810
Parking Lot	111,805
Total	**2,592,924**

Notes: Taken from the CalEEMod 2022.1.1.22 annual output.

As shown in Table 3.6.1-7, the estimated electricity demand for the proposed Project is approximately 2,592,924 kWh per year. In 2022, the residential sector of the County of San Diego consumed approximately 7,440 million kWh of electricity.[4] In addition, the estimated natural gas consumption for the proposed Project is approximately 7,362,174 kBTU per year. In 2022, the residential sector of the County of San Diego consumed approximately 280.9 million therms of gas.[5] Therefore, the increase in both electricity and natural gas demand from the proposed Project is insignificant compared to the County's 2022 demand. No new or increased significant impacts associated with energy consumption due to the proposed Project's electricity and natural gas demand would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

Energy Plans

Regarding federal transportation regulations, the Project site is located in an already developed area. Access to/from the Project site is from existing roads. These roads are already in place so the Project would not interfere

[4] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx
[5] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the Project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the Project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

The proposed Project would result in a less than significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. In addition, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, no new or increased significant impacts would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

3.6.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.7 Geology and Soils

The analysis in this section was completed in compliance with the following report:

- Preliminary Geotechnical Investigation Santee 3 Residential Development APN 181-151-018 Santee, California for Santee 3 Inv, LLC., prepared on February 5, 2024, by Leighton and Associates, Inc., and included as Appendix D-1 of this Addendum.
- Geotechnical Investigation Southwest of Cottonwood Avenue and Park Center Drive, City of Santee, San Diego, California, prepared on January 29, 2025, by Alta California Geological Inc. and included as Appendix D-2 of this Addendum.

3.7.1 Analysis

Issues 1 and 3: Seismic Hazards and Unstable Geology

Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42); (ii) strong ground shaking? (iii) seismic-related ground failure, including liquefaction; or (iv) landslides?

Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

City of Santee Housing Element Implementation PEIR Analysis

a) Fault Rupture, Ground Shaking, Liquefaction, and Landslide

The Santee Housing Element Implementation PEIR determined that the City is not located within an Alquist-Priolo Fault Zone, and no active or potentially active faults are known to occur within or adjacent to the City. However, with the City being located in California, there is potential for periodic seismic shaking due to earthquake along remote or regional active faults. Rezone Sites could be susceptible to damage due to the seismically active nature of the region. Additionally, with an increase of development this could potentially increase the number of people or structures, exposed to ground shaking during a seismic event. Landslides generally occur within areas of previous landslide movement, or where local topographic, geological, geotechnical, and subsurface water conditions indicate potential for permanent ground displacement. Usually, soil deposits are susceptible to liquefication which is alluvial soils that can be found in the San Diego River and its deeper tributary channels, all Rezone Sites except Site 10 were identified as having potential liquefaction. However, all future development within the Rezone Sites would be required to comply with the City's General Plan Safety Element policies, City's Municipal Code Section 11.40.130, and the California Building Code to ensure that future development within Rezone Sites would not cause substantial adverse effects associated with fault rupture, ground shaking, liquefaction, and landslides. Through regulatory compliance, impacts would be less than significant.

City's General Plan Safety Element policies identified below:

- Policy 2.1: The City should utilize existing and evolving geologic, geophysical and engineering knowledge to distinguish and delineate those areas that are particularly susceptible to damage from seismic and other geologic conditions.
- Policy 2.2: The City should ensure that if a project is proposed in an area identified herein as seismically and/or geologically hazardous, the proposal shall demonstrate through appropriate geologic studies and investigations that either the unfavorable conditions do not exist in the specific area in question or that they may be avoided or mitigated through proper site planning, design and construction.
- Policy 2.3: The City shall require that all potential geotechnical and soil hazards be fully investigated at the environmental review stage prior to project approval.

Proposed Project Analysis

a) Fault Rupture, Ground Shaking, Liquefaction, and Landslide

As mentioned above, the Alquist–Priolo Earthquake Zoning Act (Alquist–Priolo Act) requires the delineation of fault zones along active faults in California. The purpose of the Alquist–Priolo Act is to regulate development on or near active fault traces to reduce hazards associated with fault rupture. The Alquist–Priolo Earthquake Fault Zones are the regulatory zones that include surface traces of active faults. According to the California Department of Conservation, the Project site is not located in an Alquist–Priolo Earthquake Fault Zone (CDOC 2022). The nearest active fault are the Rose Canyon and Newport-Inglewood fault zones located approximately 14 miles from the Project site (Appendix D-2). Thus, the potential for surface rupture is low on the Project site.

Additionally, similar to other areas located in the seismically active Southern California region, the City is susceptible to strong ground shaking during an earthquake. However, the Project site is not located within an Alquist–Priolo Earthquake Fault Zone, and the site would not be affected by ground shaking more than any other area in this seismic region nor would the Project have any component that would induce seismic ground-shaking. The Project would comply with the City's Municipal Code and the latest version of the California Building Code (CBC) which would ensure that the Project would adequately resist seismic ground shaking. Additionally, the CBC includes universal standards relating to seismic load requirements. Furthermore, in addition to the Preliminary Geotechnical Reports already completed for the Project (Appendix D-1; Appendix D-2), the Project would prepare design-specific geotechnical report(s) which would provide specific design recommendations for grading plans, utility plans, and foundation plans to ensure the structural integrity of the Project in the event that seismic ground shaking is experienced at the Project site. The design-specific geotechnical report(s) would be reviewed and approved by the City's engineers prior to approval of grading and/or building permits.

Soil liquefaction is a seismically induced form of ground failure that has been a major cause of earthquake damage in Southern California. Liquefaction is a process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain such as an earthquake. According to the Preliminary Geotechnical Report (Appendix D-1)(Leighton 2024), the proposed Project site is underlain by unconsolidated sandy materials with a groundwater table at approximately 13 feet bgs, which present a potential for liquefication (Appendix D-1). Further evaluation presented in the Geotechnical Investigation (Appendix D-2)(Alta 2025) determined that the site presents a high likelihood of lateral spreading, due to the liquefaction potential. Due to the presence of liquefication potential, lateral spreading, loss of bearing and dynamic settlement, the Geotechnical Report (Appendix D-2) recommends ground improvement beneath the proposed structures to help densify the soils and improve bearing capacity. Various methods of ground improvement may be considered for the site, including stone columns, deep soil mixing, rammed aggregate piers, and compaction grouting. The Geotechnical Report recommends preparation of a site-specific ground improvement plan. Further details can be found in Appendix D-1, *Section 6.1.4 Ground Improvement (Leighton)* and Appendix D-2, *Section 6.2 Conclusions and Recommendations (Alta)*.

According to the Geotechnical Reports, landslides were not indicated at the site during the field exploration or during the review of available geologic literature, topographic maps, and stereoscopic aerial photographs. Therefore, the potential for significant landslides or large-scale slope instability at the site is considered low.

No new impacts related to fault rupture, ground shaking, and landslides would occur. The project would be required to comply with all geotechnical recommendations included in the Project's Geotechnical Reports. No

previously identified significant impacts would substantially increase in severity. Therefore, impacts would remain less than significant similar to the conclusion of the PEIR.

Issue 2: Soil Erosion

Would the Project result in substantial soil erosion or the loss of topsoil?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that impacts related to substantial soil erosion or loss of topsoil would be less than significant. The Santee Housing Element Implementation PEIR determined that erosion and sedimentation would primarily be a concern during construction phases of future development as areas would be stabilized through the installation of hardscape, landscaping, or native revegetation. Additionally, future development would comply with water standards including the National Pollutant Discharge Elimination System (NPDES) Municipal Permit and Municipal Code (Title 9, Chapter 9.06 Stormwater Management and Discharge Control) requirements and regulations. These regulations require erosion and sedimentation control during construction and implementation of best management practices to avoid erosion and off-site drainage. Therefore, adherence to applicable Municipal Code requirements, future developments would not result in substantial soil erosion or loss of topsoil, and impacts would be less than significant.

Proposed Project Analysis

As noted above, the proposed Project would comply with water standards including the NPDES Municipal Permit and Municipal Code (Title 9, Chapter 9.06 Stormwater Management and Discharge Control) requirements and regulations. Additionally, the Project will comply with the site preparation and remediation recommendations as identified in Appendix D-2. Therefore, complying with the water quality standards, including the NPDES Municipal Permit, Municipal Code (Title 9, Chapter 9.06 Stormwater Management and Discharge Control) requirements and regulations, and the Geotechnical report recommendations, the impacts associated with erosion, or the loss of topsoil would remain less than significant similar to the conclusions of the PEIR. Further, no previously identified significant impacts would substantially increase in severity.

Issue 4: Expansive Soils

Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR noted that potentially expansive soil types occur on the Rezone Sites. The PEIR concluded that impacts related to expansive soils would be less than significant because future development within Rezone Sites would be required to comply with the Municipal Code requirements including a project specific geotechnical report to ensure site-specific measures are implemented to ensure safe building construction in areas with expansive soils.

Proposed Project Analysis

Based on the Geotechnical Reports (Appendix D-1; Appendix D-2) for the proposed Project, the Project site is anticipated to have generally very low expansion index (EI). Low expansion is considered less than 50 or less in accordance with ASTM D 4829. Thus, expansion tests were performed on samples from selected materials and those tests indicated an EI of zero. In addition, selective grading to provide low expansion material below foundations is not anticipated according to the Geotechnical Report.

In conclusion, as recommended by the Santee Housing Element Implementation PEIR, the proposed Project would comply with the City's Municipal Code and the recommendations in the site-specific Geotechnical Report. the proposed Project would not result in direct or indirect risks to life or property due to expansive soils. Therefore, no new or increased significant impacts would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant.

Issue 5: Septic Tanks or Alternative Wastewater Disposal

Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that no impacts would occur due to septic tanks or alternative wastewater disposal systems, as all sites would be served by the public wastewater system.

Proposed Project Analysis

As noted above, the proposed Project would be served by City sewer service, and no new septic or alternative wastewater systems would be used. Therefore, no new or increased impacts would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, there would be no impacts associated with septic tanks or alternative wastewater disposal.

Issue 6: Paleontological Resources and Unique Geology

Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that grading into a geologic formation with high or moderate sensitivity has the potential to result in impacts to paleontological resources. If grading were to occur at depths sufficient to disturb a moderate to high sensitivity geologic formation with potential paleontological resources, significant impacts could occur. With the implementation of MM-GEO-1, impacts related to paleontological resources would be reduced to less than significant with mitigation. Impacts associated with unique geology would be less than significant.

Proposed Project Analysis

All the Rezone Sites, including Site 17, are located within existing development or vacant sites with some history of disturbance. Unique geologic features have not been identified at or within any of the Rezone Sites, therefore, impacts related to unique geologic features would be less than significant. Impacts related to paleontological resources would remain less than significant with the implementation of mitigation measure GEO-1 similar to the conclusion of the PEIR, and no previously identified significant impacts would substantially increase in severity. Further, no new or increased significant impacts would occur.

3.7.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-GEO-1: The City shall review the project application materials including the geotechnical report to determine if project grading has the potential to disturb geologic formations with the potential to contain paleontological resources. If grading depths remain within the organic and soil layers, no monitoring would be required. The City may request information from the applicant such as the depth of grading, geologic formations and paleontological sensitivity in order to determine the potential for impacts. In the event grading may disturb geologic formations with a moderate or high potential to contain paleontological resources, the following monitoring program shall be implemented prior to and during grading operations:

1. Preconstruction Personnel and Repository: Prior to the commencement of construction, a qualified project paleontologist shall be retained to oversee the mitigation program. A qualified project paleontologist is a person with a doctorate or master's degree in paleontology or related field and who has knowledge of the County of San Diego paleontology and documented experience in professional paleontological procedures and techniques. In addition, a regional fossil repository, such as the San Diego Natural History Museum, shall be designated by the City of Santee to receive any discovered fossils.
2. Preconstruction Meeting: The project paleontologist shall attend the preconstruction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues.
3. Preconstruction Training: The project paleontologist shall conduct a paleontological resource training workshop to be attended by earth excavation personnel.
4. During-Construction Monitoring: A project paleontologist or paleontological monitor shall be present during all earthwork in formations with moderate to high paleontological sensitivity. A paleontological monitor (working under the direction of the project paleontologist) shall be on site on a full-time basis during all original cutting of previously undisturbed deposits.
5. During-Construction Fossil Recovery: If fossils are discovered, the project paleontologist (or paleontological monitor) shall recover them. In most cases, fossil salvage can be completed in a short period of time. However, some fossil specimens (e.g., a bone bed or a complete large mammal skeleton) may require an extended salvage period. In these instances, the project paleontologist (or paleontological monitor) has the authority to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner.

6. Post-Construction Treatment: Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, and cataloged.
7. Post-Construction Curation: Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited in the designated fossil repository.
8. Post-Construction Final Report: A final summary paleontological mitigation report that outlines the results of the mitigation program shall be completed and submitted to the City of Santee within two weeks of the completion of each construction phase of the proposed Project. This report shall include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, inventory lists of cataloged fossils, and significance of recovered fossils.

3.8 Greenhouse Gas Emissions

The analysis in this section was completed in compliance with the following report:

- Cottonwood & Park Air Quality, Greenhouse Gas, and Energy Impacts Study for City Ventures, prepared April 30, 2025 by MD Acoustics, LLC and included as Appendix A of this Addendum.

3.8.1 Analysis

Issue 1: GHG Emissions

Would the Project result in GHG emissions that may have a significant impact on the environment?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that that project would result in an increase in GHG emissions that would exceed the assumption used in development of the Sustainable Santee Plan (SSP) and would result in an increase in VMT that exceeds the 85% thresholds, resulting in a significant impact. Both ministerial and discretionary developments included in the Rezone Sites would be required to comply with the SSP through a completed Consistency Checklist. Additionally, the Rezone Sites would result in an increase in development and associated emissions that have not been accounted for in the SSP, and therefore, GHG emissions would not be adequately addressed through compliance with SSP and GHG emissions within the Rezone Sites. This impact would be significant. Future development of Rezone Sites would require implementation of mitigation measures MM-GHG-1 and MM-GHG-2 to reduce significance. Additionally, to reduce potentially significant impacts associated with VMT from future development within the Rezone Sites, mitigation measure MM-TRA-1 would require incorporation of applicable TDM measures. However, the Santee Housing Element Implementation PEIR concluded that the GHG emissions would remain significant and unavoidable because at a program level of review, it was not feasible to conclude whether site-specific impacts would be fully mitigated.

Proposed Project Analysis

Project-generated GHG emissions are presented for informational purposes and are not used in determining significance of potential GHG-related impacts. Rather, consistency with the SSP is used to analyze the

significance of GHG emissions at the project level. The SSP is a qualified GHG emissions reduction plan in accordance with CEQA Guidelines Section 15183.5.

Construction

The greenhouse gas emissions from the proposed Project construction equipment and worker vehicles are shown in Table 3.8.1-1. The emissions are from all phases of construction. Construction-related emissions are amortized over a 30-year period in conjunction with the proposed Project's operational emissions as recommended by Association of Environmental Processionals (AEP) and based on guidance from the SCAQMD (AEP 2016, SCAQMD 2008). The total construction emissions amortized over a period of 30 years are estimated at 46.2 metric tons of CO_2e per year. Annual CalEEMod output calculations are provided in Appendix A.

Table 3.8.1-1: Estimated Annual Construction Greenhouse Gas Emissions

Year	Metric Tons Per Year					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e (MT)
2024	0.00	414.00	414.00	0.02	0.03	424.00
2025	0.00	920.00	920.00	0.04	0.05	938.00
2026	0.00	23.60	23.60	0.00	0.00	23.90
Total	**0.00**	**1,357.60**	**1,357.60**	**0.06**	**0.08**	**1,385.90**
					Amortized Construction Emissions	**46.20**

Notes: $MTCO_2e$=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane, and nitrous oxide).
The emissions are averaged over 30 years.
Source: Appendix A

Operational

Operational emissions occur over the life of the Project. Table 3.8.1-2 shows the proposed Project's operational emissions (baseline emissions without credit for any reductions from sustainable design and/or regulatory requirements) for informational purposes.

Table 3.8.1-2: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)[1]						
	Bio-CO_2	NonBio-CO_2	CO_2	CH_4	N_2O	R	CO_2e
Area Sources[2]	0.00	8.62	8.62	0.00	0.00	0.00	8.65
Energy Usage[3]	0.00	1,083.00	1,083.00	0.07	0.01	0.00	1,087.00
Mobile Sources[4]	0.00	2,592.00	2,592.00	0.13	0.11	3.89	2,632.00
Solid Waste[5]	23.60	0.00	23.60	2.36	0.00	0.00	82.70
Water[6]	3.99	24.40	28.39	0.41	0.01	0.00	41.60
Refrigerants	0.00	0.00	0.00	0.00	0.00	0.45	0.45
Subtotal Emissions	*27.59*	*3,708.02*	*3,735.61*	*2.97*	*0.13*	*4.34*	*3,852.40*
						Amortized Construction Emissions[7]	*46.20*

Table 3.8.1-2: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)[1]						
	Bio-CO_2	NonBio-CO_2	CO_2	CH_4	N_2O	R	CO_2e
Total Emissions							3,898.60
Service Population							999.00
Total Emissions per Service Population (MTCO2e/yr/SP)							3.90
2026 Interpolated Threshold (MTCO2e/yr/SP)							4.08
Exceeds threshold?							No

Notes:
1 Source: CalEEMod Version 2022.1.1.22
2 Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
3 Energy usage consists of GHG emissions from electricity and natural gas usage.
4 Mobile sources consist of GHG emissions from vehicles.
5 Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
6 Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
7 Construction GHG emissions based on a 30 year amortization rate.

As shown in Table 3.8.1-2, implementation of the Project would result in approximately 3,898.6 MT CO_2e per year including amortized construction emissions. Complete details of the construction emissions calculations are provided in Appendix A, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files, of Appendix A.

As noted previously, there is no numeric threshold appropriate to evaluate the significance of Project-generated GHG emissions. As such, the estimation of GHG emissions increase generated by the Project provided above is for informational purposes in accordance with Section 15064.4 of the State CEQA Guidelines. However, as discussed above, the Project's compliance with the Sustainable Santee Plan is used to evaluate the significance of the Project's GHG emissions. As detailed below, the Project is consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, impacts would remain less than significant similar to the conclusions of the PEIR, no new or increased significant impacts would occur, and no previously identified significant impacts would substantially increase in severity.

Issue 2: Policies, Plans, and Regulations Intended to Reduce GHG Emissions

Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Sites would be consistent with the goals and policies from the CARB 2017 Scoping Plan, 2021 Regional Plan/Sustainable Communities Strategy (SCS), and the SSP. However, the Santee Housing Element Implementation PEIR concluded that because the Project would result in an increase in development not accounted for in the SSP emission inventories and the Project would result in significant VMT impacts that would conflict with the 2021 Regional Plan/SCS, the Project would conflict with GHG emissions reduction plans and impacts would be significant. Therefore, impacts associated with consistency with policies, plans and regulations adopted for the purpose of reducing GHG emissions would remain significant and unavoidable after mitigation.

Proposed Project Analysis

The proposed Project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The proposed Project's GHG impacts are evaluated by assessing the Project's consistency with the applicable local GHG reduction plan and strategy.

The Office of Land Use and Climate Innovation (LCI) encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. The City has adopted the SSP which is a qualified GHG emissions reduction plan in accordance with CEQA Guidelines Section 15183.5. If the proposed Project complies with this plan, the proposed Project would continue to result in a less than significant impact because it would be consistent with the overarching state, regional, and local plans for GHG reduction.

A consistency analysis is provided below and describes the Project's compliance with or exceedance of performance-based standards included in the Sustainable Santee Plan.

Sustainable Santee Plan Consistency Analysis

The focus of the SSP included promoting energy- and water-efficient buildings, smart growth and clean transit, zero waste policies, and increased local energy generation and water resources. Table 3.8.1-3 summarizes reduction strategies from the SSP and evaluates Project consistency with each strategy. The Project would be consistent with all applicable SSP reduction strategies; therefore, the Project would not conflict with the SSP.

Table 3.8.1-3 Sustainable Santee Plan Consistency Analysis

Measure	Project Consistency
Goal 1. Increase Energy Efficiency in Existing Residential Units	
	Not applicable. The project is a new development.
Goal 2. Increase Energy Efficiency in the New Residential Units	
Measure 2.1. New residential construction meet or exceed California Green Building Standards Tier 2 Voluntary Measures, such as obtaining green building ratings including LEED, Build it Green, or Energy Star Certified building certifications in scoring development and explain the measures implemented.	Consistent. The Project will meet California Green Building Standards Tier 2 Voluntary Measures.
Goal 3: Increase Energy Efficiency in Existing Commercial Units	
	Not applicable. The project is a residential development.
Goal 4: Increase Energy Efficiency in New Commercial Units	
	Not applicable. The project is a residential development.
Goal 5: Decrease Energy Demand through Reducing Urban Heat Island Effect	
Measure 5.1. Tree Planting for Shading and Energy Efficiency	Consistent. The project will comply with all City regulations regarding tree planting.

Table 3.8.1-3 Sustainable Santee Plan Consistency Analysis

Measure	Project Consistency
Measure 5.2. Light-reflecting Surfaces for Energy Efficiency	Consistent. While this measure is regarding commercial and municipal buildings, the project will comply with all City regulations regarding cool roofs for residential buildings
Goal 6. Decrease GHG Emissions through a Reduction in VMT	
Measure 6.1. Proposed Project streets include sidewalks, crosswalks, and other infrastructure that promotes non-motorized transportation options	Consistent. The project would include sidewalks and crosswalks and would connect to existing pedestrian networks and an existing park.
Measure 6.2. Proposed Project installs bike paths to improve bike transit.	Consistent. The project will install the River Trail along the southern portion of the project site that will connect existing portions of the River Trail west and east of the projects site allowing for efficient bike travel in the project vicinity.
Goal 7: Increase Use of Electric Vehicles	
Measure 7.1. Install electric vehicle chargers in all new residential and commercial developments. b. For new Multifamily Residential, install e-chargers for 13% of total parking.	Consistent. The Project will install at least install e-chargers for 13% of total parking.
Goal 8. Improve Traffic Flow	
Measure 8.1. Implement traffic flow improvement program. A. Install smart traffic signals at intersections warranting a traffic signal, OR B. Install roundabout.	Consistent. The Project will install a roundabout at the intersection of Walker Trails Drive and Park Center Drive. No traffic signals will be installed as part of the Project.
Goal 9: Decrease GHG Emissions through Reducing Solid Waste Generation	
Measure 9.1. Reduce waste at landfills.	Consistent. The Project will comply with the requirement in AB-341 to reduce waste to landfills by 75%.
Goal 10. Decrease GHG Emissions through Increased Clean Energy Use	
Measure 10.1. Increase distributed energy generation within City of Santee by implementing the following applicable photovoltaic solar systems: b. Multifamily residential to install at least 1kW per unit of PV solar systems, unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified solar consultant submitted with an applicant's formal project submittal to City.	Consistent. The Project will comply with the 2022 Energy Code requiring all residential uses to include solar.

As shown in Table 3.8.1-3, the Project would comply the identified measures of the Sustainable Santee Plan. Further, the Project would include site design elements and project design features developed to support the policy objectives of the Regional Plan and SCS. The Project is consistent with the applicable strategies of the 2017 Scoping Plan and SANDAG's Regional Plan. A detailed consistency analysis is included in the Air Quality, Greenhouse Gas, and Energy Impact Study (Appendix A).

Therefore, the Project will not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Impacts would be less than significant with mitigation, would not result in any new or increased significant impacts, and no previously identified significant impacts would substantially increase in the severity.

3.8.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-GHG-1: For development at Rezone Sites that proceed before an update to the Sustainable Santee Plan is adopted, as detailed in MM-GHG-2, a site-specific GHG analysis is required. The site-specific GHG analysis shall (1) determine whether the project would result in GHG emissions that may have a significant impact on the environment and specifically must demonstrate how the project would reduce emissions to achieve consistency with the State Scoping Plan and applicable GHG reduction targets, and (2) the analysis must demonstrate how the project would be consistent with the Sustainable Santee Plan Consistency Checklist in addition to other applicable GHG reduction plans. The site-specific GHG analysis shall be completed to the satisfaction of the City during the permitting process. For development at Rezone Sites that proceed after the Sustainable Santee Plan is adopted as detailed in MM-GHG-2, only project consistency with the Sustainable Santee Plan Consistency Checklist is required.

MM-GHG-2: Within one year of adoption of the rezone program, the City shall prepare an update to the Sustainable Santee Plan to incorporate the additional emissions that would result from development at the rezone sites as part of the baseline inventory. The updated Sustainable Santee Plan shall determine GHG emission reduction targets consistent with the current Scoping Plan, based on the updated inventory and provide any necessary updates to the Consistency Checklist.

3.9 Hazards and Hazardous Materials

3.9.1 Analysis

Issues 1, 2, and 3: Hazardous Material—Use, Transport, Disposal; Accidental Release; and Emission near a School

Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

City of Santee Housing Element Implementation PEIR Analysis

a. Routine Use, Transport, and Disposal

The Santee Housing Element Implementation PEIR determined that the routine use, transport, and disposal of hazardous materials would be less than significant, Rezone Sites are not located within or adjacent to an existing cleanup site. However, future developments within the Rezone Sites including the Site 17, may use, transport, and dispose hazardous materials during construction. The use, transport, and disposal of hazardous materials during construction would be temporary during the duration of construction, and future developments would be required to comply with all applicable State, regional, local regulations associated with handling and transport of hazardous materials. Therefore, with proper use and disposal of hazardous materials as required by state, regional, and local regulations, impacts related to the use, transport, and disposal of hazardous materials would be less than significant.

b. Accidental Release

The Santee Housing Element Implementation PEIR determined that an accidental release could occur during the following: the routine use, transport, and disposal of hazardous materials during future development's operation and/or through the accidental upset of hazardous material during excavation and construction. Exposure to hazardous material could potentially occur through contact with contaminated soil or groundwater, skin contact, the inhalation of vapors or dust, or during the demolition of structures constructed prior to 1978. Therefore, the demolition of structures could potentially expose workers to asbestos containing dust. However, California law requires compliance with Cal-OSHA worker safety standards, which requires asbestos testing and abatement, this would ensure that all asbestos removal is completed properly with required safety precautions to avoid the release of hazardous materials. Additionally, risks associated with the accidental release of hazardous materials would be managed through the implementation of AB 3205, California Waste Control Law, California H&SC, California Fire Code, and RCRA regulations. Impacts related to the accidental release of hazardous material during future buildout or demolition of building at Rezone Sites would be potentially significant and would require mitigation measure MM-HAZ-1 to ensure hazardous materials are handled correctly, therefore after mitigation impacts would be less than significant.

c. Emissions Near a School

The Santee Housing Element Implementation PEIR determined that none of the Rezone Sites, including Site 17, are within 0.25 mile of a school, in the case of future developments being within 0.25 mile of a school, future developments would be required to consult with and provide written notification to the school district 30 days prior to the certification of the EIR. However, none of the Rezone Sites are located within the 0.25 mile of a school, therefore, impacts related to emissions near a school would be less than significant.

Proposed Project Analysis

a. Routine Use, Transport, and Disposal

Construction of the Project would include the development of 285 multi-family residential units, associated improvements, internal roadways, water lines and electrical utilities. Site development would also include landscaping and stormwater management features. The Project site is currently vacant and no demolition of structures would be required for development of the site.

Hazardous materials that may be used during construction activities include gasoline, diesel fuel, oil, lubricants, grease, welding gases, solvents, and paints. These materials would be used and stored in

designated construction staging areas within the boundaries of the Project site and would be transported, handled, and disposed of in accordance with all applicable federal, state, and local laws and regulations. The use of these materials for their intended purpose would not pose a significant risk to the public or environment. Hazardous wastes accumulated during Project construction will be recycled, when possible, at a licensed off-site recycling facility. Empty containers for such materials (e.g., drums and totes) may also be returned to vendors, if possible. Hazardous waste that cannot be recycled would be transported by a licensed hazardous waste hauler using a Uniform Hazardous Waste Manifest and disposed of at an appropriately permitted facility. The use of these substances is subject to applicable federal, state, and local health and safety laws and regulations that are intended to minimize health risk to the public associated with hazardous materials. With adherence to be managed through the implementation of AB 3205, California Waste Control Law, California H&SC, California Fire Code, and RCRA regulations, construction of the Project would not create a significant hazard to the public or environment during routine transport, use or disposal of hazardous materials, and impacts during construction would be less than significant and would not result in any new or increased impacts in this regard.

Additionally, residential uses are not typically associated with the transport, use, or disposal of hazardous materials. Household goods used by residential homes that contain toxic substances are usually in low concentration and small in amount. Therefore, there is no significant risk to humans or the environment from the use of such household goods. Residents are required to dispose of household hazardous waste, including pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals, at a Household Hazardous Waste Collection Facility. Also, as of February 2006, fluorescent lamps, batteries, and mercury thermostats can no longer be disposed in the trash. Furthermore, the transport, use, and disposal of hazardous materials are fully regulated through the implementation of AB 3205, California Waste Control Law, California H&SC, California Fire Code, and RCRA regulations. With mandatory regulatory compliance, potential hazardous material impacts associated with long-term operation of the Project would be less than significant and would not result in any new or increased impacts in this regard.

b. Accidental Release

As discussed above, hazardous materials required for construction would be used following all appropriate federal, state, and local laws, rules, and regulations, thereby reducing the potential for an accidental release to the environment. Additionally, hazardous materials required during construction would not likely be stored on site in such quantities that a significant release would occur.

With adherence to applicable federal, state, and local laws, rules and regulations, construction of the Project would not create a significant hazard to the public or environment by creating a reasonably foreseeable upset or accident condition, and impacts would be less than significant.

Additionally, residential uses are not typically associated with the transport, use, or disposal of hazardous materials. Residents are required to dispose of household hazardous waste at a Household Hazardous Waste Collection Facility. In addition, operations would be required to comply with EPA, State of California, San Diego County, and/or the City regulations pertaining to household wastes. With mandatory regulatory compliance, potential hazardous materials accidental release impacts associated with long-term operation of the Project would be less than significant and would not result in any new or increased impacts in this regard.

c. Emissions Near a School

Given there are no existing or proposed schools located within 0.25 miles of the Project site. The nearest school is the Rio Seco School, a middle school located approximately 0.40 mile west of the Project site. Therefore, the Project would not create hazardous emissions or handle hazardous materials near a school, and no new or increased impacts would occur in this regard.

Issue 4: Hazardous Material–Sites

Would the Project be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that none of the Rezone Sites are listed as hazardous materials sites pursuant to Government Code Section 65962.5 (Cortese List) and impacts related to hazardous sites would be less than significant.

Proposed Project Analysis

As stated in the Santee Housing Element Implementation PEIR, the Project site is not listed as a hazardous materials site, therefore, the proposed Project would not have any new impacts related to hazardous sites and would not result in any increase in the severity of impacts in this regard.

Issue 5: Airport Hazards

For a Project located within an ALUCP or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Sites are located within Gillespie Field Influence Area 1, Gillespie Field Influence Area 2, and MCAS Miramar Influence Area 2. Rezone Site 17 is located within Gillespie Field Influence Area 1 and 2 and MCAS Miramar Influence Area 2. The ALUCP addresses four types of compatibility factors which include noise, safety, airspace protection, and overflight. After review, the Santee Housing Element Implementation PEIR determined that the Rezone Sites are not anticipated to result in a safety hazard for people working or residing in the Rezone Sites. Therefore, impacts related to airport hazards would be less than significant.

Proposed Project Analysis

As mentioned above, the proposed Project (Rezone Site 17) is located within Gillespie Field Influence Area 1 and Gillespie Field Influence Area 2, and MCAS Miramar Influence Area 2.

With specific respect to air safety issues, the Gillespie Field and MCAS Miramar ALUCPs (SDCRAA 2010 and 2011) state the following:

- Influence Area 1 consists of locations where noise and safety concerns may necessitate limitations on the types of land uses actions. Specifically, Influence Area 1 encompasses locations exposed to aircraft noise levels of 60 dB CNEL or greater and areas subject to the safety zones depicted on Figure 4.7-2 in the Santee Housing Element Implementation PEIR. Sites within a designated safety zone, such as Influence Area 1, require a consistency determination with the Airport Land Use Commission (ALUC) for San Diego County. In addition, projects within Influence Area 1 must file with the Federal Aviation Administration for a Determination of No Hazard.
- Influence Area 2 consists of locations beyond Influence Area 1 but within the airspace and/or overflight notification areas depicted on the maps in the respective ALUCPs. Limits on the heights of structures, particularly in areas of high terrain, are the only restriction on land uses within Influence Area 2. For projects within Influence Area 2, the recordation of overflight notification documents is also required. In addition, projects within Influence Area 2 must file with the Federal Aviation Administration for a Determination of No Hazard.

The proposed Project would be located within both Influence Area 1 and Influence Area 2, approximately 1.3 miles away from Gillespie Field Airport. The ALUC for San Diego County has adopted an Airport Land Use Plan which regulates airport use and public safety. Based on the future airport noise contours provided in the compatibility plan, the Project site is not within any dB CNEL noise contour (60) for the Gillespie Field Airport. The proposed Project would not expose people residing or working on the site to excessive noise levels associated with airports (ALUC 2010). Further the FAA has issued a Determination of No Hazard for the Project which will be submitted to the ALUC for San Diego County for completion of a consistency determination. Similar to the Santee Housing Element Implementation PEIR, given the distance between the Gillespie Field Airport and the Project site, the proposed Project would not result in any new impacts related to airport safety hazards and would not result in any increase in the severity of impacts in this regard.

Issue 6: Emergency Response

Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that impacts related to emergency response plans would be less than significant. The Santee Housing Element Implementation PEIR also stated that all future developments would have to undergo reviewal and approval by the Santee Fire Department prior to issuance of building permit and impacts would be less than significant.

Proposed Project Analysis

The proposed Project would be consistent with the land uses in the Santee Housing Element Implementation PEIR and prior to the issuance of building permits, the proposed Project must be reviewed and approved by the Santee Fire Department. The proposed Project has been accounted for in City planning documents for planning for emergency management in the event of a disaster. Therefore, implementation of the proposed Project would not result in any new impacts related to adopted emergency response plans or emergency evacuation plans and would not result in any increase in the severity of impacts in this regard.

Issue 7: Wildland Fires

Would the Project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas, within brush fire management zones, or where residences are intermixed with wildlands?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Site 17 is not located within a very high fire hazard severity zone and would not be required to adhere to California Fire Code Title 19, Division 1, Section 3.07(b), requiring a minimum 30-foot brush clearance around structures for fire safety. In addition, future developments would have to comply with the City's General Plan policies 4.2 through 4.13, fire code regulations, and reviewed by the Building Official/Fire Marshal, therefore, impacts associated with risk of wildland fire would be less than significant.

Proposed Project Analysis

The proposed Project site is located within the Local Responsibility Area (LRA) and not located within a very high fire hazard severity zone area, and as such, would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, implementation of the proposed Project would not result in any new impacts and would not result in any increase in the severity of impacts in this regard.

3.9.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-HAZ-1: Applications for future development in the Rezone Sites, wherein the City has determined a potential for impacts to known and unknown hazardous materials sites, shall be required to comply with the following mitigation framework. Future projects shall be required to identify potential conditions, which require further regulatory oversight and demonstrate compliance based on the following measures prior to issuance of any permits.

A. A Phase I Environmental Site Assessment (ESA) shall be completed in accordance with American Society of Testing and Materials (ASTM) Standards. If hazardous materials are identified requiring remediation, a Phase II ESA and remediation effort shall be conducted in conformance with federal, state, and local regulations.

B. If the Phase II ESA identifies the need for remediation, then the following shall occur prior to the issuance of grading permits:

1. The applicant shall retain a qualified environmental engineer to develop a soil and/or groundwater management plan to address the notification, monitoring, sampling, testing, handling, storage, and disposal of contaminated media or substances (soil, groundwater). The qualified environmental consultant shall monitor excavations and grading activities in accordance with the plan. The plans shall be approved by the City prior to development of the site.

2. The applicant shall submit documentation showing that contaminated soil and/or groundwater on proposed development parcels have been avoided or remediated to meet cleanup requirements established by appropriate local regulatory agencies (Regional Water Quality Control Board [RWQCB]/DTSC/DEH) based on the future planned land use of the specific area within the boundaries of the site (i.e., commercial, residential), and that the risk to human health of future occupants of these areas therefore has been reduced to below a level of significance.
3. The applicant shall obtain written authorization from the appropriate regulatory agency (RWQCB/DTSC/DEH) confirming the completion of remediation. A copy of the authorization shall be submitted to the City to confirm that all appropriate remediation has been completed and that the proposed development parcel has been cleaned up to the satisfaction of the regulatory agency. In the situation where previous contamination has occurred on a site that has a previously closed case or on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the DEH shall be notified of the proposed land use.
4. All cleanup activities shall be performed in accordance with all applicable federal, state, and local laws and regulations, and required permits shall be secured prior to commencement of construction to the satisfaction of the City and compliance with applicable regulatory agencies such as but not limited to the City of Santee Municipal Code.

3.10 Hydrology and Water Quality

The analysis in this section was completed in compliance with the following report:

- Request for A Conditional Letter of Map Revision for Santee 3 Multifamily Housing, San Diego River, County of San Diego, CA, prepared January 13, 2025, by Rick Engineering Company Water Resources Division and included as Appendix E-1 of this Addendum.
- Priority Development Project Storm Water Quality Management Plan (SWQMP) for Santee 3 Multifamily Housing for Santee 3 Inv, LLC., prepared April 16, 2025, by Rick Engineering Company and included as Appendix E-2 of this Addendum.
- Drainage Study for Santee 3 Multifamily Housing Preliminary Engineering for Santee 3 Inv, LLC., prepared April 16, 2025, by Rick Engineering Company and included as Appendix E-3 of this Addendum.

3.10.1 Analysis

Issues 1 and 5: Water Quality

Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Sites have the potential to substantially degrade surface or groundwater quality, however, future development would be compliant to federal, state, and local regulations, including the City's Water Quality Improvement Program (WQIP), MS4 Permit, Best Management Practice (BMP) Design Manual, National Pollutant Discharge Elimination System (NPDES) General Construction Permit, and all regulations related to water quality. Therefore, through regulatory compliance impacts related to water quality standards and waste discharge requirements would be less than significant. Likewise, future development within the Rezone Sites would not conflict with or obstruct implementation of a water quality control plan.

Proposed Project Analysis

The Santee Housing Element Implementation PEIR assumed residential development would occur on the proposed Project site. Therefore, water supply and demand for the proposed Project has been accounted for in the Santee Housing Element Implementation PEIR. Additionally, as stated in the Drainage Study (Appendix E-3), the proposed Project would be managed via a water quality basin and modular wetland system designed pursuant the guidelines from the City's BMP Design Manual (Appendix E-3). Thus, the Project would be compliant with all federal, state, and local regulations, including compliance with National Pollutant Discharge Elimination System permit requirements for urban runoff and stormwater discharge. BMPs for design, treatment, and monitoring for stormwater quality would be implemented as delineated in the Santee Housing Element Implementation PEIR with respect to municipal and construction permits. The proposed Project would comply with the most recent City BMP Design Manual, which would result in improved water quality discharge. The Project would also comply with the stormwater BMP requirements further detailed in the SWQMP (Appendix E-2). In compliance with all applicable rules and regulations governing water quality impacts related to water quality would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 2: Groundwater

Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Would the Project substantially degrade groundwater quality or obstruct implementation of a sustainable groundwater management plan? (see groundwater portions of issue questions 1 and 5)

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that the Rezone Sites impacts would be less than significant and would not adversely affect groundwater recharge or obstruct implementation of sustainable groundwater management plan. Additionally, future developments would be required to comply with the City's General Plan policies and regulations that prioritize infiltration and treatment of stormwater. No mitigation.

Proposed Project Analysis

As discussed in the Santee Housing Element Implementation PEIR, development of residential uses within the Rezone Sites have been planned. Therefore, the water needs of development under the Santee Housing Element Implementation PEIR and potential impacts on groundwater sources have been accounted for by the City's Water Utilities Department. Water resources would be provided to the proposed Project site via water lines that would connect to existing City water supply for domestic and potentially recycled water lines. Therefore, the proposed Project would not result in a net deficit in aquifer volume or a lowering of the local groundwater table. In addition, impervious surfaces already support some level of development at the Project site, the drainage of the site would not be significantly altered and thus the Project would not result interfere in groundwater recharge. The proposed Project would also be required to comply with the City's General Plan policies and regulations that prioritize infiltration and treatment of stormwater and generally require increased on-site infiltration and higher standards of water quality protection. Therefore, implementation of the proposed Project would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 3: Drainage Patterns/Stormwater Runoff

Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) Result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that the development of the Rezone Sites has the potential to substantially alter the existing drainage pattern of the site or area and impact the existing drainage system. However, all future developments would be required to comply with federal, state, and local regulations, including the City Stormwater Ordinance aimed to reducing polluted stormwater, stormwater runoff, and avoiding overloading the City's drainage system. Impacts associated to drainage patterns and stormwater runoff would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Proposed Project Analysis

Construction

The Project would involve earthwork and other construction activities that would disturb surface soils and temporarily leave exposed soil on the ground's surface. Common causes of soil erosion from construction sites include stormwater, wind, and soil being tracked off site by vehicles. To help curb erosion, Project construction activities would comply with all applicable federal, state, and local regulations for erosion control. The Project would be required to comply with standard regulations, including SCAQMD Rules 402 and 403, which would reduce construction erosion impacts. Rule 402 requires that dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance off site (SCAQMD 1976). Rule 403 requires that fugitive dust be controlled with best available control measures so that it does not remain visible in the atmosphere beyond the property line of the emissions source (SCAQMD 2005).

Since Project construction activities would disturb 1 or more acres, the Project must adhere to the provisions of the NPDES Construction General Permit. Construction activities subject to this permit include clearing, grading, and ground disturbances such as stockpiling and excavating. The NPDES Construction General Permit requires implementation of a SWPPP, which would include construction features for the Project (i.e., BMPs) designed to prevent erosion and protect the quality of stormwater runoff. Sediment-control BMPs may include stabilized construction entrances, straw wattles on earthen embankments, sediment filters on existing inlets, or the equivalent. Therefore, during construction, no new impacts would occur, and the proposed Project would not result in an increase of significant impacts or an increase in the severity of impacts associated with erosion or siltation, flooding, polluted runoff, or flood flows.

Operations

The proposed Project would add approximately 11.6 acres of impervious area in the form of building rooftops, hardscape, and parking lot. The proposed parking lot stalls will be constructed using permeable pavers to achieve the volume retention requirements on site. Stormwater on the Project site would generally drain in a southwest direction, similar to existing conditions. After leaving the Project site, runoff from Basin 100 drains into the San Diego River and ultimately flows west and discharges to the Pacific Ocean (see Appendix E-1).

According to the hydrological report (Appendix E-1), the proposed Project will not substantially alter the existing drainage pattern of the site, though the proposed Project would move all proposed structures outside the extents of the 100-year peak flow at the final outfall as compared to existing conditions.

Therefore, during operations, the proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river or through the addition of impervious surfaces, in a manner which would result in erosion or siltation, flooding, polluted runoff, or flood flows. Impacts would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 4: Flood Hazard/Tsunami Inundation

In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to project inundation?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that the future developments would be required to comply with the federal, state and local regulations to avoid or address impacts related to the development in 100-year flood zones. In addition, Rezone Site 17 is located within or partially within flood hazard areas of the San Diego River. Therefore, the future development could potentially be significant, however, with the compliance of the federal, state, local development regulations, including the City's General Plan and Municipal Code Chapter 11.36, impacts would be less than significant.

Proposed Project Analysis

The proposed Project, Site 17, is located within Federal Emergency Management Agency (FEMA) flood zones AE and X. Flood Zone AE is a flood hazard area of the San Diego River as mentioned in the Santee Housing Element Implementation PEIR. Therefore, there is potential for riverine flooding impacts, which occurs when there is an increase in the amount of runoff conveying to the river. Riverine flooding could cause total flow and pollutant release in the river. Flood Zone X are areas of minimal flood hazard (FEMA 2020).

In support of the removal of the Project from the existing floodplain, a CLOMR has been submitted to FEMA for review. A detailed hydraulic analysis was performed using HEC-RAS to determine the new extents of floodplain and floodway for the San Diego River. The site proposes to add fill to raise the pad elevations above the water surface elevation of the San Diego River. The additional fill is the basis for requesting the CLOMR. The areas currently identified as Zone AE on the site will ultimately be removed from the Zone AE designation.

Also, riverine flooding would be managed by the proposed Project adopting all the state and local regulations, including the City's General Plan and Municipal Code, Chapter 11.36 which establishes Flood and Damage Prevention standards.

Furthermore, the distance from Santee to the Pacific Ocean (approximately 20 miles) ensures that no people or structures would be subject to a tsunami. Therefore, implementation of the proposed Project would result in no new impacts associated with flood, tsunami, or seiche hazards and the proposed Project would remain less than significant as stated within the Santee Housing Element Implementation PEIR. In addition, the proposed Project would not result in any increase in the severity of impacts in this regard.

3.10.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.11 Land Use and Planning

3.11.1 Analysis

Issue 1: Physically Divide an Established Community

Would the Project physically divide an established community?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that none of the Rezone Sites would physically divide an established community as all the Rezone Sites are located in urbanized areas and served by existing infrastructure.

Proposed Project Analysis

Implementation of the proposed Project would occur on a vacant and undeveloped lot, which is surrounded by various urban land uses. Implementation of the proposed Project is consistent with the planned residential uses that currently exist or are proposed within the Rezone Sites. Development of the proposed Project does not physically divide an established community, but rather serves to accommodate the City's assigned growth and Regional Housing Needs Assessment (RHNA). Therefore, no new impacts would occur, and the proposed Project would not result in any increase in the severity of impacts in this regard.

Issue 2: Conflicts with Plans and Policies

Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?

City of Santee Housing Element Implementation PEIR Analysis

Santee Housing Element Implementation PEIR determined that impacts associated with future development would be consistent with applicable regulations, plans, and policies, therefore impacts would be less than significant. This includes consistency with State Housing Law, San Diego Forward, MSCP, General Plan, and Municipal Code.

However, the Santee Housing Element Implementation PEIR determined that the Rezone Sites are located within Gillespie Field Influence Area 1 and Gillespie Field Influence Area 2, and MCAS Miramar Influence Area 2. Rezone Site 17 is located within Gillespie Field Influence Area 1, 2 and MCAS Miramar Influence Area 2. The ALUCP addresses four types of compatibility factors which include noise, safety, airspace protection, and overflight. After review, the Santee Housing Element Implementation PEIR determined that the Rezone Sites are not anticipated to result in a safety hazard for people working or residing in the Rezone Sites. Therefore, impacts related to airport hazards would be less than significant.

Proposed Project Analysis

As Site 17 was included in the PEIR which implements Housing Element Programs 9 and 10, the Project would be consistent with State Housing Law and San Diego Forward. Also, only a very small portion of the Project's impact footprint would occur within the Draft Santee MSCP Subarea Plan San Diego River Subunit. Project implementation would not significantly conflict with the provisions of the MSCP Plan or Draft Santee MSCP Subarea Plan, nor would it prevent the Draft Santee MSCP Subarea Plan from being approved or compromise continued implementation of the MSCP in San Diego County. Compliance with the MSCP is further discussed under Section 3.4.1. Further, the Project would include site design elements and project design features developed to support the policy objectives of the Regional Plan and SCS as mentioned under Section 3.8.1. The proposed Project would also adhere to goals and policies identified in the General Plan and use regulations and development standards identified in the Municipal Code. Therefore, the Project would be consistent with the applicable regulations, plans, and policies identified in the PEIR.

As mentioned above, the proposed Project (Rezone Site 17) is located within Gillespie Field Influence Area 1 and MCAS Miramar Influence Area 2. With specific respect to air safety issues, according to the Gillespie Field and MCAS Miramar ALUCPs (SDCRAA 2010 and 2011) state the following:

- Influence Area 1 consists of locations where noise and safety concerns may necessitate limitations on the types of land uses actions. Specifically, Review Area 1 encompasses locations exposed to aircraft noise levels of 60 dB CNEL or greater and areas subject to the safety zones depicted on Figure 4.7-2 in the Santee Housing Element Implementation PEIR.
- Influence Area 2 consists of locations beyond Review Area 1 but within the airspace and/or overflight notification areas depicted on the maps in the respective ALUCPs. Limits on the heights of structures, particularly in areas of high terrain, are the only restriction on land uses within Influence Area 2. For projects within Influence Area 2, the recordation of overflight notification documents is also required.

The proposed Project would be located within both Influence Area 1 and Influence Area 2, approximately 1.3 miles away from Gillespie Field Airport. The Airport Land Use Commission (ALUCP) has adopted an Airport Land Use Compatibility Plan which regulates airport use and public safety. Based on the future airport noise contours provided in the compatibility plan, the Project site is not within any noise contour (60 dB CNEL) for the Gillespie Field Airport. The proposed Project would not expose people residing or working on the site to excessive noise levels associated with airports (ALUC 2010). Further, the Project includes buildings up to 37 feet tall, which would not exceed the height limitations identified by Federal Aviation Administration (FAA) Part 77, Subpart C. In accordance with the Santee Housing Element Implementation PEIR, the proposed Project are not anticipated to result in a safety hazard for construction employees or people residing in the proposed Project, therefore, impacts related to airport hazards would remain less than significant and would not result in any increase in the severity of impacts in this regard.

3.11.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.12 Mineral Resources

3.12.1 Analysis

Issues 1 and 2:

Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

City of Santee Housing Element Implementation PEIR Analysis

Mineral Resources are addressed in Chapter 8, Effects not to be Significant in the Santee Housing Element Implementation PEIR, which concluded projects located in Rezone Sites would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site delineate on a local general plan, specific plan, or other land use plan, and impacts would be less than significant. However, the Geological Survey classification of Mineral Resource Zones (MRZs) provides a description of the four MRZs:

- MRZ-1 designates areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2 designates areas underlain by mineral deposits where geologic data indicates that significant measured or indicated mineral resources are present.
- MRZ-3 designates areas that contain known mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4 designates areas where available information is inadequate for assignment to an MRZ zone.

Under the Geological Survey classifications some Rezone Sites are designated MRZ-2 and MRZ-3, with Site 17 designated as MRZ-2. However, due to the close proximity of sensitive receptors and existing surrounding neighborhoods, mining operations would not be feasible at these sites. Impacts were determined to be less than significant.

Proposed Project Analysis

The proposed Project includes the development of multi-family units on previously vacant land. No mining activities have occurred on the Project site and the Santee Housing Element Implementation PEIR determined that mining on the site would not be feasible due to the location near sensitive receptors; therefore, no impacts would occur related in the loss of availability of a known mineral resource or locally important mineral resource recovery site delineate on a local general plan, specific plan, or other land use plan, and impacts would remain less than significant and would not result in any new impacts or any increase in the severity of impacts in this regard.

3.12.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.13 Noise

The analysis in this section was completed in compliance with the following report:

- Cottonwood & Park Noise Impact Study for City Ventures, prepared on August 20, 2025, by MD Acoustics, LLC and included as Appendix F of this Addendum.

3.13.1 Analysis

Issue 1: Noise Standards

Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

City of Santee Housing Element Rezone Program Implementation PEIR Analysis

The PEIR determined that noise impacts could be significant when comparing the existing condition and the Project site. Additionally, the PEIR stated that future traffic noise levels at the Project site are forecast to exceed 65 dBA L_{dn} adjacent to roadways but would not exceed 70 dBA L_{dn}. For stationary source noise, the PEIR determined that there would be a significant impact if future developments did not comply with the City's Municipal Code, Title 5 – Health and Safety, Chapter 5.04 - Noise Abatement and Control. However, residential and mixed-use land uses are not anticipated to substantially increase the noise levels in the environment. Therefore, impacts related to stationary source noise would be less than significant, and no mitigation is required.

Construction noise is temporary and future developments, including the proposed Project would have to comply with the City's Municipal Code Section 5.04.090 which regulates noise associated with construction equipment and activities through the time-of-day restrictions (e.g., days of the week and hours of operation), and requires that notice be given when construction equipment with a manufacturer's noise rating of 85 dBA L_{max} at 50 feet will operate at a specific location for 10 consecutive workdays. However, depending on the construction equipment list, time of day, phasing, and duration, prolonged noise disturbances related to ambient noise would be potentially significant and construction noise and land use compatibility impacts are considered to be significant at this programmatic level of review, without incorporation of mitigation measures MM-NOS-1 and MM-NOS-2.

The PEIR determined impacts related to ambient noise would remain significant and unmitigated, but land use compatibility would be reduced to less than significant after mitigation (MM-NOS-1), and construction noise would be reduced to less than significant after mitigation (MM-NOS-2).

Proposed Project Analysis

Construction Noise

The Environmental Protection Agency (EPA) has compiled data regarding the noise characteristics of typical construction activities. The data are presented in Table **3.13.1-1**.

Table 3.13.1-1 Typical Construction Noise Levels[1] of Equipment Powered by Internal Combustion Engines

Type	Noise Levels (dBA) at 50 Feet
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86
Impact Equipment	
Saws	71 - 82
Vibrators	68 - 82

Notes:
1 Referenced Noise Levels from the Environmental Protection Agency (EPA)

Construction is anticipated to occur during the permissible hours from 7:00 a.m. to 7:00 p.m. according to the City's Municipal Code Section 5.04.090. The City's Municipal Code also requires that construction equipment with a noise rating of 85 dBA L_{max} or more at 50 feet can only operate for 10 consecutive workdays. Construction noise is considered a short-term impact and would be considered significant if construction activities are taken outside the allowable times as described in the City's Municipal Code. Construction noise will cause a temporary or periodic increase in the ambient noise level above the existing level within the Project vicinity. Construction noise level projections are provided below in Table 3.13.1-2.

Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels calculated at the closest sensitive receptors to the Project are listed in Table 3.13.1-2. A likely worst-case construction noise scenario assumes equipment operating as close as 80 feet and an average of 690 feet from the nearest sensitive receptor

(residences to the east). The L_{max} levels represent maximum levels when construction occurs adjacent to the residential receptors. L_{eq} levels represent the energy-average construction noise level during each phase.

Table 3.13.1-2 Construction Noise Levels at the East Property Line

Phase	dBA L_{max}	dBA L_{eq}
Site Prep	79.9	64.9
Grading	80.9	65.6
Build	79.9	63.4
Paving	85.9	64.1
Arch Coating	73.9	51.2

Notes: Const Equip from CalEEMod

As shown above, the proposed Project's construction noise would be compliant with the City's Municipal Code Section 5.04.090; therefore, impacts would be less than significant.

Operational Noise

Future Off-site Exterior Operational Noise

The exterior noise level off-site of the Project will be impacted by transportation-related sources and other stationary sources. The following outlines the impacts associated with exterior noise levels.

Table 3.13.1-3 Existing/Existing + Project Scenario – Noise Levels Along Roadways (dBA L_{dn}) Existing Exterior Noise Levels

Roadway	Segment	L_{dn} at 50 Ft (dBA)	Distance to Contour (Ft)			
			70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}	55 dBA L_{dn}
Magnolia Ave	East of site	71.5	70	222	702	2,221
Mast Blvd	North of site	69.3	42	134	423	1,339
Existing + Project Exterior Noise Levels						
Magnolia Ave	East of site	71.4	71.5	243	768	2,429
Mast Blvd	North of site	69.7	47	149	471	1,491
Change in Noise Levels as a Result of the Project						
		L_{dn} at 50 Feet (dBA)[2]				
Roadway[1]	Segment	Existing Without Project	Existing WithProject	Change in Noise Level	Potential Significant Impact	Existing Without Project
Magnolia Ave	East of site	71.4	71.5	0.1	No	
Mast Blvd	North of site	69.2	69.3	0.1	No	

Notes:

1 Exterior noise levels calculated at 5 feet above ground level.
2 Noise levels calculated from centerline of subject roadway.

Table 3.13.1-3 provides the Existing and Existing + Project noise conditions and shows the change in noise level because of the proposed Project. A significant impact would occur if, as a direct result of the project, noise levels would exceed the compatibility standards, or noise levels which already exceed the levels considered

compatible for that use are increased by 3 dB or more. As shown in Table 3.13.1-3, there will be a small increase in traffic noise of 0.5 dBA at 50 feet from the centerline of the subject roadways and the Project would not exceed the 3 dB threshold.

Future Off-site Traffic Noise

The potential off-site noise impacts caused by the increase in vehicular traffic as a result of the Project were calculated at a distance of 50 feet. The distance to the 55, 60, 65, and 70 dBA L_{dn} noise contours are also provided in Table 3.13.1-3 for reference. The noise level at 50 feet is representative of approximate distances to existing multi-family homes close to the subject roadway impacted by the Project. The noise contours were calculated for the following scenarios and conditions:

- Existing Condition (2018 ADT): This scenario refers to the existing traffic noise condition and is included in Table 3.13.1-3.
- Existing + Project Condition: This scenario refers to the existing plus Project traffic noise condition and is included in Table 3.13.1-3.

Future Off-site Stationary Operational Noise

Off-site operational noise includes transformers and HVAC units. HVAC equipment is assumed to be located on the rooftops. Equipment will be at least 100 feet away from the nearest residential uses to the east. The maximum sound power level from a single unit is 72 dBA. At 100 feet away, the sound pressure level is estimated to be 31 dBA. Assuming half of all 285 units are located 100 feet away from the eastern receptor and running simultaneously, the sound level is 54 dBA L_{eq}. If the units ran simultaneously for 24 hours, the noise level would be 60 dBA L_{dn}. According to the City's Land Use Compatibility Matrix, the noise at residential properties must not exceed 65 dBA L_{dn}. The worst-case noise due to all of the HVAC units operating simultaneously will be 63 dBA L_{dn} at a residence and thus meets the City's noise level limit for residential properties.

Per ANSI requirements for transformer noise, transformers must be no louder than 65 dBA at 6 feet. Transformers should be placed at least 20 feet from the adjacent residential receptors or should be shielded to stay below the nighttime ambient level.

Operational noise is predicted to comply with Section 5.04 of the Santee Municipal Code. The impact would therefore be less than significant.

On-site Receptors Due to Traffic

Traffic noise from Magnolia Avenue was evaluated and compared to the City's guidelines. Using cumulative traffic, the edge of the Project site will be up to 58 dBA L_{dn}. According to the Noise Element of the General Plan, residential uses are acceptable up to 65 dBA L_{dn}. Thus, the Project meets the 65 dBA L_{dn} limit for residential uses and falls within the normally acceptable level from the Noise Compatibility Matrix.

Interior Noise Levels

The future interior noise levels were calculated for the sensitive receptor locations using a typical "windows open" and "windows closed" condition. A "windows open" condition assumes 12 dBA of noise attenuation from the

exterior noise level. A “windows closed” condition” assumes 20 dBA of noise attenuation from the exterior noise level. Table 3.13.1-4 lists the calculated first and second-floor interior noise levels for the closest sensitive receptors to roadways on the Project site.

Table 3.13.1-4 Future Interior Noise Levels (dBA L_{dn})

Location/Roadway Noise Source	Exterior Façade Study Location	Noise Level at Building Facade[1]	Interior Noise Reduction Required to Meet Interior Noise Standard of 45 dBA L_{dn}	Interior Noise Level w/ Typical Residential Windows (STC≥ 25)		STC Rating for Windows Facing Subject Roadway[4]
				Window Open[2]	Windows Closed[3]	
1st Row Units Along Eastern Property Line/Magnolia Ave.	1st Floor	58	13	46	38	25
	2nd Floor	58	13	46	38	25

Notes:
1 Noise level from worksheets in Appendix F.
2 A minimum of 12 dBA noise reduction is assumed with a "windows open" condition.
3 A minimum of 20 dBA noise reduction is assumed with a "windows closed" condition.
4 Indicates the required STC rating to meet the interior noise standard.

As shown in Table 3.13.1-4, the interior noise level will be 46 dBA L_{dn} with the windows open and 38 dBA L_{dn} with the windows closed.

To meet the City’s interior 45 dBA L_{dn} standard a “windows closed” condition is required. The windows and sliding glass doors will require a minimum STC rating of 25. A “windows closed” condition simply means that to achieve a 45 dBA L_{dn} interior noise level, the windows must be closed and does not mean the windows must be fixed. Therefore, noise impacts would be less than significant and would not substantially increase the severity of impacts.

Issue 2: Ground-borne Noise and Vibration

Would the Project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that due to the unknown construction details, locations, and equipment, vibration associated with the future developments would be potentially significant; therefore, mitigation measure MM-NOS-3 would be implemented. After implementation, vibration would be less than significant.

Proposed Project Analysis

Construction Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed Project would not require the use of equipment such as impact pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a sonic pile driver. A sonic pile driver has a vibration impact of up to 0.734 inches per second peak particle velocity (PPV) at 25 feet.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^n$$

Where: PPV_{ref} = reference PPV at 25 ft.

D_{rec} = distance from equipment to receiver in ft.

n = 1.1 (the value related to the attenuation rate through ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in Table 3.13.1-5 (below) provide general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

Table 3.13.1-5 Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Sept. 2013.Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3.13.1-6 gives approximate vibration levels for specific construction equipment. This information provides a reasonable estimate for a wide range of soil conditions.

Table 3.13.1- 6. Vibration Source Levels for Construction Equipment[1]

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level, L_V (VdB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 (upper range)	105
	0.17 (typical)	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 (in soil)	66
(slurry wall)	0.017 (in rock)	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Note:
[1] Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, September 2018.

The sonic pile driver is anticipated to be as close as 116 feet away from the nearest residential façade to the east. At a distance of 116 feet, a sonic pile driver would yield a worst-case 0.136 PPV (in/sec) which will be perceptible but below any risk of damage (0.3 in/sec PPV is the threshold of old residential structures). The construction vibration complies with MM-NOS-3 of the DPEIR, and the impact is less than significant.

Issue 3: Airport Noise

Would the Project be located within the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and expose people residing or working in the area to excessive noise levels?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Project site is not located within the 65 dBA CNEL noise contours of any airport. Therefore, impacts would be less than significant, with no mitigation required.

Proposed Project Analysis

The Project site is located approximately 1.3 miles away from Gillespie Field Airport. The site is outside of the 60 dBA CNEL noise contour. Therefore, the impact due to aircraft noise is less than significant and would not increase the severity of impacts in this regard.

3.13.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

MM-NOS-1: Applications for future development, where the City has determined a potential for land use compatibility impacts related to vehicle traffic, shall be required to comply with the following mitigation measure:

Prior to the issuance of a permit to develop at the Rezone Sites, the City shall assess whether proposed noise-sensitive receivers or associated noise-sensitive exterior use areas would be subject to transportation noise levels that potentially conflict with policies established in the City's General Plan. Based on the analysis in the Santee Housing Element Implementation PEIR, the Project site is anticipated to require the implementation of this measure. Where noise levels would potentially conflict with City policies, the City shall require preparation of a noise technical analysis by a qualified professional that demonstrates (1) noise levels would not exceed the City's General Plan Noise Element compatibility guidelines, or (2) noise levels which already exceed the levels considered compatible for that use are not increased by 3 dB or more. In lieu of detailed analysis, the City will accept information demonstrating that noise reduction techniques have been incorporated that would reduce noise levels at exterior use areas consistent with City standards. Noise reduction techniques may include site design (including building orientation) that provides noise barriers free of gaps and obstructs the line-of-sight between the source and receiver, and has a weight of at least 2 pounds per square foot, or other noise reduction technique as applicable.

MM-NOS-2: The City shall review applications for future development to determine applicability of a Construction Noise Management Plan. An applicant may provide site-specific noise generation information demonstrating that construction activities will not exceed 75 dBA at the nearest sensitive receptor. If this site-specific information is not provided, a construction noise management plan shall be required when the construction site is located within 150 feet of a sensitive receptor. The criterion of 150 feet is provided as a screening tool for use by the City, based on an average construction noise level of 85 dBA at 50 feet, attenuating to 75 dB at 150 feet.

Construction Noise Management Plan

Where applicable based on the criteria provided above, the City shall require preparation and implementation of a management plan that demonstrates how noise levels would be minimized to comply with the time-of-day restrictions and notification requirements of Santee Municipal Code Section 5.04.090. Noise reduction measures can include, but are not limited to, the following:

1. Construction equipment with a manufacturer's noise rating of 85 dBA L_{max} or greater at 50 feet may only operate at a specific location for 10 consecutive workdays. If work involving such equipment would involve more than 10 consecutive workdays, a notice must be provided to all property owners and residents within 300 feet of the site no later than 10 days before the start of construction. The notice must be approved by the City and describe the proposed Project and the expected duration of work and provide a point of contact to resolve noise complaints.

2. Idling times for noise-generating equipment used in demolition, construction, site preparation, and related activities shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
3. Demolition, construction, site preparation, and related activities within 100 feet from the edge of properties with existing, occupied noise-sensitive uses shall incorporate all feasible strategies to reduce noise exposure for noise-sensitive uses, including:
    a. Provide written notice to applicable noise-sensitive land uses at least two weeks prior to the start of each construction phase of the construction schedule;
    b. Ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers' specifications;
    c. Re-route construction equipment away from adjacent noise-sensitive uses;
    d. Locate noisy construction equipment away from surrounding noise-sensitive uses;
    e. Use sound aprons or temporary noise enclosures around noise-generating equipment;
    f. Position storage of waste materials, earth, and other supplies in a manner that will function as a noise barrier for surrounding noise-sensitive uses;
    g. Use the quietest practical type of equipment;
    h. Use electric powered equipment instead of diesel or gasoline engine powered equipment;
    i. Use shrouding or shielding and intake and exhaust silencers/mufflers; and
    j. Other effective and feasible strategies to reduce construction noise exposure for surrounding noise-sensitive uses.

4. For construction of buildings that require the installation of piles, an alternative to installation of piles by hammering shall be used where sensitive receptors are located within 150 feet. This could include the use of augured holes for cast-in place piles, installation through vibration or hydraulic insertion, or another low noise technique.

MM-NOS-3: Applications for future development, where the City has determined a potential for vibration impacts in relation to sensitive receptors, shall be required to comply with the following mitigation measure:

Prior to the issuance of a permit to develop at the Project site, the City shall determine whether the construction process will require equipment or activities that may result in perceptible vibration in nearby structures, such as pile driving. For projects requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster) buildings; or a vibratory roller within 25 feet of any structure, the Project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. These distances are based on reference vibration levels generated by pile drivers and vibratory rollers and standard vibration propagation rates as published by the Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (FTA 2018). This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2

in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry) buildings. If vibration levels would exceed these thresholds, alternative uses such as drilling piles as opposed to pile driving, and static rollers as opposed to vibratory rollers, shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.

3.14 Population and Housing

3.14.1 Analysis

Issue 1: Induce Unplanned Population Growth

Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Sites would potentially introduce approximately 1,945 residential units which would accommodate more than the RHNA allocation of 1,219 units. However, this would allow flexibility for the City's RHNA anticipated population growth. The Santee Housing Element Implementation PEIR determined that future development would not result in substantial population growth as all Rezone Sites are located within existing urbanized areas with access to services, roadways, and utilities. Additionally, future development would comply with the General Plan, payment of Development Impact Fees (DIFs) and Transportation DIFs, and adherence to the updated SANDAG 2050 Regional Growth Forecast would ensure that future developments would have less than significant impacts associated with population growth. Therefore, impacts would be less than significant, and no mitigation measures required.

Proposed Project Analysis

As noted above, the proposed Project's population growth is already accounted for within the City's future growth. As therein, the Project would introduce 285 multi-family residential units in response to current economic demands. The proposed Project would be subject to payment of DIFs, which would ensure adequate services and infrastructure are available to support development. Additionally, the proposed housing would aid the City in meeting its housing provision goals set forth by the RHNA to accommodate growth by providing additional housing. The proposed Project would comply with the General Plan, payment of DIFs and Transportation DIFs, and adherence to the updated SANDAG 2050 Regional Growth Forecast would ensure that the proposed Project would have less than significant impacts associated with population. Therefore, there would be no new potential population growth. No new significant population and housing impacts would occur and the Project would not increase the severity of impacts in this regard; no additional mitigation is required.

Issue 2: Displace People or Housing

Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that the Rezone Sites 1 through 12, 24, and 30 could potentially displace people and housing, however, the future development would propose more housing units, therefore, accommodate more people than the prior housing.

Proposed Project Analysis

As mentioned above, the proposed Project is within Rezone Site 17, which is not included in the potential site that could potentially displace people and housing. The proposed Project is located in a vacant parcel; therefore, the proposed Project would not displace existing people and/or housing. Impacts would remain less than significant and would not result in any increase in the severity of impacts in this regard.

3.14.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.15 Public Services and Recreation

3.15.1 Analysis

Issue 1a: Fire Service

Would the Project promote growth patterns resulting in the need for and/or provision of new or physically altered fire emergency facilities in order to maintain service ratios, response times, or other performance objectives, and the construction of which could cause significant environmental impacts?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that the future discretionary and/or by-right development would not directly result in the need for additional fire facilities. However, with the additional housing units, the future developments would be required to pay the City's Municipal Code Chapter 12.50 DIF which would be utilized by local fire protection services, to ensure the appropriate level of resources necessary to serve future development in the City. The Santee Housing Element Implementation PEIR determined impacts related to construction of fire protection facilities would be less than significant.

Proposed Project Analysis

The Santee Fire Department (SFD) provides a fire suppressions, rescue, emergency medical response, and fire prevention and education services to the City. The SFD has two fire stations, and the proposed Project would be

served primarily by Fire Station 4, located at 8950 Cottonwood Avenue, respectively. As noted above, the Santee Housing Element Implementation PEIR determined that the proposed Project would not directly result in the need for additional fire facilities as the proposed Project would pay the DIF to ensure the appropriate level of fire resources would be provided. Therefore, impacts related to fire services would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 1b: Police Protection

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities in order to maintain service ratios, response times, or other performance objective, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that the future development would be required to comply with the City's Municipal Code Chapter 12.50, which requires the payment of a DIF to ensure the costs of constructing adequate public facilities related to the impacts of the future developments. As stated in the Santee Housing Element Implementation PEIR, the future developments would not directly result in sufficient demand for construction of new police facilities since the future developments would pay a DIF toward anticipated facility needs and the City's police department would be involved in the development review process. Impacts related to police facilities would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Proposed Project Analysis

The City's police protection is provided by the San Diego County Sheriff's Department under a contractual agreement with the City. The Santee Sheriff's substation is located at 8811 Cuyamaca Street, approximately 1.7 miles southeast from the proposed Project site. Given that the proposed Project would be increasing population and housing, the housing has been accounted for with the City's population growth and the proposed Project would be required to pay a DIF that would go towards any anticipated police protection facility needs. Impacts would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 1c: Schools

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities in order to maintain service ratios, response times, or other performance objectives, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objective for any of the public services?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the Rezone Sites would not directly result in sufficient demand for additional new school facilities, based on the capacity at existing schools and future developments would be required to pay a SB 50 fee required by the Santee School District and Grossmont Union

High School District which would go towards anticipated school facility needs. Therefore, with the SB 50 fees, impacts related to the construction of schools would be less than significant.

Proposed Project Analysis

The City is primarily served by two public school districts: Santee School District and the Grossmont Union High School District (City of Santee 2022). The closest school to the proposed Project site is Rio Seco School, approximately 0.5 miles from the proposed Project site.

According to the Santee Housing Element Implementation PEIR, the Santee School District and Grossmont Union High School District were both contacted and determined the availability to accommodate the student enrolment by the Rezone Sites future developments, including the proposed Project.

Additionally, the proposed Project would be subject to SB 50, which requires the payment of mandatory impact fees to offset any impact to school facilities. In accordance with SB 50, the Project applicant would pay its fair share of school impact fees based on the number of proposed dwelling units and square footage per Government Code Section 65995(h). Specifically, Santee School District charges developer fees for residential development of $2.97 per square foot of assessable space (SSD 2022) and the Grossmont Union High School District charges developer fees for residential development of $1.20 per square foot of assessable space (GUHSD 2018). Per Government Code Section 65996, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." Therefore, impacts associated with the need for new or expanded school facilities would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 1d: Library Services

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities in order to maintain services ratios, response time, or other performance objective, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that future development within Rezone Sites would be less than significant and would not directly result in sufficient demand to require construction of new library facilities, since future residential developments would be subject to the City's Municipal Code Chapter 12.50, DIF, which requires the payment of mandatory impact fees to offset any impact to library facilities.

Proposed Project Analysis

Library facilities could potentially be impacted by the proposed Project. The San Diego County services the Santee Library and would service the Project site. The Santee Library (9225 Carlton Hills Blvd #17) is located 2.3 miles southeast of the Project. With regard to libraries facilities, DIFs will be utilized by the public service agencies to ensure the appropriate level of resources necessary to serve the Project and future development within the City (City of Santee 2022). Therefore, impacts on library facilities would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 1d, 2, and 3: Parks and Recreational Facilities

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities in order to maintain service ratios, response times, or other performance objectives, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for any of public services?

Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the future development within the Rezone Sites would introduce a population growth which would not directly result in sufficient demand for new park and recreational facilities. Additionally, future housing development would be required to pay its share of in-lieu fees consistent with the Quimby Act and the City Municipal Code Section 12.40 which funds additional park facilities and needs within the City. The Santee Housing Element Implementation PEIR determined that impacts associated with park and recreation facilities would be less than significant.

Proposed Project Analysis

The proposed Project includes a view park located on the south overlooking the San Diego River. The view park would include a vista, an open event lawn, shade structures with picnic tables and lush planting. The proposed Project also proposes a community playground and various pocket parks with bench seating throughout the site. In addition, as noted in the Santee Housing Element Implementation PEIR, the City currently meets its parkland goal and Rezone Sites would accommodate future population (City of Santee 2022). Therefore, the proposed Project would accommodate by including a view park, community playground and the various pocket parks throughout the site. The proposed Project would also be required to pay its share of in-lieu fees consistent with the Quimby Act, the City Municipal Code Section 12.40, and would comply with the City parkland obligations for new residential development. Thus, the proposed Project would accommodate future residents, comply with City regulations and obligations, and pay its share of in-lieu fees, therefore, impacts associated with parks and recreation facilities would remain less than significant and would not result in any increase in the severity of impacts in this regard.

3.15.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.17 Transportation

The analysis in this section was completed in compliance with the following report:

- Cottonwood & Park Local Transportation Analysis, prepared on September 2, 2025, by TJW Engineering, INC.,and included as Appendix G of this Addendum.

3.17.1 Analysis

Issue 1: Circulation System

Would the Project conflict with a plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the future development within the Rezone Sites would increase ultimate development intensity on selected sites. Future development that requires a discretionary review would be subject to a site-specific environmental review that considers consistency with all applicable plans including the City's Active Transportation Plan. Potential future development projects would not require a subsequent environmental review would be subject to a ministerial review that would include consistency with the City's Public Works Standards such as frontage requirements, pedestrian and bicycle improvements per City's objective design and performance standards. Future development at Rezone Sites would be consistent with Policy 2.2 within the City's General Plan Land Use Element, which encourages the development of higher density residential developments in areas close to the multi-modal transit station (at Santee Town Center) and along major road corridors where transit and other convenience services are available and would be reviewed to not conflict with transit facilities. Therefore, the Santee Housing Element Implementation PEIR determined that impacts associated with conflict with a plan, ordinance, or policy addressing the circulation system would be less than significant.

Proposed Project Analysis

The current General Plan Land Use and Zoning of the site is Town Center Residential-14, or TCR-14. There are no proposed amendments or changes to the Land Use or Zoning compared to the PEIR.

A project specific Local Transportation Analysis was prepared by TJW Engineering, Inc. to evaluate the proposed project's effects on the LOS on transportation facilities in the study area, including ten intersections and seven roadway segments under existing and near-term conditions without and with the Project. LOS is used for consistency with General Plan policies and can no longer be used to determine significant transportation impacts under CEQA as directed by SB 743. LOS information is provided here for informational purposes. Tables 3.17.1-1 and 3.17.1-2 summarize the results of the LOS intersection and roadway segment analysis. Under the existing conditions, existing plus project conditions, and near-term plus project conditions, the study intersections and roadways are projected to operate at acceptable LOS. The Near-Term Plus Project PM peak hour volume at the northbound leg left-turn movement of Intersection 5: Magnolia Avenue/Walker Trails Drive exceeded 300 vehicles, the threshold provided by the City of Santee. A review of the queue storage found the 95th percentile queue length during the PM peak hour exceeded the storage capacity. The addition of a second left-turn pocket

was analyzed and found to provide sufficient storage space. Therefore, the Project would be consistent with the General Plan. The detailed results of the LOS Analysis are provided in Appendix G.

Table 3.17.1-1: LOS Intersection Analysis Summary

Intersection			Control Type[1]	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Near-term Plus Project Conditions	
					Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1	Cuyamaca Street	Mast Boulevard	Signal	AM	31.9	C	33.9	C	35.8	D
				PM	30.2	C	30.3	C	33.1	C
2	Cuyamaca Street	Riverwalk Drive	Signal	AM	17.0	B	17.1	B	17.4	B
				PM	14.0	B	14.1	B	14.2	B
3	Park Center Drive	Mast Boulevard	Signal	AM	6.1	A	8.1	A	8.3	A
				PM	7.9	A	10.2	B	12.2	B
4	Magnolia Avenue	Mast Boulevard	Signal	AM	24.6	C	25.3	C	27.7	C
				PM	21.5	C	21.5	C	22.0	C
5	Magnolia Avenue	Walker Trails Drive	Signal	AM	3.2	A	13.1	B	17.9	B
				PM	2.6	A	11.3	B	14.5	B
6	Magnolia Avenue	Mission Gorge Road	Signal	AM	20.5	C	21.0	C	21.8	C
				PM	23.0	C	24.0	C	25.9	C
7	Park Center Drive	Riverwalk Drive	AWSC	AM	8.4	A	11.2	B	11.5	B
				PM	8.0	A	9.4	A	9.5	A
8	Park Center Drive	Project Roundabout	Roundabout	AM	-	-	4.1	A	4.1	A
				PM	-	-	4.3	A	4.3	A
9	Cottonwood Avenue	Project Driveway #2 – Walker Trails Drive	TWSC	AM	7.2	A	11.7	B	11.7	B
				PM	7.2	A	13.0	B	13.0	B
10	Cottonwood Avenue	Project Driveway #3	TWSC	AM	8.3	A	8.8	A	8.8	A
				PM	8.3	A	8.9	A	8.9	A

Notes:
1 AWSC = All-Way Stop Control; TWSC = Two-Way Stop Control; OWSC = One Way Stop Control.
2 Delay shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, for intersections with one or two-way stop control, the delay and LOS for the worst individual movement is shown.
Source: Appendix G

Table 3.17.1-2: LOS Roadway Analysis Summary

Roadway	Segment	Class[1]	Lanes	LOS D Capacity	Existing ADT[2]	LOS	Existing Plus Project ADT[2]	LOS	Near-term Plus Project	LOS
Park Center Drive	Mast Boulevard to Project Roundabout	Parkway TWLTL	2	13,000	2,843	A	3,083	A	3,443	A
Mast Boulevard	Cuyamaca Street to Magnolia Avenue	Major Arterial	4	35,000	19,450	B	19,690	B	20,241	B
Magnolia Avenue	Mast Boulevard to Mission Gorge Road-Woodside Avenue	Major Arterial	4	35,000	25,110	C	27,150	C	28,909	C
Walker Trails Drive	Cottonwood Avenue to Magnolia Avenue	Collector Res-idential	2	6,500	537	A	2,577	B	5,287	B

Notes:
1 TWLTL = Two-Way Left-Turn Lane.
2 ADT = Average Daily Traffic
Source: Appendix G

The San Diego Metropolitan Transit System (MTS) provides public transportation near the proposed Project. MTS Bus Route 832 has three stops within one-half of a mile from the proposed Project, the first at the northeast corner of Cuyamaca Street and River Park Drive, the second on Cuyamaca Street just south of Riverwalk Drive, and third at Magnolia Avenue and Frank Lane. The City of Santee is served by the Copper Line Trolley (Route 530), with the sole station located at the Santee Transit Center. The Copper Line connects Santee to the larger San Diego region and provides service into Downtown San Diego. The route operates from 5:00am to 1:00am with 15-minute headways on weekdays, and 30-minute headways on weekends. MTS ACCESS provides complementary, on-demand paratransit service to fulfill the unmet needs of residents such as seniors and persons with disabilities.

The Santee Transit Center is located approximately 1.6 miles southwest of the proposed Project, when accessed via Riverwalk Drive and Cuyamaca Street. The proposed Project would not relocate any existing bus stops and would not require any changes to existing or future transit routes.

Currently, there are Class II bike lanes and paved sidewalks on Cuyamaca Street, Mast Boulevard, and Magnolia Avenue. The proposed Project does not involve any plans to construct any bike facilities, however, the proposed Project would provide street improvements and access to the site would be facilitated for both pedestrian and bicycle users in the area. The frontage improvements associated with proposed Project development would not conflict with any existing or planned bike or pedestrian facilities.

Based on analysis provided above, the proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and its impact to transportation plans and programs would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 2: Vehicle Miles Traveled

Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the future development within the Rezone Sites, including buildout of the City's General Plan land use and transportation network, the average resident VMT per capita of City would be reduced to 18.7 (from 20.5 under base year). While the future development within the Rezone Sites would result in a reduction in VMT per capita, the 18.7 VMT per capita represents 91.2% of the base year citywide average which exceeds the VMT significance threshold. The projected VMT per capita with the Rezone Sites would exceed the 85% significance threshold representing a significant impact. Therefore, the Santee Housing Element Implementation PEIR proposed mitigation of VMT impact of both discretionary and by-right development projects by implementing MM-Impact TRA-1: VMT Reduction.

While MM-TRA-1 would minimize VMT impacts associated with future development at the Rezone Sites, impacts would not be fully mitigated because the effectiveness of VMT reducing measures is context-sensitive and would vary depending on project details, such as the location, access to transit, etc. Therefore, impacts associated with VMT or conflict with CEQA Guidelines Section 15064.3 subdivision (b) would remain significant and unavoidable.

Proposed Project Analysis

The proposed Project site was included in the VMT analysis conducted as part of the City of Santee Housing Element Update Transportation Impact Study, May 25, 2022, prepared by CRA, using the SANDAG Series 14 travel demand model with base year of 2016. As mentioned above, the analysis concluded that the VMT per capita with the Rezone Sites exceeds the 85% significance threshold resulting in a significant impact.

Additionally, the proposed Project would not screen out per VMT screening criteria included in the City of Santee VMT Analysis Guidelines (April 2022). Per City's guidelines, the SANDAG SB 743 VMT Maps can be used for VMT analysis for projects that generate fewer than 2,400 average daily trips. As shown in Appendix G, the proposed Project would generate 2,400 daily trips with 192 AM and 240 PM peak hour trips. Per SANDAG SB 743 VMT Maps, the proposed Project is in census tract 166.15 and the SANDAG average VMT per capita of this tract is 17.8, which is 94.1% of the regional mean and is therefore above the significant threshold of 85% of the regional mean. The proposed Project would implement MM-TRA-1: VMT Reduction. Additional measures from the California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Final Draft December 2021, that would be applied at the project or community level are listed below:

- T-1 Increase residential density
- T-17 Improve street connectivity
- T-14 Provide electric vehicle charging infrastructure

- T-15 Limit residential parking supply

The applicant would implement MM-TRA-1, as required by the City, which would incorporate TDM strategies to reduce project's VMT. The following VMT reductions measures would be implemented:

- Provide pedestrian network improvement along project frontage
- Provide bicycle network improvement along project frontage
- Implement commute trip reduction marketing

While implementation of MM-TRA-1 would reduce VMT impacts associated with proposed Project, impacts would not be fully mitigated. Therefore, impacts associated with VMT would remain significant and unavoidable consistent with the findings of the Santee Housing Element Implementation PEIR and there would be no new or increased severity of impacts related to VMT.

Issue 3: Hazards Due to a Design Feature

Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that the future development within the Rezone Sites, may require improvements to the existing roadway network. The future development would implement the existing regulatory framework such as engineering review to ensure roads and access are configured consistent with established roadway design standards, Public Works Standards and Mobility Element Policy 3.1 (Streets and Freeway System). Therefore, the Santee Housing Element Implementation PEIR determined that impacts resulting in hazards due to a design feature or incompatible use would be less than significant.

Proposed Project Analysis

No hazardous design features such as sharp curves or dangerous intersections exist on the proposed Project or in the vicinity. The Project proposes three full access points from the construction of a new roadway through the Project site that will connect the two segments of Park Center Drive on the north and east borders of the Project site. The new segment on the east border will be changed to Walker Trails Drive. Walker Trails Drive through the project site will connect to Park Center Drive at the project north border via a new roundabout. The new roundabout will add an additional leg to the south. The third access point will be south of Walker Trails Drive at a proposed roadway ending at River Bluff Drive. The proposed Project shall construct the segment of Park Center Drive per the Mobility Element roadway classification of Parkway with a two-way left-turn lane which provides access to the proposed Project from the north and the west of the site.

On-site circulation and access to the proposed Project will be provided by an internal roadway (see Figure 3, Site Plan) that would also serve as fire lane. The width of the internal roadway is between 26 feet to 30 feet. The on-site circulation is designed per City's Standard Drawings and requirements of the Fire Code to provide turn radii for fire truck and apparatus to access all parts of the site.

Therefore, the proposed Project would not increase hazards because of a roadway design feature, or incompatible uses and impact would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 4: Emergency Access

Would the project result in inadequate emergency access?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that access for future site-specific developments to the existing roadway network would be configured consistent with established roadway design standards that would also allow for emergency access. The City implements the Santee Emergency Operations Plan to ensure adequate emergency access, Mobility Element Policy Objective 1.0, which ensures that the existing and future transportation system is accessible, safe, reliable, efficient, integrated, convenient, well-connected, and multimodal. In addition, Policy 3.3 states the City shall ensure that newly constructed roadways are designed to permit rapid access for emergency vehicles. The Santee Housing Element Implementation PEIR also includes adoption of objective design and performance standards that would be implemented during the review process for future ministerial development. Therefore, the Santee Housing Element Implementation PEIR determined that impacts due to inadequate emergency access would be less than significant.

Proposed Project Analysis

Vehicular and emergency access to the Project would be from Walker Trails Drive via Magnolia Avenue from the west and from Park Center Drive via Mast Boulevard from the north. A third access point will be via Cottonwood Avenue on the southern portion of the site's east border across River Bluff Drive, ending at Chubb Lane. On-site circulation and access to the proposed Project will be provided by an internal roadway network (see Figure 3, Site Plan) that would also serve as fire lanes. All street improvements will be designed with adequate width, turning radius, and grade to facilitate access by City's firefighting apparatus, and to provide alternative emergency ingress and egress. The site plan would be subject to plan review by the City's Fire Department to ensure proper access for fire and emergency response is provided and required fire suppression features are included. Therefore, the proposed Project's impact due to inadequate emergency access would remain less than significant and would not result in any increase in the severity of impacts in this regard.

3.17.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

Consistent with the PEIR, the following measure related to transportation would be applicable to the proposed Project:

- **MM-TRA-1: VMT Reduction** The City shall require implementation of applicable Mobility Element Policies that would support VMT reductions for individual projects. Specifically, the City shall require that future projects are compliant with Mobility Element Policies 9.1 through 9.5, which encourage the use of Transportation Demand Management (TDM) strategies, such as ride sharing programs, flexible work schedule programs, and incentives for employees to use transit. Additionally, alternative transportation modes, such as walking, cycling and public transit are encouraged to reduce peak

hour vehicular trips, save energy, and improve air quality. Sample TDM measures that may be applied at the project-level are provided below:

- Increase mixed-use development
- Increase transit accessibility
- Provide pedestrian network improvement along project frontage
- Provide bicycle network improvement along project frontage
- Provide bicycle parking and bike lockers
- Implement subsidized or discounted transit passes
- Provide rider-sharing programs
- Implement commute trip reduction marketing
- Implement school pool program
- Implement bike-sharing or micro mobility program
- Provide local shuttle to connect visitors to different attractions throughout the City

3.19 Utilities and Service Systems

3.19.1 Analysis

Issue 1: Utility Infrastructure

Would the Project require or result in the relocation or construction of new or expanded water, waste water treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

City of Santee Housing Element Implementation PEIR Analysis

a. Water, Wastewater, Stormwater, Electric Power, Natural Gas, and Telecommunications

The Rezone Sites are located within existing developed areas with existing water utility infrastructure, wastewater utility infrastructure, stormwater infrastructure, electrical, natural gas, and telecommunication utility infrastructure. All infrastructure would require connection to existing utility infrastructure pipelines, and no major upgrades or expansions to the City is anticipated to serve the future development's utility infrastructure. However, future developments are anticipated to require the construction of connections to existing utility infrastructure which would need to be addressed during the City review of the future development projects. While all future development shall comply with local regulations and conformance with the City General Plan, the Santee Housing Element Implementation PEIR concluded that the impacts related to utility infrastructure could be potentially significant therefore, the following mitigation measures: MM-VIS-1, MM-AQ-1, MM-BIO-1 through MM-BIO-6, MM-CUL-1 through MM-CUL-3, MM-GEO-1, MM-GEO-1, MM-GHG-1 and MM-GHG-2, MM-HAZ-11, MM-NOS-1 through MM-NOS-3, and MM-TRA-1, which would ensure that any physical impacts associated with construction of connections to existing electrical, natural gas, and telecommunications utility infrastructure would be addressed as part of the City review for each individual project. With implementation of the mitigation measures, impacts related to the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or

telecommunications facilities, the Santee Housing Element Implementation PEIR concluded the impacts would be reduced to less than significant.

Proposed Project Analysis

a. Water

The Santee Housing Element Implementation PEIR assumed the proposed Project would occur within the Rezone Sites, therefore, the water supply and demand for the proposed Project has been accounted for in the City's water supply. Thus, the proposed Project would not result in the relocation or construction of new or expanded water facilities and no new impacts would occur and would not result in any increase in the severity of impacts in this regard.

b. Wastewater

The San Diego Regional Water Quality Control Board (RWQCB) is responsible for enforcing the City's Waste Discharge Requirements as established under NPDES Permit No. CA0107433. The Permit regulates treatment requirements and discharge from the San Luis Rey Wastewater Treatment Plant.

The Santee Housing Element Implementation PEIR concluded that additional wastewater generated by the Rezone Sites or future developments would not exceed wastewater treatment requirements imposed by the California Regional Water Quality Control Board. The wastewater demand and generation for the proposed Project were accounted for in the Santee Housing Element Implementation PEIR and all sites are within areas of the City that are already served by existing wastewater. In addition, the proposed Project would comply with the City's regulations, Land Use Element Policy 3.6, and mitigation measures: MM-AQ-1, MM-BIO-1 though MM-BIO-6, MM-CUL-1 through MM-CUL-3, MM-GEO-1, MM-GHG-1 and MM-GHG-2, MM-HAZ-1, MM-NOS-1 through MM-NOS-3 and MM-TRA-1, thus no new impacts would occur and would not result in any increase in the severity of impacts in this regard.

c. Stormwater

The proposed Project is being constructed in an area of the City that is urbanized in nature and where existing storm drain infrastructure and treatment facilities already exist. Site specific storm drain improvements would be made during final construction of the proposed Project. Additionally, the proposed Project would comply with the City regulations, Land Use Element Policy 3.6, and mitigation measures: MM-AQ-1, MM-BIO-1 though MM-BIO-6, MM-CUL-1 through MM-CUL-3, MM-GEO-1, MM-GHG-1 and MM-GHG-2, MM-HAZ-1, MM-NOS-1 through MM-NOS-3 and MM-TRA-1, and the City's BMP Design Manual. Therefore, the proposed Project would remain less than significant, no new impacts to stormwater drainage would occur and would not result in any increase in the severity of impacts in this regard.

d. Electric Power, Natural Gas, and Telecommunications

The proposed Project would connect to existing utility lines providing electric power, natural gas, and telecommunication services. The proposed Project would not be anticipated to result in an increase in service demands such that the Project would exceed capacities or result in the need for new or additional service systems to be constructed. Therefore, no new impacts to electric power, natural gas, or telecommunication facilities would occur and would not result in any increase in the severity of impacts in this regard.

Issue 2: Water Supply

Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR determined that impacts related to water supplies within the City during normal, dry, and multiple dry years would be less than significant based on the water efficiency of multi-family development and existing regulations related to water efficiency.

Proposed Project Analysis

The Santee Housing Element Implementation PEIR assumed development would occur on the Project site. Therefore, the water supply and demand for the proposed Project were accounted for in the Santee Housing Element Implementation PEIR. Additionally, the proposed Project would comply with any applicable and mandatory water conservation measures required by the City and state. Therefore, no new impacts would occur associated with the availability of sufficient water supply and would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Issue 3: Wastewater Treatment

Would the Project result in a determination by the waste water treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

City of Santee Housing Element Implementation PEIR Analysis

The future development would generate wastewater and due to the Padre Dam Municipal Water District (PDMWD) existing facility capacity and expansion plans for the Ray Stoyer WRF, the Santee Housing Element Implementation PEIR concluded that the Rezone Sites would not result in a determination by the wastewater treatment providers it does not have adequate capacity to serve the Rezone Sites demand. However, future developments would be required to comply with local regulations and General Plan policies, therefore, impacts related to wastewater services would remain less than significant and would not result in any increase in the severity of impacts in this regard.

Proposed Project Analysis

The PDMWD collects the wastewater for the City, where the water is transported to the City's Water Recycling Facility or to the Point Loma facility which is managed by the City of San Diego Metropolitan Wastewater System (PDMWD 2023). The PDMWD manages the wastewater collection system within its 164 mile service area to collect, treat, and dispose of wastewater delivered by the City. A wastewater collection system and interceptor sewers convey sewage to regional wastewater treatment plants, which are operated by the PDMWD and the County's Lakeside Interceptor (PDMWD 2019).

According to the Operation and Maintenance Program, the wastewater collection systems drain from the east to the west (PDMWD 2019). There are four diversion structures between the PDMWD wastewater collection system

and the County's Lakeside Interceptor. Interceptor collects all of the reclaimable wastewater generated within the City (PDMWD 2019). Sewage from the City is treated at two locations— the City's Ray Stoyer Water Recycling Facility (WRF) and the Point Loma Facility (PLF). The PLF has a design flow capacity of 240 million gallons per day (mgd) and treats approximately 175 mgd, and the WRF has a design flow capacity of 2 mgd and treats on average 2 mgd (City of San Diego 2023, PDMWD 2023). Therefore, the PDMWD would have the adequate capacity to treat the estimated flows from the proposed Project and no new impacts would occur and would not result in any increase in the severity of impacts in this regard.

Issues 4 and 5: Solid Waste

Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

City of Santee Housing Element Implementation PEIR Analysis

Future development would be required to comply with state and local regulations related to solid waste requirements. In addition to the General Plan policies. Following regulations and policies, impacts related to solid waste would be less than significant.

Proposed Project Analysis

Waste Management Inc. provides solid waste collection and disposal within the City. Waste would likely be hauled to the Sycamore Landfill. The Sycamore Landfill has a permitted throughput of 5,000 tons/day and is expected to remain open for another 18 years. The increase of waste generated by the Project during operations would represent approximately 0.004% of the total daily capacity of permitted at the landfill.

Once the Sycamore Landfill reaches capacity, additional landfills and strategies would be identified, so that disposal needs continue to be met. Further, there are landfills within the County with up to 35 years of remaining life. For example, the Las Pulgas Landfill is expected to remain open another 35 years (CalRecycle 2023). As such, in the event of the closure of the Sycamore Landfill, other landfills in the region would be able to accommodate solid waste from the Project, and regional planning efforts would ensure continued landfill capacity in the foreseeable future. Therefore, the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Impacts during operation would remain less than significant and would not result in any increase in the severity of impacts in this regard.

As discussed, solid waste from the Project would be transported to the Sycamore Landfill. This facility is regulated under federal, state, and local laws. Additionally, the City of Santee is required to comply with the solid waste reduction and diversion requirements set forth in AB 939, AB 341, AB 1327, and AB 1826. Per AB 341, businesses that generate 4 cubic yards or more of organic waste per week are required to arrange for organic waste recycling services. In addition, as preciously described, waste diversion and reduction during Project construction and operations would be completed in accordance with CALGreen standards and City diversion standards. As a result, the Project would comply with federal, state, and local management and reduction

statutes and regulations related to solid waste and impacts would remain less than significant and would not result in any increase in the severity of impacts in this regard.

3.19.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

3.20 Wildfire

3.20.1 Analysis

Issue 1: Emergency Response Plans

Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Issue 2: Wildfire

Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Issue 3: Infrastructure

Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Issue 4: Flooding or landslide

Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

City of Santee Housing Element Implementation PEIR Analysis

The Santee Housing Element Implementation PEIR concluded that impacts related to emergency response plans would be less than significant. The Santee Housing Element Implementation PEIR also stated that all future developments would have to undergo reviewal and approval by the Santee Fire Department prior to issuance of building permit and impacts would be less than significant. The Santee Housing Element Implementation PEIR also determined that the Rezone Site 17 is not located within a very high fire hazard severity zone and would not be required to adhere to California Fire Code Title 19, Division 1, Section 3.07(b), requiring a minimum 30-foot brush clearance around structures for fire safety. In addition, future developments would have to comply with the City's General Plan policies 4.2 through 4.13, fire code regulations, California Building Code, and reviewed by the Building Official/Fire Marshal, therefore, impacts associated with risk of wildland fire would be less than significant, no mitigation required.

Proposed Project Analysis

The proposed Project site is not located within or adjacent to a High Fire Hazard Severity Zone or within a State Responsibility Area (CALFIRE 2024). As such, the proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, the proposed Project would not result in impacts to wildfire, including impacts to adopted emergency response plans or emergency evacuation plans, pollutant concentrations from a wildfire, exacerbation of fire risk or that may result in temporary or ongoing impacts to the environment, or exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No new impacts would occur and would not result in any increase in the severity of impacts in this regard.

3.20.2 Applicable Mitigation Measures from the Santee Housing Element Implementation PEIR

No mitigation measures required.

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SOURCE: ESRI Imagery 2022

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Project Location

Figure1_ProjectLocation

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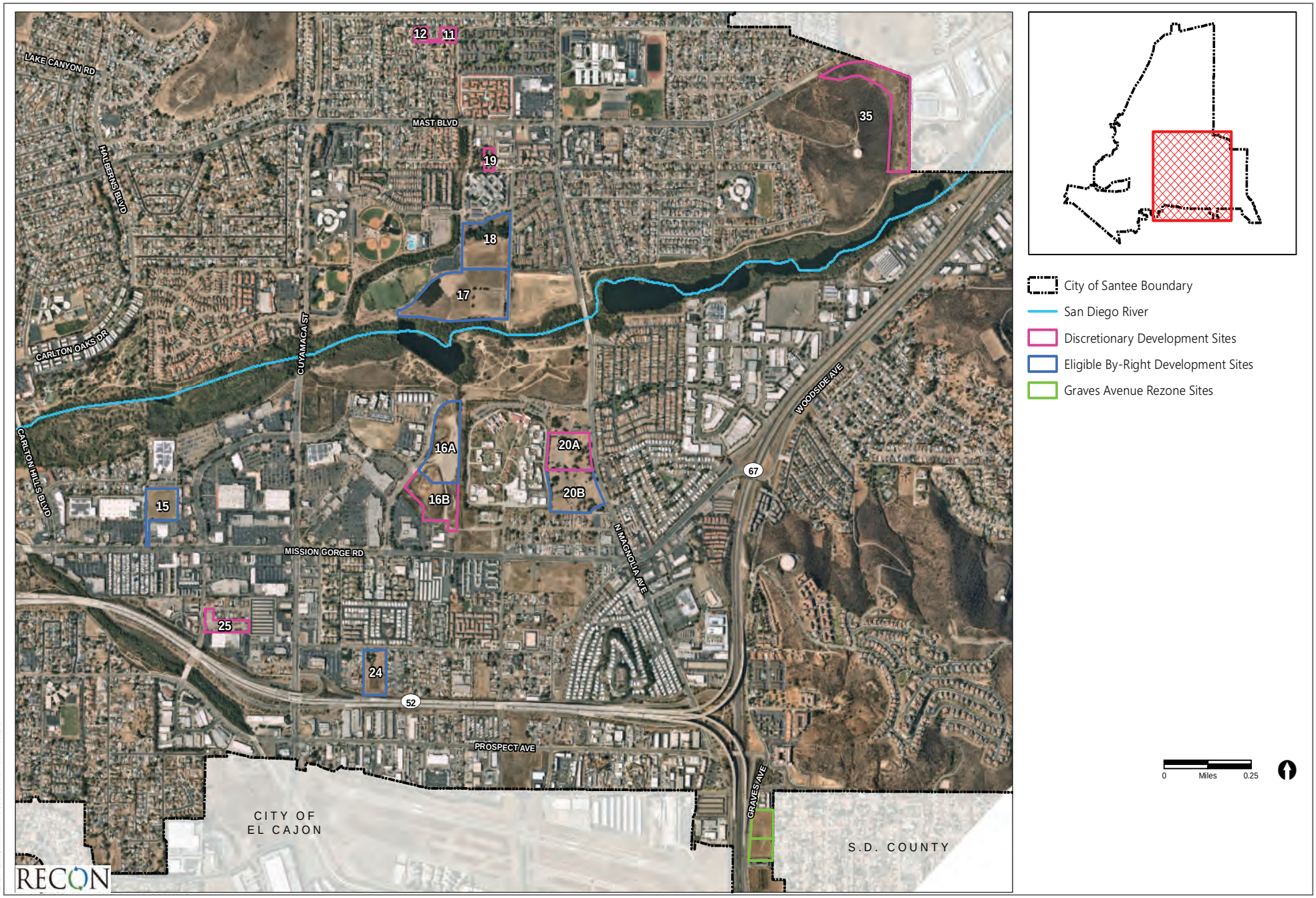

SOURCE: Recon, 2022

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FIGURE 2

PEIR Rezone Sites

Cottonwood & Park

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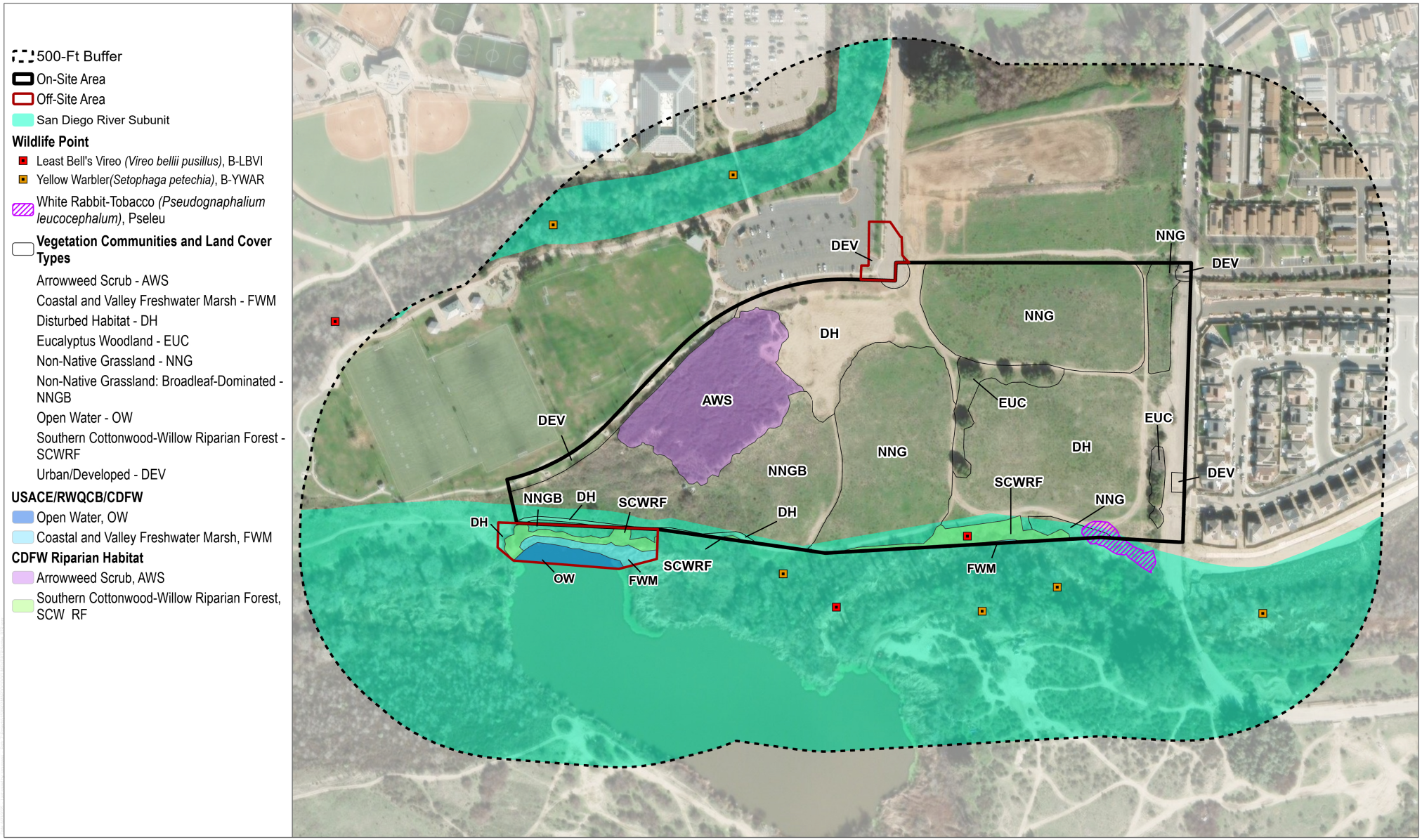

SOURCE: ESRI IMAGERY (ACCESSED 2025)

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Figure 4
Biological Resources
Cottonwood Park

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Appendix A

Cottonwood & Park Air Quality, Greenhouse Gas, and Energy Impact Study

Cottonwood & Park

Air Quality, Greenhouse Gas, and Energy Impact Study

City of Santee, CA

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GLOSSARY OF TERMS

CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RAQS	San Diego Regional Air Quality Strategy
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This air quality, greenhouse gas (GHG), and health risk analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by San Diego Air Pollution control district (SDAPCD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

1.2 Project Summary

1.2.1 Site Location

The project site is located near the southwest corner of Cottonwood Avenue and Park Center Drive in the City of Santee, California (APN 381-051-18), as shown in Exhibit A. The site is located within the Town Center Specific Plan. Land uses surrounding the site include residential to the north, northeast, and east, public/open space to the west, and flood/open space to the south.

1.2.2 Project Description

The project proposes to develop 285 multi-family units on approximately 22.17 acres. There will be 570 garage parking spaces and 76 open parking spaces. The site plan used for this project, provided by City Ventures, is shown in Exhibit B.

Construction activities within the Project area will consist of site preparation, on-site grading, building, paving, and architectural coating. Table 1 summarizes the land use description for the Project Site.

Table 1: Land Use Summary

Land Use	Unit Amount	Size Metric[1]
Condo/Townhouse	285	Dwelling Units
Enclosed Parking Structure	570	Spaces
Parking Lot	76	Spaces

1.2.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. As identified by the California Air Resources Board (CARB), sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location

where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc).

The closest existing sensitive receptors (to the site area) are the single-family residential land uses located approximately 75 feet east of the project site.

1.3 Executive Summary of Findings and Mitigation Measures

The following is a summary of the analysis results:

Construction-Source Emissions
Project construction-source emissions would not exceed the SDAPCD's significance thresholds for criteria pollutants.

Project construction-source emissions would not conflict with the San Diego Regional Air Quality Strategy (RAQS). As discussed herein, the project will comply with all applicable SDAPCD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Operational-Source Emissions
Operational-sourced emissions would not exceed the SDAPCD's significance thresholds; therefore, impacts during project operation would be less than significant. Project-related traffic will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

The project operational-source emissions will not exceed the City of SDAPCD's significance thresholds and will not conflict with the RAQS. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than significant. The project greenhouse gas emissions would be less than the Tier 4 screening level threshold and would not conflict with the goals of SB-32, the CARB Scoping Plan, the City of Santee Climate Action Plan; or the SANDAG Regional Plan; therefore, the project would not generate significant GHG emissions and would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Impacts are considered to be less than significant.

Mitigation Measures

A. Construction Measures

Adherence to SDAPCD Rules 52, 54, and 55 is required.

No construction mitigation required.

B. Operational Measures to Reduce Emissions

No operational mitigation required.

Exhibit A

Location Map

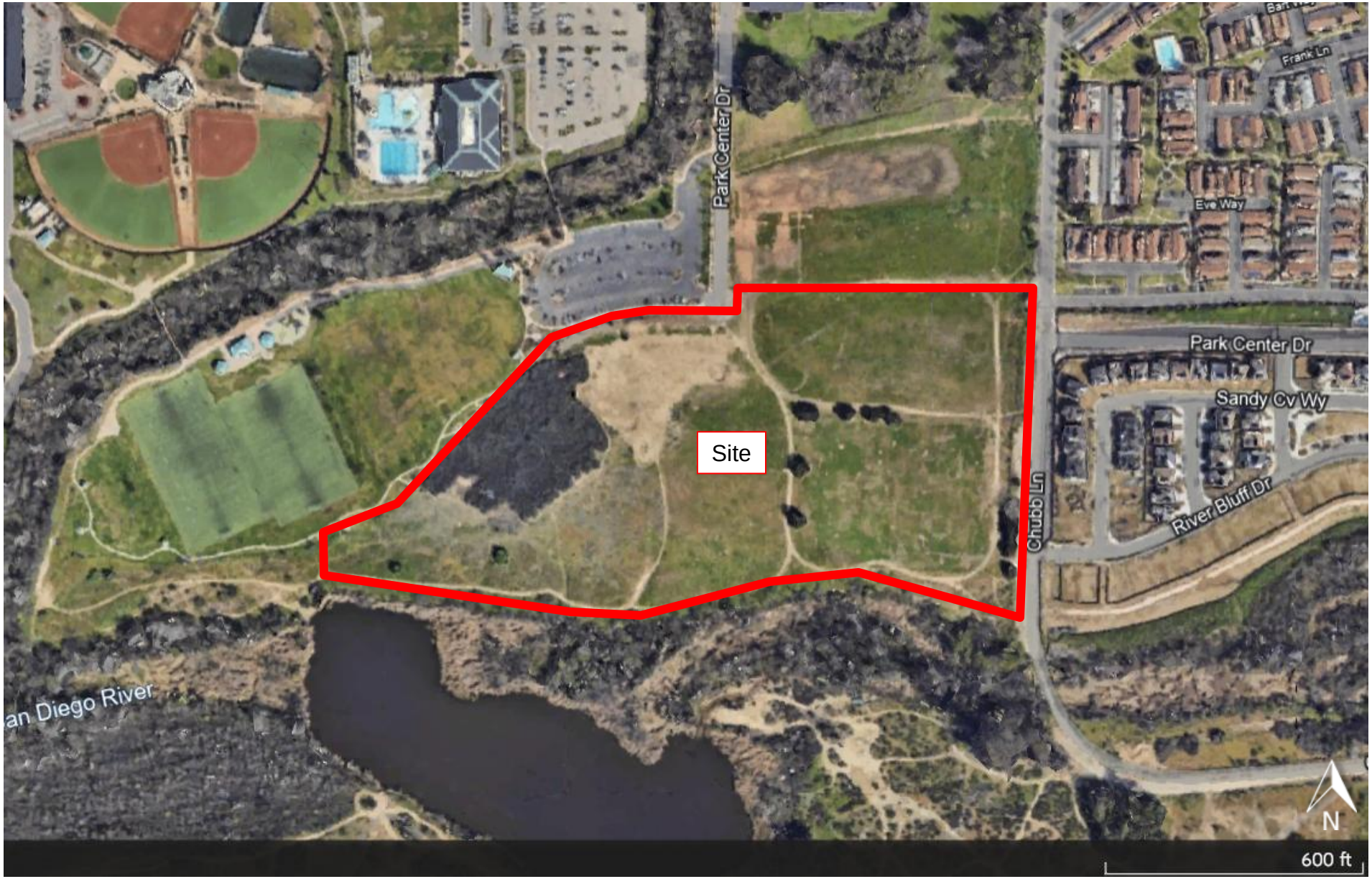
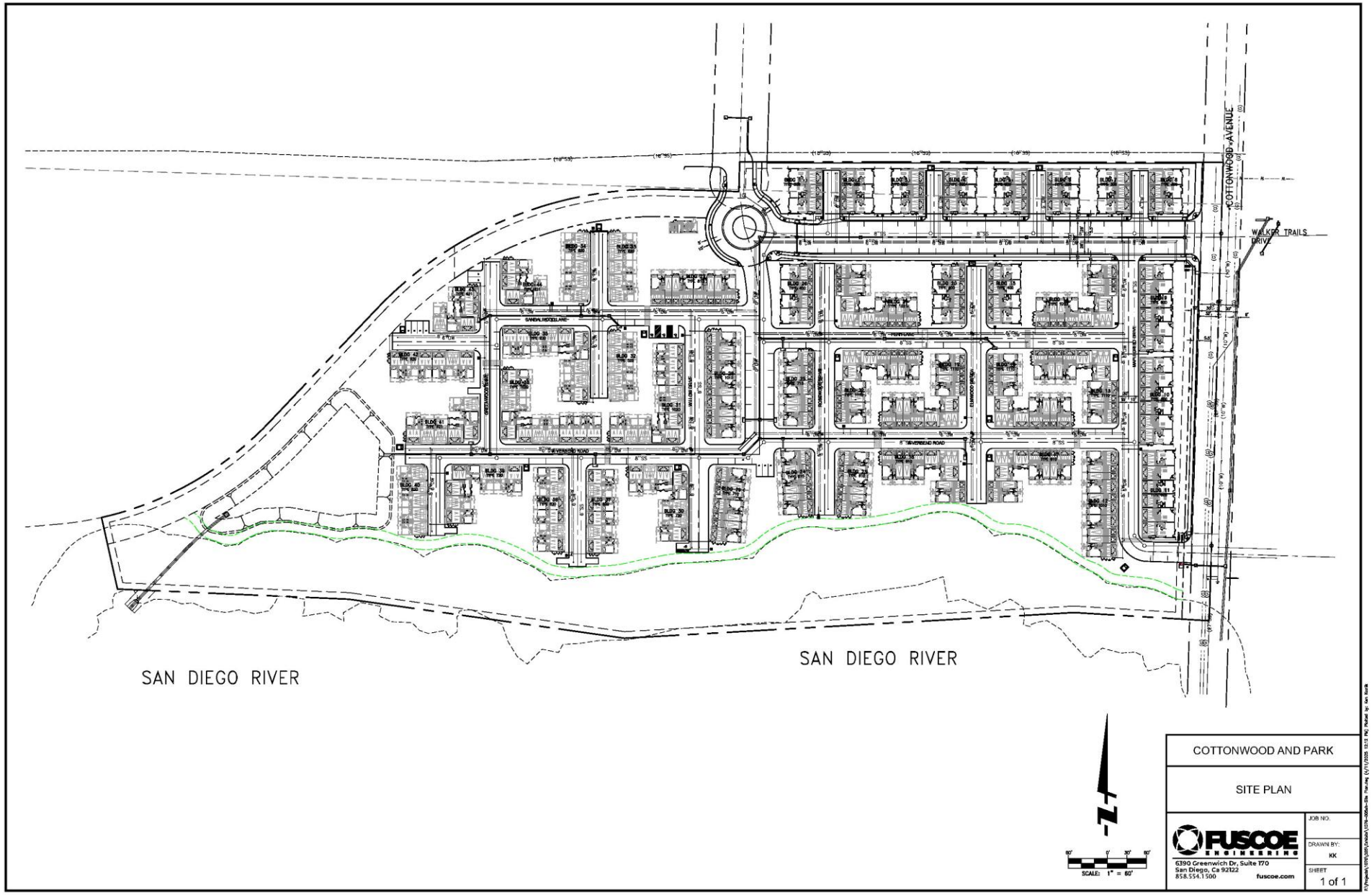


Exhibit B

Site Plan



2.0 Regulatory Framework and Background

2.1 Air Quality Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The San Diego Air Pollution Control District (SDAPCD) regulates at the air basin level.

2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to project the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. See http://www.arb.ca.gov/research/aaqs/aaqs.htm for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

Table 2: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentrations[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O3)	1-Hour	0.09 ppm	Ultraviolet Photometry	- -	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm		0.070 ppm (147 µg/m³)		
Respirable Particulate Matter (PM10)[8]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µ/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		- -		
Fine Particulate Matter (PM2.5)[8]	24-Hour	- -	- -	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 µg/m³)	- -	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 µg/m³)		9 ppm (10 µg/m³)	- -	
	8-Hour (Lake Tahoe)	6 ppm (7 µg/m³)		- -	- -	
Nitrogen Dioxide (NO_2)[9]	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	- -	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (357 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	- -	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	- -		- -	0.5 ppm (1300 mg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	- -	
	Annual Arithmetic Mean	- -		0.130ppm (for certain areas)[10]	- -	
Lead[11,12]	30 Day Average	1.5 µg/m³	Atomic Absorption	- -	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Calendar Qrtr	- -		1.5 µg/m³ (for certain areas)[12]		
	Rolling 3-Month Average	- -		0.15 µg/m³		
Visibility Reducing Particles[13]	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Notes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

2.1.2 Local

San Diego Air Pollution Control District

In San Diego, the APCD is responsible for enforcing the rules and regulations protecting air quality. The San Diego Regional Air Quality Strategy (RAQS) was developed pursuant to California Clean Air Act (CCAA) requirements. The RAQS was initially adopted in 1991, and is updated on a triennial basis (most recently in 2009). The RAQS identifies feasible emission control measures to provide progress in San Diego County toward attaining the State ozone standard. The pollutants addressed in the RAQS are VOCs and NOX, precursors to the photochemical formation of ozone (the primary component of smog).

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and

SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County as part of the development of the individual General Plans.

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County which indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O3 standard by 2018 (SDAPCD 2016). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O3 standard. The RAQS details how the region will manage and reduce O3 precursors (NOx and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

SDAPCD Rules and Regulations

The following rules and regulations apply to all sources in the jurisdiction of SDAPCD, and would apply to the project.

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart.
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants – New Source Review.** Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD's protocol for

those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million.

- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction.** Requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in 1 million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0.

San Diego Association of Governments

SANDAG is the regional planning agency for San Diego County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. With respect to air quality planning and other regional issues, SANDAG has prepared San Diego Forward: The Regional Plan (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050. In regard to air quality, the Regional Plan sets the policy context in which SANDAG participates and responds to the air district's air quality plans and builds off the air district's air quality plan processes that are designed to meet health-based criteria pollutant standards in several ways (SANDAG 2015). On September 23, 2016, SANDAG's Board of Directors adopted the final 2016 Regional Transportation Improvement Program (RTIP). The 2016 RTIP is a multi-year program of projects for major transportation projects in the San Diego region. Transportation projects supported through federal, state, and TransNet (the San Diego transportation sales tax program) funds must be included in an approved RTIP. The 2016 RTIP covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016). The 2021 Regional Plan was adopted on December 10, 2021, and includes plans for multimodal roads, expanded transit, and improvements to the transportation system technology (SANDAG 2021).

On October 28, 2011, SANDAG adopted the 2050 Regional Transportation Plan (RPT) and Sustainable Communities Strategy (SCS), which meets the CARB emission reduction requirements. The 2050 RTP is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The plan outlines more than $214 billion in transportation system investments through 2050. The RTP is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently.

2.2 Greenhouse Gas Regulatory Setting

2.2.1 International

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

Kyoto Protocol. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

2.2.2 National

Greenhouse Gas Endangerment. On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's

National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[1]

Mandatory Reporting of Greenhouse Gases. On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under

[1] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

Climate Adaption Plan. The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. The following link provides more information on the EPA Plan: https://www.epa.gov/arc-x/planning-climate-change-adaptation

2.2.3 California

California Code of Regulations (CCR) Title 24, Part 6. CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 and 2016 standards have been approved and became effective July 1, 2014 and January 1, 2016, respectively. 2019 standards were published July 1, 2019 and became effective January 1, 2020.

California Code of Regulations (CCR) Title 24, Part 11. All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards.. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The following links provide more information on Title 24, Part 11:
https://www.dgs.ca.gov/BSC/Codes
https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and

install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The 2019 CalGreen Code includes the following changes and/or additional regulations:

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades[2].

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the post-construction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require post-construction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of post-construction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regards to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

[2] https://ww2.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

HCD updated section 5.303.3.3 in regards to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regards to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regards to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official. The following link provides more on CalGreen Building Standards:
http://www.bsc.ca.gov/Home/CALGreen.aspx

Executive Order S-3-05. California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following targets:

- By 2010, California shall reduce greenhouse gas emissions to 2000 levels;
- By 2020, California shall reduce greenhouse gas emissions to 1990 levels.
- By 2050, California shall reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-01-07. Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

SB 97. Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO2e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 MMTCO2e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable

by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO2e by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) initially contained measures designed to reduce the State's emissions to 1990 levels by the year 2020 with a further goal of 40 percent below 2020 levels by 2030 established in 2017 (California Air Resources Board 2017). The 2020 goal was achieved in 2016. The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2030 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, Including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[4]

SB 375. Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional

Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the San Diego Association of Government (SANDAG), which has authority to develop the SCS or APS. For the SANDAG region, the targets set by CARB are at 15 percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. On October 28, 2011, SANDAG adopted the 2050 Regional Transportation Plan (RPT) and Sustainable Communities Strategy (SCS), which meets the CARB emission reduction requirements.

The 2050 RTP is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The plan outlines more than $214 billion in transportation system investments through 2050. The RTP is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Assembly Bill 939, Assembly Bill 341, and Senate Bill 1374. Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. AB 341 requires at least 75 percent of generated waste be source reduced, recycled, or composted by the year 2020. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Executive Order S-13-08. Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resource Agency 2009) was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

Executive Order B-29-15. Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

Executive Order B-37-16. Executive Order B-37-16, continuing the State's adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

Executive Order N-79-20. Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

Renewables Portfolio Standard (RPS) Program. California's RPS program was established in 2002 by Senate Bill (SB) 1078 with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which again increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045 (CPUC 2021).

San Diego Gas & Electric procured 42 percent of its power from renewable resources, which is above the State's statutory and Commission's RPS program requirements (SDG&E 2021).

2.2.4 Local

City of Santee

Sustainable Santee Plan (Climate Action Plan)

In 2019, the City of Santee adopted the Sustainable Santee Plan (SSP). The plan inventoried existing CO2 emissions from available data, projected emissions growth to 2035, and evaluated a wide range of CO2 reduction measures. Overall, the SSP would reduce the City's communitywide GHG emissions 40 percent below 2005 emissions by 2030, and 49 percent below 2005 emissions by 2035. In addition, in compliance with the California Air Resources Board 2017 Scoping Plan Update, the SSP would reduce communitywide emissions below 3.8 MT CO2e per capita by 2030. The SSP describes the baseline GHG emissions produced in the City and projects GHG emissions that could be expected if the SSP is not implemented. The SSP contains communitywide reductions measures applicable to existing and new development, as well as municipal reduction measures, demonstrating compliance with State reduction targets. It also includes adaption measures, an emissions tracking tool, an annual reporting process,

inventory updates, and continued refinement of target setting to keep pace with the long-term State goal found in Executive Order B-55-18 of carbon neutrality by 2045.

3.0 Setting

3.1 Existing Physical Setting

The project site is located in the City of Santee, which is in the San Diego Air Basin (SDAB). The boundaries of the SDAB are contiguous with the political boundaries of San Diego County. The County of San Diego is bounded on the north by Orange and Riverside Counties, on the east by Imperial County, on the west by the Pacific Ocean, and on the south by the Mexican State of Baja California.

3.1.1 Local Climate and Meteorology

The San Diego Air Basin climate is largely dominated by the semi-permanent high-pressure system over the Pacific Ocean, which creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year round. The San Diego area is classified as having a Mediterranean climate, with warm, dry summers and mild, wet winters. Temperature and precipitation can vary widely within the SDAB, where average annual precipitation ranges from approximately 10 inches in the coastal and inland areas to over 30 inches in the mountains (County of San Diego, 2007). In general, more mild annual temperatures are experienced in the maritime and coastal areas, whereas the interior and desert areas experience warmer summers and cooler winters. The project site is located approximately 2.8 miles inland from the coast.

The high-pressure system drives the prevailing winds in the SDAB. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases the O_3 levels. During winter, San Diego often experiences a shallow inversion layer which tends to increase carbon monoxide and PM2.5 concentration levels due to the increased use of residential wood burning. The SDAB is often impacted by Santa Ana winds during the fall months. These winds blow the air basin's pollutants out to sea; however, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase the San Diego O_3 concentrations. (SDAPCD 2017)

The temperature and precipitation levels for the City of San Diego are in Table 3. Table 3 shows that August and September are typically the warmest months and December and January are typically the coolest months. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

<Table 3, next page>

Table 3: Meteorological Summary

Month	Temperature (˚F)		Average Precipitation (inches)
	Average High	Average Low	
January	64.8	48.1	2.00
February	65.2	49.7	1.98
March	65.9	51.9	1.63
April	67.4	54.7	0.78
May	68.6	58.1	0.21
June	70.9	60.8	0.05
July	74.8	64.4	0.02
August	76.3	65.7	0.06
September	75.7	63.9	0.17
October	72.9	59.3	0.51
November	69.9	52.9	0.97
December	65.8	48.7	1.77
Annual Average	**69.9**	**56.5**	**10.1**

Notes:
[1] Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7740

3.1.2 Local Air Quality

The San Diego APCD operates and maintains ten monitoring stations located throughout the region. The purpose of these stations is to measure concentrations of the criteria pollutants and determine whether the ambient air quality meets the NAAQS and the CAAQS. The nearest air monitoring station to the project site is the Camp Pendleton Monitoring Station (Camp Pendleton Station). The C Camp Pendleton Station is located approximately 13 miles southwest of the project site at 21441 W B Street. Table 4 presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

<Table 4, next page>

Table 4: Local Area Air Quality Levels

Pollutant (Standard)[2]	Year		
	2020	2021	2022
Ozone:			
Maximum 1-Hour Concentration (ppm)	**2020**	**2021**	**2022**
Days > CAAQS (0.09 ppm)			
Maximum 8-Hour Concentration (ppm)	0.094	0.074	0.076
Days > NAAQS (0.07 ppm)	0	0	0
Days > CAAQS (0.070 ppm)	0.074	0.059	0.067
Carbon Monoxide:	3	**0**	**0**
Maximum 8-Hour Concentration (ppm)	3	**0**	**0**
Days > NAAQS (9 ppm)			
Nitrogen Dioxide:	*	*	*
Maximum 1-Hour Concentration (ppm)	*	*	*
Days > NAAQS (0.25 ppm)			
Sulfur Dioxide:	0.058	0.059	0.050
Maximum 1-Hour Concentration (ppm)	0	0	0
Days > CAAQS (0.25 ppm)			
Inhalable Particulates (PM10):	*	*	*
Maximum 24-Hour Concentration (ug/m^3)	*	*	*
Days > NAAQS (150 ug/m^3)			
Days > CAAQS (50 ug/m^3)	*	*	*
Annual Average (ug/m^3)	*	*	*
Annual > NAAQS (50 ug/m^3)	*	*	*
Annual > CAAQS (20 ug/m^3)	*	*	*
Ultra-Fine Particulates (PM2.5):	*	*	*
Maximum 24-Hour Concentration (ug/m^3)	*	*	*
Days > NAAQS (35 ug/m^3)			
Annual Average (ug/m^3)	*	*	18.0
Annual > NAAQS (15 ug/m3)	*	*	**0**
Annual > CAAQS (12 ug/m^3)	9.5	*	*

[1] Source: obtained from https://www.arb.ca.gov/adam/topfour/topfour1.php
[2] CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million
* No data and/or insufficient data available.

The monitoring data presented in Table 4 shows that ozone and particulate matter (PM10 and PM2.5) are the air pollutants of primary concern in the project area, which are detailed below.

Ozone

During the 2020 to 2022 monitoring period, the State 1-hour concentration standard for ozone was not exceeded at the Camp Pendleton Station. The State and Federal 8-hour ozone standards have both been exceeded for three days in 2020 over the past three years at the Camp Pendleton Station.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Camp Pendleton Station did not record an exceedance of the state or federal 1-hour or 8-hour CO standards for the last three years.

Nitrogen Dioxide

The Camp Pendleton Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Sulfur Dioxide
The Camp Pendleton Station did not record an exceedance of the State SO_2 standards for the last three years.

Particulate Matter
The Camp Pendleton Station did not record an exceedance of the State or Federal PM10 or PM2.5 standards for the last three years.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The criteria pollutants of primary concern that are considered in this analysis are O3, NO2, CO, SO2, PM10, and PM2.5. Although there are no ambient standards for VOCs or NOx, they are important as precursors to O_3. The portion of the SDAB where the project site is located is designated by the EPA as a nonattainment area for the 8-hour NAAQS for O_3. The SDAB is designated in attainment for all other criteria pollutants under the NAAQS with the exception of PM10, which was determined to be unclassifiable. The SDAB is currently designated nonattainment for O3 and particulate matter, PM10 and PM2.5, under the CAAQS. It is designated attainment for the CAAQS for CO, NO2, SO2, lead, and sulfate

Table 5 lists the attainment status for the criteria pollutants in the basin.

Table 5: San Diego County Air Basin Attainment Status

Pollutant	Federal Designation	State Designation

O_3 (1 hour)	Attainment[1]	Nonattainment
O_3 (8-hour)	Nonattainment	Nonattainment
CO	Attainment	Attainment
PM_{10}	Unclassifiable[2]	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility-reducing particulates	(No federal standard)	Unclassified

Notes:
Sources:https://www.sandiegocounty.gov/content/sdc/apcd/en/air-quality-planning/attainment-status.html
[1] The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.
[2] At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

3.2 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NO_2) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 6 provides a description of each of the greenhouse gases and their global warming potential.

Additional information is available: https://www.arb.ca.gov/cc/inventory/data/data.htm

<Table 6 on next page>

Table 6: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N_20),also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N_20.

Methane	Methane (CH_4) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	A natural source of CH_4 is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Notes:

1. Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

4.0 Modeling Parameters and Assumptions

4.1 Construction

Typical emission rates from construction activities were obtained from CalEEMod Version 2022.1.1.22 The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the southwestern portion of San Diego County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. Using CalEEMod default timelines for construction phases and the proposed operational date, the proposed project was modeled as beginning construction no earlier than August 2024 and lasting 18 months. The phases of the construction activities which have been analyzed below are: 1) site preparation, 2) grading, 3) building, 4) paving, and 5) architectural coating. CalEEMod default construction equipment counts were used as a basis. Additional hauling trips were added to account for asphalt delivery during paving and were based on a conservative assumption of 65 square feet of coverage per cubic yard of asphalt and 16 cubic yards of asphalt per hauling trip.[3] It should also be noted the scenario in the current model was based on a previous site plan with 358 units with 716 garage spaces and 126 open spaces, making this a conservative analysis compared to the current site plan of 285 units with 570 garage spaces and 76 open spaces. For details on construction modeling and construction equipment for each phase, please see Appendix A.

The project would be required to comply with SDAPCD Rules 52, 54, and 55 which identify measures to reduce fugitive dust and are required to be implemented at all construction sites located within the SDAB. The requirements to reduce fugitive dust in compliance with SDAPCD Rules 52, 54, and 55 were included in CalEEMod for the grading phase of construction.

The architectural coating phase involves the greatest release of VOCs. The emissions modeling for the project includes the use of low-VOC paint (50 grams per liter [g/L] for not flat coatings for the buildings and 100 [g/L] for parking lot striping) as required by SDAPCD Rule 67.0.1.[4]

[3] Reeves Construction Company. Material Calculator. https://www.reevescc.com/asphalt-calculator/.
[4] Rule 67.0.1. Architectural Coatings. Table 2. February 10, 2021.
https://www.sdapcd.org/content/dam/sdapcd/documents/rules/rule-archive/2021/Rule-67.0.1.pdf.

4.2 Operations

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

Mobile Sources
Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project are based upon the trip generation rates provided by SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). The trip generation shows a rate of 2,368 trips per day.

The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A for details.

Area Sources
Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

The architectural coating phase involves the greatest release of VOCs. The emissions modeling for the project includes the use of low-VOC paint (50 grams per liter [g/L] for not flat coatings for the buildings and 100 [g/L] for parking lot striping) as required by SDAPCD Rule 67.0.1.

Energy Usage
2022.1.1.22 CalEEMod defaults were utilized.

Solid Waste Sources
Solid waste sources include emissions from disposal of solid waste into landfills.

Energy Usage
2022.1.1.22 CalEEMod defaults were utilized. CalEEMod outputs can be found in Appendix A.

5.0 Thresholds of Significance

5.1 Air Quality Thresholds of Significance

5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SDAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts.

5.1.2 Regional Significance Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources. The County's Guidelines for Determining Significance and Report Format and Content Requirements include screening level thresholds for all County related Air Quality Impact Assessments (AQIA) and for determining CEQA air quality impacts.[5] These daily screening thresholds for construction and operations are shown in Table 7 below.

[5] https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf

Table 7: SDAPCD Air Quality Significance Thresholds

Pollutant	Total Emissions		
	Pounds per Hour	Pounds Per Day	Tons Per Year
VOCs	-	100	15
NOx	-	55	10*
CO	25	250	40
SOx	25	250	40
PM10	100	550	100
PM2.5	-	3.2	0.6
Lead*	-	75**	13.7** *

Notes:
Source: San Diego County. March 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Air Quality. http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf.
*EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.
** Threshold for VOCs based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley.
*** 13.7 Tons Per Year threshold based on 75 lbs/day multiplied by 365 days/year and divided by 2000 lbs/ton.

The thresholds listed above, and in Table 7, represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 7, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

5.2 Greenhouse Gas Thresholds of Significance

5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency.

No GHG emission thresholds have been adopted by the City for land development projects. The San Diego Air Pollution Control District (SDAPCD) is considered the most appropriate agency with special knowledge in the subject area as the City is located within the SDAPCD jurisdiction. However, the SDAPCD has not issued guidance for assessing GHG impacts from land use development projects. Thus, in the absence of a threshold of significance for GHG emissions for the SDAPCD, as has been done with previous projects in the City, the project is evaluated based on the recommendation from the next closest air district, the South Coast AQMD.

This analysis follows guidance from the South Coast AQMD's Interim CEQA GHG Significance Thresholds (SCAQMD 2008). South Coast AQMD's thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. As identified in the Working Group meeting in September 2010, the five tiers are:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:

    - All land use types: 3,000 MTCO2e per year
    - Based on land use types: residential is 3,500 MTCO2e per year; commercial is 1,400 MTCO2e per year; mixed use is 3,000 MTCO2e per year; and industrial is 10,000 MTCO2e

- Tier 4 has the following options:
    - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
    - Option 3: Year 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO2e/SP/year for projects and 6.6 MTCO2e/SP/year for plans;
    - Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans

- Tier 5 involves mitigation offsets to achieve target significance threshold.

Tier 1 and Tier 2 thresholds are based on planning consistency. This approach, which is referred to in the CEQA Guidelines as "tiering," allows agencies to rely on programmatic analysis of GHG emissions to determine that subsequent development consistent with the regional plan would result in incremental GHG emissions contribution that represent a less than significant contribution to cumulative effects.

Tier 3 significance screening levels from SCAQMD guidance are based on the concept of establishing a 90 percent GHG emission market capture rate. A 90 percent emission capture rate means that 90 percent of total emissions from new development projects would be subject to CEQA analysis and mitigation. The market capture rate of 90 percent was developed to capture a substantial fraction of GHG emissions from new development projects while excluding small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This market capture rate approach is based on guidance from the CAPCOA report CEQA & Climate Change, dated January 2008 (CAPCOA 2008). Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified screening levels for 90 percent market capture rate would not impede achievement of the statewide GHG emissions reduction targets.

Tier 4 and Tier 5 interim thresholds are intended to demonstrate project consistency with the AB 32 goal of achieving 1990 emission levels by 2020 and the SB 32 goal of reducing GHG emissions to 40 percent below 1990 levels by 2030.

Therefore, this analysis utilizes SCAQMD's Tier 4 interpolated threshold of 4.08 MTCO2e/SP/year for all land use types and then, per SCAQMD's Tier 2 thresholds, assessed in compliance with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. As a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the SANDAG's Regional Plan, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. This analysis also considers consistency with regulations and requirements adopted by the Scoping Plan and the City's CAP. Furthermore, the OPR has noted that lead agencies should make a good-faith effort to calculate or estimate GHG emissions from a project.[6] Therefore, the GHG emissions have also been quantified below, consistent with OPR guidelines. As recommended by the Association of Environmental Professionals in the 2016 Final White Paper, construction-related emissions are amortized over a 30-year period in conjunction with the proposed project's operational emissions (AEP 2016).

5.3 Toxic Air Contaminants

Non criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on

[6] OPR Technical Advisory, page 5.

June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that could potentially increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the cancer risk to over 10 in one million or a health hazard index (chronic and acute) greater than one. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

Therefore, the threshold for toxic air contaminants (TACs) is a maximum incremental cancer risk of 10 per million and a non-cancer (acute and chronic) hazard index of 1.0 or greater. An exceedance to these values would be considered a significant impact.

6.0 Air Quality Emissions Impact

6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the construction emissions. The emissions incorporate adherence to SDAPCD Rules 51, 52, 54, 55, 67, and 1200 (as identified in Section 4.1 above). Adherence to these rules are not considered mitigation measures as the project by default is required to incorporate these rules during construction.

6.1.1 Temporary Construction Emissions

The construction emissions for the project would not exceed the SDAPCD's screening level thresholds during project construction, as demonstrated in Table 8, and therefore would be considered less than significant. Construction modeling parameters and assumptions can be found in Section 4.1.

Table 8: Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Activity	Pollutant Emissions1					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Daily Construction Emissions (pounds/day)						
2024	3.80	47.10	35.60	0.12	9.41	5.45
2025	2.74	14.70	31.90	0.04	4.20	1.33
2026	72.43	7.33	10.59	0.01	0.66	0.33
Maximum	72.43	47.10	35.60	0.12	9.41	5.45
SDAPCD Screening Threshold	75	250	550	250	100	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**N0**	**No**
Annual Construction Emissions (tons/year)						
2024	0.14	1.26	1.43	0.00	0.26	0.11
2025	0.35	1.88	3.83	0.00	0.53	0.17
2026	1.28	0.07	0.14	0.00	0.01	0.01
Maximum	1.28	1.88	3.83	0.00	0.53	0.17
SDAPCD Screening Threshold	13.7	40	100	40	15	10
Exceeds Threshold?	**No**	**No**	**No**	**No**	**N0**	**No**

Notes:
Source: CalEEMod Version 2022.1.1.22
[1] Grading phases incorporate anticipated emissions reductions required by SDAPCD Rules 52, 54, and 55 to reduce fugitive dust. The architectural coating phases incorporate anticipated emissions reductions required by SDAPCD Rule 67.

6.1.2 Construction-Related Toxic Air Contaminant Impact

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or noncancer acute, 8-hour,

and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic noncancer hazard via non-inhalation routes of exposure.

CARB In-Use Off-Road Diesel-Fueled Fleets Regulation limits unnecessary idling to 5 minutes, requires all construction fleets to be labeled and reported to CARB, bans Tier 0 equipment, and phases out Tier 1 and 2 equipment thereby replacing fleets with cleaner equipment, and requires that fleets comply with Best Available Control Technology requirements.

The SDAPCD recommends a 30-year period for analyzing health risks from TAC emissions. Given the construction schedule of 18 months and the relatively limited number of heavy-duty construction equipment, the proposed Project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

6.2 Operational Air Quality Emissions Impact

6.2.1 Operational Emissions

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2026, which is the anticipated opening year for the project. The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 9. Emissions were modeled according to the parameters and assumptions established in Section 4.2.

Table 9: Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Activity	Pollutant Emissions[1]					
	VOC	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Daily Operation Emissions (pounds/day)						
Area Sources[2]	12.70	0.30	32.80	0.00	0.03	0.02
Energy Usage[3]	0.11	1.86	0.79	0.01	0.15	0.15
Mobile Sources[4]	9.53	7.10	67.10	0.16	14.00	3.63
Total Emissions	**22.34**	**9.26**	**100.69**	**0.17**	**14.18**	**3.80**
SDAPCD Thresholds	75	250	550	250	100	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Operation Emissions (tons/year)						
Area Sources[2]	1.96	0.03	2.95	0.00	0.00	0.00
Energy Usage[3]	0.02	0.34	0.14	0.00	0.03	0.03
Mobile Sources[4]	1.68	1.28	11.60	0.03	2.54	0.66
Total Emissions	**3.66**	**1.65**	**14.69**	**0.03**	**2.57**	**0.69**
SDAPCD Thresholds	13.7	40	100	40	15	10
Exceeds Threshold?	**No**	**No**	**No**	**No**	**N0**	**No**

[1] Source: CalEEMod Version 2022.1.1.22
[2] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

[3] Energy usage consists of emissions from on-site natural gas usage.
[4] Mobile sources consist of emissions from vehicles and road dust.

The data in Table 9 shows that emissions from the operation of the proposed project does not exceed SDAPCD thresholds. Therefore, the impact is considered less than significant.

6.3 CO Hot Spot Emissions

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards.

The SDAB is classified as a state attainment area and as a federal maintenance area for CO. Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. The violations that took place in 2003 were likely the result of massive wildfires that occurred throughout the county. No violations of the state or federal CO standards have occurred since 2003.

Small-scale, localized concentrations of CO above the state and national standards have the potential to occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as “CO hot spots” and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. The SDAB is a CO maintenance area under the federal CAA. This means that SDAB was previously a non-attainment area and is currently implementing a 10-year plan for continuing to meet and maintain air quality standards.

The SDAB is a CO maintenance area (western and central part of the SDAB only). As a screening analysis, the SCAQMD conducted CO modeling for the 2003 AQMP (Appendix V: Modeling and Attainment Demonstrations, SCAQMD 2003) for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 ppm at the Sunset Boulevard and Highland Avenue intersection in 2002; the maximum 8-hour CO concentration was 3.4 ppm at the Wilshire Boulevard and Veteran Avenue in 2002. Therefore, an intersection would need over

200,000 vehicles per day to exceed the 8-hour CO CAAQS (9.0 ppm) or 400,000 vehicles per day to exceed 1-hour CO CAAQS (20 ppm).

Accordingly, CO concentrations at congested intersections would not exceed the 8-hour CO CAAQS if projected daily traffic would generate less than 200,000 vehicles per day or the 1-hour CO CAAQS for less than 400,000 vehicles per day. The proposed project is anticipated to generate approximately 2,368 vehicle trips per day. Therefore, the proposed project would not be anticipated to increase daily traffic volumes at any study intersection to more than 200,000 vehicles per day, a CO hotspot is not anticipated to occur and associated impacts would be less than significant.

6.4 Odors

SDAPCD Rule 51, commonly referred to as the public nuisance rule, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The potential for an operation to result in odor complaints from a "considerable" number of persons in the area would be considered to be a significant, adverse odor impact.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Furthermore, construction emissions would not exceed SDAPCD thresholds. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

Land uses and operations typically associated with odor complains include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, refineries, landfills, dairies, and fiberglass molding. The anticipated uses for the proposed residential use are not typically associated with objectionable odors. Therefore, no significant impact related to odors would occur during the on-going operations of the proposed project.

6.5 Cumulative Regional Air Quality Impacts

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature.

The project area is out of attainment for O_3 for federal standards and O_3, PM_{10}, and $PM_{2.5}$ for state standards. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the SDAB. As discussed previously, the construction related emissions will be

below the SDAPCD significance levels utilized by the City and would not result in significant impacts to air quality. Construction will be short-term and consistent with the size and scale of the project. Construction of the project will potentially be conducted at the same time and in the same general vicinity as other major construction projects; however, in accordance with the SDAPCD methodology, projects that do not exceed the SDAPCD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. The project does not exceed any of the thresholds of significance and therefore is not considered to contribute to a significant cumulative impact on air quality.

Furthermore, the project will not contribute to any cumulative odor impacts through compliance with SDAPCD Rule 51 which prohibits emissions from a project that would cause injury, detriment, nuisance, or annoyance to the public health or damage to property, as discussed in Section 6.4.

As stated earlier, the RAQS relies on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the county as part of the development of their general plans. It is assumed that a project which conforms to the General Plan, and does not have emissions exceeding operational thresholds discussed in Section 5.1, will not create a cumulatively considerable net increase to ozone since the emissions were accounted for in the RAQS. The project site has a land use designation of Residential according to the City of Santee Town Center Specific Plan. Therefore, the project would be consistent with the existing general plan and zoning for the City of Santee; therefore, the project would be considered consistent with the RAQS. Furthermore, operational emissions generated by the project would be below the established significance thresholds for criteria pollutants as shown in Table 9, and the project's operational emissions would not result in a cumulatively considerable contribution to the region's poor air quality. Cumulative air quality impacts would, therefore, be less than significant.

6.6 Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the RAQS. Therefore, this section discusses any potential inconsistencies of the proposed project with the RAQS.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the RAQS and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The RAQS relies on information from CARB and SANDAG, including projected growth in the County, mobile, area, and all other source emissions in order to project future emissions and determine strategies necessary for the reduction of stationary source emissions. Those projects that propose development that is consistent with the City's General Plan are; therefore, consistent with the RAQS.

7.0 Greenhouse Gas Impact Analysis

7.1 Construction Greenhouse Gas Emissions Impact

The greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 10. The emissions are from all phases of construction. Construction-related emissions are amortized over a 30-year period in conjunction with the proposed project's operational emissions as recommended by Association of Environmental Processionals (AEP 2016).

The total construction emissions amortized over a period of 30 years are estimated at 46.2 metric tons of CO_2e per year. Annual CalEEMod output calculations are provided in Appendix A.

Table 10: Estimated Annual Construction Greenhouse Gas Emissions

Year	Metric Tons Per Year					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N20	CO2e (MT)
2024	0.00	414.00	414.00	0.02	0.03	424.00
2025	0.00	920.00	920.00	0.04	0.05	938.00
2026	0.00	23.60	23.60	0.00	0.00	23.90
Total	0.00	1357.60	1357.60	0.06	0.08	1385.90
					Amortized Construction Emissions	46.20

Notes:
1. $MTCO_2e$=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane and nitrous oxide).
2. The emissions are averaged over 30 years.
* CalEEMod output (Appendix A)

7.2 Operational Greenhouse Gas Emissions Impact

Operational emissions occur over the life of the project. Table 11 shows that the total for the proposed project's emissions (baseline emissions without credit for any reductions from sustainable design and/or regulatory requirements) would be 3,852.4 metric tons of CO_2e per year or 3.90 metric tons of CO_2e per year per Service Population. Therefore, as the total emissions for the proposed project would not exceed the SCAQMD draft Tier 4 interpolated 2026 threshold of 4.08 MT of CO2e per year, impacts are considered to be less than significant.

Table 11: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)[1]						
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	R	CO_2e
Area Sources[2]	0.00	8.62	8.62	0.00	0.00	0.00	8.65
Energy Usage[3]	0.00	1,083.00	1,083.00	0.07	0.01	0.00	1,087.00
Mobile Sources[4]	0.00	2,592.00	2,592.00	0.13	0.11	3.89	2,632.00
Solid Waste[5]	23.60	0.00	23.60	2.36	0.00	0.00	82.70
Water[6]	3.99	24.40	28.39	0.41	0.01	0.00	41.60
Refrigerants	0.00	0.00	0.00	0.00	0.00	0.45	0.45
Subtotal Emissions	27.59	3,708.02	3,735.61	2.97	0.13	4.34	**3,852.40**
						Amortized Construction Emissions	**46.20**
						Total Emissions	**3,898.60**
						Service Population	**999.00**

Total Emissions per Service Population (MTCO2e/yr/SP)	**3.90**
2026 Interpolated Threshold (MTCO2e/yr/SP)	**4.08**
Exceeds Threshold?	**No**

Notes:
[1] Source: CalEEMod Version 2022.1.1.22
[2] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
[3] Energy usage consists of GHG emissions from electricity and natural gas usage.
[4] Mobile sources consist of GHG emissions from vehicles.
[5] Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[6] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[7] Construction GHG emissions based on a 30 year amortization rate.

7.3 Greenhouse Gas Plan Consistency

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The project's GHG impacts are evaluated by assessing the project's consistency with applicable statewide, regional, and local GHG reduction plans and strategies.

The Office of Planning and Research (OPR) encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. The City has adopted the City of Santee CAP which encourages and requires applicable projects to implement energy efficiency measures. In addition, the California Climate Action Team (CAT) Report provides recommendations for specific emission reduction strategies for reducing GHG emissions and reaching the targets established in AB 32 and Executive Order S-3-05. On a statewide level, the 2008 Climate Change Scoping Plan provides measures to achieve AB 32 targets. On a regional level, the SANDAG's Regional Plan contains measures to achieve VMT reductions required under SB 375. Thus, if the project complies with these plans, policies, regulations, and requirements, the project would result in a less than significant impact because it would be consistent with the overarching state, regional, and local plans for GHG reduction.

A consistency analysis is provided below and describes the project's compliance with or exceedance of performance-based standards included in the regulations outlined in the applicable portions of the 2008 and 2017 Climate Change Scoping Plan, and SANDAG's Regional Plan.

Consistency with SANDAG's San Diego Forward: the Regional Plan

Regarding consistency with SANDAG's Regional Plan, the proposed project would include site design elements and project design features developed to support the policy objectives of the RTP and SB 375.

Table 12 illustrates the proposed project's consistency with all applicable goals and policies of the Regional Plan (SANDAG 2021).

Table 12: Project Consistency with San Diego Forward: The Regional Plan[1]

Category	Policy Objective or Strategy	Consistency Analysis
The Regional Plan - Policy Objectives		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	Consistent. The proposed project is be located near bus routes and within a quarter mile of a YMCA.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	Not applicable. The proposed project would not impair SANDAG's ability to employ new technologies to make travel more reliable and convenient.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	Consistent. The proposed project is surrounded by existing commercial and residential development and would be located close to major urban centers.
Habitat and Open Space Preservation	Protect and restore our region's urban canyons, coastlines, beaches, and water resources.	Not Applicable. The proposed project would not impair the ability of SANDAG to protect and restore urban canyons, coastlines, beaches, and water resources. Furthermore, the proposed project is located in an already developed area.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	Not Applicable. The proposed project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	Not Applicable. The proposed project would not impair the ability of SANDAG to make the movement of freight in the community more efficient and environmentally friendly.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	Not Applicable. The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	Not Applicable. The proposed project would not impair the ability of SANDAG to provide transportation choices to better

		connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	Consistent. The proposed project is a residential project with a current land use designation of residential according to the City of Santee Town Center Specific Plan. The proposed project is be located near bus routes and within a quarter mile of a YMCA.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	Consistent. The proposed project is a residential project located near bus routes. The project site is also surrounded by existing commercial and residential uses.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	Consistent. The proposed project is a residential project located near bus routes and a YMCA.
Environmental Stewardship	Support energy programs that promote sustainability.	Consistent. The proposed project would be in compliance with the current building standards.
Sustainable Communities Strategy - Strategies		
Strategy Number 1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	Consistent. The proposed project would be located close to major urban centers as it is located near bus routes and is surrounded by existing commercial and residential development.
Strategy Number 2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	Consistent. The proposed project would be located close to major urban centers as it is located near bus routes and is surrounded by existing commercial and residential development.
Strategy Number 3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	Consistent. The proposed project is a residential project located near bus routes.
Strategy Number 4	Address the housing needs of all economic segments of the population.	Not Applicable. The proposed project would not impair the ability of SANDAG to address housing needs of all economic segments of the population.
Strategy Number 5	Implement the Regional Plan through incentives and collaboration.	Not Applicable. The proposed project would not impair the ability of SANDAG to implement the Regional Transportation Plan

		through incentives and collaborations.

Notes:
MTS = San Diego Metropolitan Transit System; SANDAG = San Diego Association of Governments.

[1] Source: SANDAG, 2021.

As shown in Table 12, the proposed project is consistent with all applicable Regional Plan Policy Objectives or Strategies. Impacts would be less than significant.

CARB Scoping Plan Consistency

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

In November 2017, CARB release the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. In addition, Chapter 4 provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State's mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and Trade Program, which constrains and reduces emissions at covered sources.

As the latest, 2017 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in Table 13. As shown in Table 13, the project is consistent with the applicable strategies and would result in a less than significant impact.

Table 13: Project Consistency with CARB Scoping Plan Policies and Measures[1]

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.

Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.
2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	**Project Compliance with Recommended Action**
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.
Notes: [1] Source: CARB Scoping Plan (2008 and 2017)	

Sustainable Santee Plan Consistency Analysis

The focus of the SSP included promoting energy- and water-efficient buildings, smart growth and clean transit, zero waste policies, and increased local energy generation and water resources. Table 14 summarizes reduction strategies from the SSP and evaluates project consistency with each strategy. The project would be consistent with all applicable SSP reduction strategies; therefore, the project would not conflict with the SSP.

Table 14: Sustainable Santee Plan Consistency Analysis

Measure	Project Consistency
Goal 1. Increase Energy Efficiency in Existing Residential Units	Not applicable. The project is a new development.
Goal 2. Increase Energy Efficiency in the New Residential Units	
Measure 2.1. New residential construction meet or exceed California Green Building Standards Tier 2 Voluntary Measures, such as obtaining green building ratings including LEED, Build it Green, or Energy Star Certified building certifications in scoring development and explain the measures implemented.	Consistent. The project will meet California Green Building Standards Tier 2 Voluntary Measures.
Goal 3: Increase Energy Efficiency in Existing Commercial Units	Not applicable. The project is a residential development.
Goal 4: Increase Energy Efficiency in New Commercial Units	Not applicable. The project is a residential development.
Goal 5: Decrease Energy Demand through Reducing Urban Heat Island Effect	
Measure 5.1. Tree Planting for Shading and Energy Efficiency	Consistent. The project will comply with all City regulations regarding tree planting.
Measure 5.2. Light-reflecting Surfaces for Energy Efficiency	Consistent. While this measure is regarding commercial and municipal buildings, the project will comply with all City regulations regarding cool roofs for residential buildings.
Goal 6. Decrease GHG Emissions through a Reduction in VMT	
Measure 6.1. Proposed project streets include sidewalks, crosswalks, and other infrastructure that promotes non-motorized transportation options	Consistent. The project would include sidewalks and crosswalks and would connect to existing pedestrian networks and an existing park.
Measure 6.2. Proposed project installs bike paths to improve bike transit.	Consistent. The project will install the River Trail along the southern portion of the project site that will connect existing portions of the River Trail west and east of the projects site allowing for efficient bike travel in the project vicinity.
Goal 7: Increase Use of Electric Vehicles	
Measure 7.1. Install electric vehicle chargers in all new residential and commercial developments. b. For new Multifamily Residential, install e-chargers for 13 percent of total parking.	Consistent. The project will install at least install e-chargers for 13 percent of total parking.
Goal 8. Improve Traffic Flow	

Measure 8.1. Implement traffic flow improvement program. a. Install smart traffic signals at intersections warranting a traffic signal, OR b. Install roundabout.	Not applicable. The project will not require the installation of traffic signals or roundabouts.
Goal 9: Decrease GHG Emissions through Reducing Solid Waste Generation	
Measure 9.1. Reduce waste at landfills.	Consistent. The project will comply with the requirement in AB-341 to reduce waste to landfills by 75%.
Goal 10. Decrease GHG Emissions through Increased Clean Energy Use	
Measure 10.1. Increase distributed energy generation within City of Santee by implementing the following applicable photovoltaic solar systems: b. Multifamily residential to install at least 1kW per unit of PV solar systems, unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified solar consultant submitted with an applicant's formal project submittal to City.	Consistent. The project will comply with the 2022 Energy Code requiring all residential uses to include solar.

Therefore, the project will not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Impacts are considered to be less than significant.

8.0 Energy Analysis

Information from the CalEEMod 2022.1.1.22 Daily and Annual Outputs contained in the air quality and greenhouse gas analyses above was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

8.1 Construction Energy Demand

8.1.1 Construction Equipment Electricity Usage Estimates

Electrical service will be provided by SDG&E. Based on the 2017 National Construction Estimator, Richard Pray (2017)[7], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. The project plans to develop the site with 458,530 square feet of new residential structures over the course of approximately 18 months. Based on Table 15, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $19,148.21. As shown in Table 15, the total electricity usage from Project construction related activities is estimated to be approximately 348,149 kWh.[8]

Table 15: Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)[1]	Construction Duration (months)	Total Project Construction Power Cost
$2.32	458.530	18	$19,148.21

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.24	348,149

*Assumes the project will be under Schedule TOU-A rate under SDG&E and, to be conservative, uses the lower anticipated cost per kWh. Source: https://www.sdge.com/sites/default/files/regulatory/3-1-21%20Small%20Commercial%20Total%20Rates%20Table.pdf

[7] Pray, Richard. 2017 National Construction Estimator. Carlsbad: Craftsman Book Company, 2017.
[8] Assumes the project will be under Schedule TOU-A rate under SDG&E and, to be conservative, uses the lower anticipated cost per kWh. Source: https://www.sdge.com/sites/default/files/regulatory/3-1-21%20Small%20Commercial%20Total%20Rates%20Table.pdf

8.1.2 Construction Equipment Fuel Estimates

Using the CalEEMod data input, the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal.[9] As presented in Table 16 below, project construction activities would consume an estimated 41,824 gallons of diesel fuel.

Table 16: Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/ day	Total Fuel Consumption (gal diesel fuel)[1]
Site Preparation	10	Rubber Tired Dozers	3	8	367	0.4	3,523	1,904
	10	Tractors/Loaders/Backhoes	4	8	84	0.37	995	538
Grading	30	Excavators	2	8	36	0.38	219	355
	30	Graders	1	8	148	0.41	485	787
	30	Rubber Tired Dozers	1	8	367	0.4	1,174	1,904
	30	Scrapers	2	8	84	0.4	538	872
	30	Tractors/Loaders/Backhoes	2	8	84	0.37	497	806
Building Construction	300	Cranes	1	7	367	0.29	745	12,081
	300	Forklifts	3	8	82	0.2	394	6,383
	300	Generator Sets	1	8	14	0.74	83	1,344
	300	Tractors/Loaders/Backhoes	3	7	84	0.37	653	10,584
	300	Welders	1	8	46	0.45	166	2,685
Paving	20	Pavers	2	8	81	0.42	544	588
	20	Paving Equipment	2	8	89	0.36	513	554
	20	Rollers	2	8	36	0.38	219	237
Architectural Coating	35	Air Compressors	1	6	37	0.48	107	202
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								**41,824**

Notes:
[1]Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.
(Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

[9] Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).

8.1.3 Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 1,405,452 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis using information generated using CARB's EMFAC model (see Appendix C for details). Table 17 shows that an estimated 45,410.4 gallons of fuel would be consumed for construction worker trips.

Table 17: Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	17.50	12	2,100	30.95	67.9
Grading	30	20.00	12	7,200	30.95	232.6
Building Construction	300	378.00	12	1,360,800	30.95	43,967.7
Paving	20	15.00	12	3,600	30.95	116.3
Architectural Coating	35	75.60	12	31,752	30.95	1,025.9
Total Construction Worker Fuel Consumption						**45,410.4**

Notes:
[1]Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.22 defaults.

8.1.4 Construction Vendor/Hauling Fuel Estimates

Tables 18 and 19 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 270,786 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles.[10] Tables 18 and 19 show that an estimated 32,362 gallons of fuel would be consumed for vendor and hauling trips.

<Tables 18 and 19, next page>

[10] Vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 9.22 mpg for medium heavy-duty trucks and 6.74 mpg for heavy heavy-duty trucks (see Appendix B for details).

Table 18: Construction Vendor Fuel Consumption Estimates (MHD Trucks)[1]

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	0.00	7.63	0	9.22	0
Grading	30	0.00	7.63	0	9.22	0
Building Construction	300	85.20	7.63	195,023	9.22	21,152
Paving	20	5.00	7.63	763	9.22	83
Architectural Coating	35	0.00	7.63	0	9.22	0
Total Vendor Fuel Consumption						**21,235**

Notes:
[1] Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.22 defaults.

Table 19: Construction Hauling Fuel Consumption Estimates (HHD Trucks)[1]

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	10	0	20	0	6.74	0
Grading	30	125.0	20	75,000	6.74	11,128
Building Construction	300	0	20	0	6.74	0
Paving	20	0	20	0	6.74	0
Architectural Coating	35	0	20	0	6.74	0
Total Construction Hauling Fuel Consumption						**11,128**

Notes:
[1]Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.22 defaults.

8.1.5 Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 18-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the project has been designed in compliance with California's Energy Efficiency Standards and 2022 CALGreen Standards.

Construction of the proposed residential development would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment

employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

8.2 Operational Energy Demand

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

8.2.1 Transportation Fuel Consumption

The largest source of operational energy use would be vehicle operation of customers. The site is located in a suburban area just in close proximity to transit stops. Using the CalEEMod output, it is assumed that an average trip is 8.3 miles. To show a worst-case analysis, as the proposed project is a residential project, it was assumed that vehicles would operate 365 days per year. Table 20 shows the worst-case estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[11] Table 20 shows that an estimated 299,263 gallons of fuel would be consumed per year for the operation of the proposed project.

Table 20: Estimated Vehicle Operations Fuel Consumption[1]

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[2]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	1,205.9	8.30	10,009.2	31.82	314.56	114,813
Light Truck	Automobile	129.9	8.30	1,078.3	27.16	39.70	14,491
Light Truck	Automobile	426.2	8.30	3,537.2	25.6	138.17	50,432
Medium Truck	Automobile	404.1	8.30	3,353.8	20.81	161.16	58,824
Light Heavy Truck	2-Axle Truck	85.9	8.30	712.6	13.81	51.60	18,833
Light Heavy Truck 10,000 lbs +	2-Axle Truck	21.5	8.30	178.5	14.18	12.59	4,595
Medium Heavy Truck	3-Axle Truck	26.4	8.30	219.5	9.58	22.91	8,363
Heavy Heavy Truck	4-Axle Truck	68.1	8.30	565.6	7.14	79.21	28,911
Total		2,368	-	19,655	--	819.90	--
Total Annual Fuel Consumption							**299,263**

Notes:
[1] Per CalEEMod assumptions, the project is to generate 2,368 total net new trips. Default CalEEMod vehicle fleet mix utilized.
[2] Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation generated by the proposed project are consistent with other similar residential uses of similar scale and configuration as reflected in the traffic data. That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips, nor

[11] Average fuel economy based on aggregate mileage calculated in EMFAC 2017 for opening year (2023). See Appendix B for EMFAC output.

associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

8.2.2 Facility Energy Demands (Electricity and Natural Gas)

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 21.

Table 21: Project Annual Operational Energy Demand Summary[1]

Natural Gas Demand	kBTU/year
Condo/Townhouse	7,362,174
Total	7,362,174
Electricity Demand	**kWh/year**
Condo/Townhouse	1,478,309
Enclosed Parking Structure	1,002,810
Parking Lot	111,805
Total	2,592,924

Notes:
[1]Taken from the CalEEMod 2022.1.1.22 annual output.

As shown in Table 21, the estimated electricity demand for the proposed project is approximately 2,592,924 kWh per year. In 2022, the residential sector of the County of San Diego consumed approximately 7,440 million kWh of electricity.[12] In addition, the estimated natural gas consumption for the proposed project is approximately 7,362,174 kBTU per year. In 2022, the residential sector of the County of San Diego consumed approximately 280.9 million therms of gas.[13] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2022 demand.

8.3 Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for

[12] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx
[13] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

9.0 References

The following references were used in the preparing this analysis.

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Appendix A:

CalEEMod Output

Cottonwood & Park Multifamily Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Cottonwood & Park Multifamily
Construction Start Date	8/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.84843378293502, -116.97522873221708
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Condo/Townhouse	358	Dwelling Unit	10.4	379,480	0.00	—	999	—
Enclosed Parking Structure	716	Space	6.44	286,400	0.00	—	—	—
Parking Lot	123	Space	2.93	0.00	73,440	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.80	46.7	35.6	0.12	1.61	7.81	9.41	1.50	3.97	5.45	—	15,961	15,961	0.77	1.53	20.5	16,456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	72.4	47.1	35.5	0.12	1.61	6.10	7.71	1.50	2.10	3.60	—	15,953	15,953	0.77	1.53	0.53	16,428
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.02	10.3	21.0	0.03	0.33	2.59	2.92	0.30	0.62	0.93	—	5,556	5,556	0.26	0.32	5.71	5,663
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.28	1.88	3.83	< 0.005	0.06	0.47	0.53	0.06	0.11	0.17	—	920	920	0.04	0.05	0.94	938

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.80	46.7	35.6	0.12	1.61	7.81	9.41	1.50	3.97	5.45	—	15,961	15,961	0.77	1.53	20.5	16,456
2025	2.74	14.4	31.9	0.04	0.46	3.74	4.20	0.43	0.90	1.33	—	8,117	8,117	0.36	0.45	19.0	8,278
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.79	47.1	35.5	0.12	1.61	6.10	7.71	1.50	2.10	3.60	—	15,953	15,953	0.77	1.53	0.53	16,428
2025	2.71	14.7	29.7	0.04	0.46	3.74	4.20	0.43	0.90	1.33	—	7,918	7,918	0.37	0.45	0.49	8,064
2026	72.4	7.33	10.6	0.01	0.32	0.64	0.66	0.30	0.15	0.33	—	1,765	1,765	0.07	0.04	0.06	1,778
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.78	6.89	7.85	0.02	0.24	1.20	1.44	0.23	0.40	0.62	—	2,501	2,501	0.12	0.19	1.86	2,561
2025	1.91	10.3	21.0	0.03	0.33	2.59	2.92	0.30	0.62	0.93	—	5,556	5,556	0.26	0.32	5.71	5,663
2026	7.02	0.38	0.78	< 0.005	0.01	0.07	0.08	0.01	0.02	0.03	—	143	143	0.01	< 0.005	0.11	144
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.14	1.26	1.43	< 0.005	0.04	0.22	0.26	0.04	0.07	0.11	—	414	414	0.02	0.03	0.31	424
2025	0.35	1.88	3.83	< 0.005	0.06	0.47	0.53	0.06	0.11	0.17	—	920	920	0.04	0.05	0.94	938
2026	1.28	0.07	0.14	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	23.6	23.6	< 0.005	< 0.005	0.02	23.9

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.3	8.62	101	0.17	0.31	13.9	14.2	0.29	3.52	3.81	167	23,066	23,233	18.0	0.72	57.2	23,952

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.3	8.96	64.4	0.16	0.27	13.9	14.2	0.27	3.52	3.79	167	22,238	22,405	18.0	0.75	4.13	23,084
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.1	9.01	80.4	0.17	0.29	13.8	14.1	0.28	3.50	3.78	167	22,399	22,566	18.0	0.75	26.2	23,265
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.66	1.64	14.7	0.03	0.05	2.52	2.57	0.05	0.64	0.69	27.6	3,708	3,736	2.98	0.12	4.34	3,852

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.53	6.46	67.1	0.16	0.12	13.9	14.0	0.12	3.52	3.63	—	16,269	16,269	0.77	0.62	54.5	16,529
Area	12.7	0.30	32.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	106	106	< 0.005	< 0.005	—	106
Energy	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	6,544	6,544	0.44	0.03	—	6,564
Water	—	—	—	—	—	—	—	—	—	—	24.1	148	172	2.48	0.06	—	251
Waste	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	22.3	8.62	101	0.17	0.31	13.9	14.2	0.29	3.52	3.81	167	23,066	23,233	18.0	0.72	57.2	23,952
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.32	7.10	63.6	0.15	0.12	13.9	14.0	0.12	3.52	3.63	—	15,547	15,547	0.82	0.66	1.41	15,766
Area	8.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	6,544	6,544	0.44	0.03	—	6,564
Water	—	—	—	—	—	—	—	—	—	—	24.1	148	172	2.48	0.06	—	251
Waste	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	18.3	8.96	64.4	0.16	0.27	13.9	14.2	0.27	3.52	3.79	167	22,238	22,405	18.0	0.75	4.13	23,084
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.20	7.01	63.4	0.15	0.12	13.8	13.9	0.12	3.50	3.62	—	15,656	15,656	0.81	0.65	23.5	15,895
Area	10.7	0.15	16.2	< 0.005	0.02	—	0.02	0.01	—	0.01	—	52.0	52.0	< 0.005	< 0.005	—	52.2
Energy	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	6,544	6,544	0.44	0.03	—	6,564
Water	—	—	—	—	—	—	—	—	—	—	24.1	148	172	2.48	0.06	—	251
Waste	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	20.1	9.01	80.4	0.17	0.29	13.8	14.1	0.28	3.50	3.78	167	22,399	22,566	18.0	0.75	26.2	23,265
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.68	1.28	11.6	0.03	0.02	2.52	2.54	0.02	0.64	0.66	—	2,592	2,592	0.13	0.11	3.89	2,632
Area	1.96	0.03	2.95	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65
Energy	0.02	0.34	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,083	1,083	0.07	0.01	—	1,087
Water	—	—	—	—	—	—	—	—	—	—	3.99	24.4	28.4	0.41	0.01	—	41.6
Waste	—	—	—	—	—	—	—	—	—	—	23.6	0.00	23.6	2.36	0.00	—	82.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Total	3.66	1.64	14.7	0.03	0.05	2.52	2.57	0.05	0.64	0.69	27.6	3,708	3,736	2.98	0.12	4.34	3,852

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.99	0.90	< 0.005	0.04	—	0.04	0.04	—	0.04	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.86	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	169	169	0.01	0.01	0.68	172
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.42	4.42	< 0.005	< 0.005	0.01	4.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.82	2.48	0.01	0.12	—	0.12	0.11	—	0.11	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.51	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.99	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	194	194	0.01	0.01	0.78	197
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.20	12.4	4.40	0.06	0.17	2.32	2.48	0.17	0.63	0.80	—	9,169	9,169	0.50	1.47	19.7	9,639
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.19	12.8	4.45	0.06	0.17	2.32	2.48	0.17	0.63	0.80	—	9,172	9,172	0.50	1.47	0.51	9,623
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.03	15.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.05	0.36	< 0.005	0.01	0.19	0.20	0.01	0.05	0.07	—	754	754	0.04	0.12	0.70	791
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.19	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.12	131

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.45	1.69	< 0.005	0.06	—	0.06	0.06	—	0.06	—	310	310	0.01	< 0.005	—	311
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.57	1.41	16.4	0.00	0.00	3.20	3.20	0.00	0.75	0.75	—	3,453	3,453	0.18	0.13	0.38	3,498
Vendor	0.08	3.10	1.42	0.01	0.03	0.55	0.57	0.03	0.15	0.18	—	2,172	2,172	0.09	0.30	0.14	2,264
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	2.14	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	450	450	0.02	0.02	0.82	457
Vendor	0.01	0.40	0.18	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	280	280	0.01	0.04	0.31	293
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.39	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	74.5	74.5	< 0.005	< 0.005	0.14	75.6
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.4	46.4	< 0.005	0.01	0.05	48.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78	7.26	9.06	0.02	0.30	—	0.30	0.28	—	0.28	—	1,666	1,666	0.07	0.01	—	1,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.32	1.65	< 0.005	0.05	—	0.05	0.05	—	0.05	—	276	276	0.01	< 0.005	—	277

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.52	1.16	17.5	0.00	0.00	3.20	3.20	0.00	0.75	0.75	—	3,587	3,587	0.17	0.12	13.5	3,642
Vendor	0.09	2.84	1.32	0.01	0.03	0.55	0.57	0.03	0.15	0.18	—	2,133	2,133	0.09	0.30	5.53	2,230
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.50	1.29	15.3	0.00	0.00	3.20	3.20	0.00	0.75	0.75	—	3,387	3,387	0.18	0.13	0.35	3,432
Vendor	0.08	2.94	1.36	0.01	0.03	0.55	0.57	0.03	0.15	0.18	—	2,134	2,134	0.09	0.30	0.14	2,226
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.89	10.8	0.00	0.00	2.21	2.21	0.00	0.52	0.52	—	2,374	2,374	0.12	0.09	4.03	2,409
Vendor	0.06	2.03	0.93	0.01	0.02	0.38	0.40	0.02	0.10	0.12	—	1,482	1,482	0.07	0.21	1.67	1,548
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.16	1.97	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	393	393	0.02	0.02	0.67	399
Vendor	0.01	0.37	0.17	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	245	245	0.01	0.03	0.28	256
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	1.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.6	29.6	< 0.005	< 0.005	—	29.7
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.90	4.90	< 0.005	< 0.005	—	4.91
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
Vendor	< 0.005	0.17	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	125	125	0.01	0.02	0.01	131

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.65	2.65	< 0.005	< 0.005	< 0.005	2.69
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.45	2.45	< 0.005	< 0.005	< 0.005	2.56
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.42
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	56.2	56.2	< 0.005	< 0.005	—	56.4

Paving	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.30	9.30	< 0.005	< 0.005	—	9.33
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.01	133
Vendor	< 0.005	0.16	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	123	123	< 0.005	0.02	0.01	128
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	0.01	5.01
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.57	4.57	< 0.005	< 0.005	< 0.005	4.77
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.83
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	72.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Architectural Coatings	6.91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.12	2.12	< 0.005	< 0.005	—	2.13
Architectural Coatings	1.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	2.88	0.00	0.00	0.64	0.64	0.00	0.15	0.15	—	664	664	0.03	0.03	0.06	673
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.28	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.2	64.2	< 0.005	< 0.005	0.10	65.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	10.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2,385	2,385	0.13	0.02	—	2,394
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	1,618	1,618	0.09	0.01	—	1,624
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	180	180	0.01	< 0.005	—	181
Total	—	—	—	—	—	—	—	—	—	—	—	4,184	4,184	0.23	0.03	—	4,198
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2,385	2,385	0.13	0.02	—	2,394
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	1,618	1,618	0.09	0.01	—	1,624
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	180	180	0.01	< 0.005	—	181
Total	—	—	—	—	—	—	—	—	—	—	—	4,184	4,184	0.23	0.03	—	4,198
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	395	395	0.02	< 0.005	—	396
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	268	268	0.02	< 0.005	—	269
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Total	—	—	—	—	—	—	—	—	—	—	—	693	693	0.04	< 0.005	—	695

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	2,359	2,359	0.21	< 0.005	—	2,366
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	2,359	2,359	0.21	< 0.005	—	2,366
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	2,359	2,359	0.21	< 0.005	—	2,366
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	1.86	0.79	0.01	0.15	—	0.15	0.15	—	0.15	—	2,359	2,359	0.21	< 0.005	—	2,366
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.02	0.34	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	391	391	0.03	< 0.005	—	392
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.02	0.34	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	391	391	0.03	< 0.005	—	392

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.85	0.30	32.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	106	106	< 0.005	< 0.005	—	106
Total	12.7	0.30	32.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	106	106	< 0.005	< 0.005	—	106
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	8.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	1.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.35	0.03	2.95	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65
Total	1.96	0.03	2.95	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	24.1	138	162	2.48	0.06	—	242
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	9.40	9.40	< 0.005	< 0.005	—	9.43
Total	—	—	—	—	—	—	—	—	—	—	24.1	148	172	2.48	0.06	—	251
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	24.1	138	162	2.48	0.06	—	242

Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	9.40	9.40	< 0.005	< 0.005	—	9.43
Total	—	—	—	—	—	—	—	—	—	—	24.1	148	172	2.48	0.06	—	251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	3.99	22.9	26.9	0.41	0.01	—	40.1
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	1.56	1.56	< 0.005	< 0.005	—	1.56
Total	—	—	—	—	—	—	—	—	—	—	3.99	24.4	28.4	0.41	0.01	—	41.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	143	0.00	143	14.3	0.00	—	499
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	23.6	0.00	23.6	2.36	0.00	—	82.7
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	23.6	0.00	23.6	2.36	0.00	—	82.7

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	8/30/2024	9/13/2024	5.00	10.0	—
Grading	Grading	9/14/2024	10/26/2024	5.00	30.0	—
Building Construction	Building Construction	10/27/2024	12/21/2025	5.00	300	—
Paving	Paving	12/22/2025	1/19/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	1/20/2026	3/9/2026	5.00	35.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41

Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT

Grading	Hauling	125	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	378	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	85.2	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	5.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	75.6	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	768,447	256,149	12,632	1,404	24,500

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	30,000	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	9.37

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Enclosed Parking Structure	6.44	100%
Parking Lot	2.93	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	589	0.03	< 0.005
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,368	2,368	2,368	864,320	19,655	19,655	19,655	7,173,904

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
768447	256,149	12,632	1,404	24,500

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	1,478,309	589	0.0330	0.0040	7,362,174

Enclosed Parking Structure	1,002,810	589	0.0330	0.0040	0.00
Parking Lot	111,805	589	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	12,577,641	0.00
Enclosed Parking Structure	0.00	0.00
Parking Lot	0.00	1,097,499

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	265	—
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6
Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3
Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—

Education	43.4
Housing	19.8
Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604
Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—
2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212

Supermarket access	60.82381625
Tree canopy	8.135506224
Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7
Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0

Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3
Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Construction: Construction Phases	No demolition required
Operations: Hearths	No hearths

Appendix B:

EMFAC2017 Output

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coas	2023	HHDT	Aggregate	Aggregate	Gasoline	75.10442936	8265.097	1502.689	1.936286145	1936.286145	1913466.474	8265.097	13656273.03	7.14	**HHD**
South Coas	2023	HHDT	Aggregate	Aggregate	Diesel	109818.6753	13648008	1133618	1911.530188	1911530.188		13648008			
South Coas	2023	LDA	Aggregate	Aggregate	Gasoline	6635002.295	2.53E+08	31352477	7971.24403	7971244.03	8020635.698	2.53E+08	255180358.3	31.82	**LDA**
South Coas	2023	LDA	Aggregate	Aggregate	Diesel	62492.97958	2469816	297086.6	49.3916685	49391.6685		2469816			
South Coas	2023	LDA	Aggregate	Aggregate	Electricity	150700.3971	6237106	751566	0	0		6237106			
South Coas	2023	LDT1	Aggregate	Aggregate	Gasoline	758467.6481	27812996	3504563	1023.913006	1023913.006	1024279.466	27812996	27821405.09	27.16	**LDT1**
South Coas	2023	LDT1	Aggregate	Aggregate	Diesel	360.7799144	8408.618	1256.88	0.366459477	366.4594769		8408.618			
South Coas	2023	LDT1	Aggregate	Aggregate	Electricity	7122.93373	303507.5	35798.19	0	0		303507.5			
South Coas	2023	LDT2	Aggregate	Aggregate	Gasoline	2285150.139	85272416	10723315	3338.798312	3338798.312	3356536.438	85272416	85922778.34	25.60	**LDT2**
South Coas	2023	LDT2	Aggregate	Aggregate	Diesel	15594.68309	650362.8	76635.83	17.73812611	17738.12611		650362.8			
South Coas	2023	LDT2	Aggregate	Aggregate	Electricity	28809.63735	917592.8	145405.4	0	0		917592.8			
South Coas	2023	LHDT1	Aggregate	Aggregate	Gasoline	174910.3847	6216643	2605904	583.3851736	583385.1736	811563.1022	6216643	11211395.79	13.81	**LHDT1**
South Coas	2023	LHDT1	Aggregate	Aggregate	Diesel	125545.0822	4994753	1579199	228.1779285	228177.9285		4994753			
South Coas	2023	LHDT2	Aggregate	Aggregate	Gasoline	30102.75324	1034569	448486.2	111.5753864	111575.3864	209423.5025	1034569	2969599.008	14.18	**LHDT2**
South Coas	2023	LHDT2	Aggregate	Aggregate	Diesel	50003.13116	1935030	628976.5	97.84811618	97848.11618		1935030			
South Coas	2023	MCY	Aggregate	Aggregate	Gasoline	305044.5141	2104624	610089	57.849018	57849.018	57849.018	2104624	2104623.657	36.38	**MCY**
South Coas	2023	MDV	Aggregate	Aggregate	Gasoline	1589862.703	55684188	7354860	2693.883526	2693883.526	2744536.341	55684188	57109879.73	20.81	**MDV**
South Coas	2023	MDV	Aggregate	Aggregate	Diesel	36128.1019	1425691	176566.9	50.65281491	50652.81491		1425691			
South Coas	2023	MDV	Aggregate	Aggregate	Electricity	16376.67653	537591.7	83475.95	0	0		537591.7			
South Coas	2023	MH	Aggregate	Aggregate	Gasoline	34679.50542	330042.9	3469.338	63.26295123	63262.95123	74893.26955	330042.9	454344.9436	6.07	**MH**
South Coas	2023	MH	Aggregate	Aggregate	Diesel	13122.69387	124302	1312.269	11.63031832	11630.31832		124302			
South Coas	2023	MHDT	Aggregate	Aggregate	Gasoline	25624.3151	1363694	512691.3	265.2060557	265206.0557	989975.6425	1363694	9484317.768	9.58	**MHDT**
South Coas	2023	MHDT	Aggregate	Aggregate	Diesel	122124.488	8120623	1221858	724.7695868	724769.5868		8120623			
South Coas	2023	OBUS	Aggregate	Aggregate	Gasoline	5955.291639	245774	119153.5	48.07750689	48077.50689	86265.88761	245774	579743.8353	6.72	**OBUS**
South Coas	2023	OBUS	Aggregate	Aggregate	Diesel	4286.940093	333969.8	41558.29	38.18838072	38188.38072		333969.8			
South Coas	2023	SBUS	Aggregate	Aggregate	Gasoline	2783.643068	112189.6	11134.57	12.19474692	12194.74692	39638.85935	112189.6	323043.5203	8.15	**SBUS**
South Coas	2023	SBUS	Aggregate	Aggregate	Diesel	6671.825716	210853.9	76991.94	27.44411242	27444.11242		210853.9			
South Coas	2023	UBUS	Aggregate	Aggregate	Gasoline	957.7686184	89782.63	3831.074	17.62416327	17624.16327	17863.66378	89782.63	91199.2533	5.11	**UBUS**
South Coas	2023	UBUS	Aggregate	Aggregate	Diesel	13.00046095	1416.622	52.00184	0.239500509	239.5005093		1416.622			
South Coas	2023	UBUS	Aggregate	Aggregate	Electricity	16.11693886	1320.163	64.46776	0			1320.163			

Appendix B

Biological Technical Report – Cottonwood and Park Project

DRAFT

Biological Technical Report

Cottonwood and Park Project

JUNE 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FESA	federal Endangered Species Act
GIS	geographic information system
MHPA	Multi-Habitat Planning Area
MM	Mitigation Measure
MSCP	Multiple Species Conservation Program
PEIR	Program Environmental Impact Report
Porter–Cologne Act	Porter–Cologne Water Quality Control Act
Project	Cottonwood and Park Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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1 Introduction

This Biological Technical Report describes the existing biological conditions of the site proposed for the Cottonwood and Park Project (Project) within the City of Santee (City), California. Included in this report are a discussion of the biological survey methods and results and the impacts to vegetation communities and potential special-status species evaluated under the California Environmental Quality Act (CEQA), the San Diego Multiple Species Conservation Program (MSCP) Plan (City of San Diego 1998), the Draft Santee MSCP Subarea Plan (City of Santee 2023), and the state and federal Endangered Species Acts. Additionally, measures taken directly from the City of Santee Housing Element Rezone Program Implementation Program Environmental Impact Report (PEIR) (City of Santee 2022) are recommended to avoid, minimize, or mitigate potential impacts, where feasible, to less-than-significant levels.

1.1 Project Location and Description

The 23.32-acre Project site, which includes 22.18 acres on site and 1.15 acres off site, is in the south-central portion of Santee in San Diego County, as shown in Figure 1, Project Location. The Project site is at the southern end of Park Center Drive and is bound by the San Diego River to the south. The Project site lies within the U.S. Geological Survey El Cajon quadrangle with a latitude of N 32°50′ 54.72″ and longitude of W 116°58′ 32.76″. The Assessor's Parcel Number for the Project site is 381-051-1800, and the off-site impacts occur within Assessor's Parcel Numbers 381-051-1400, 381-051-1700, and 381-050-7700. Land uses adjacent to the Project site include Town Center Community Park along the northern and western boundaries, residential housing to the east, and the San Diego River corridor along the southern boundary.

The Project site is currently undeveloped land containing mostly non-native vegetation communities and land cover types (i.e., disturbed habitat, non-native grassland, eucalyptus woodland, and urban/developed lands), with a patch of native arrowweed scrub along the western boundary of the Project site and a small area of riparian habitat (i.e., freshwater marsh and southern cottonwood–willow riparian forest) associated with the San Diego River corridor that overlaps the southern site boundary. Elevations within the Project site range from 335 feet to 345 feet above mean sea level. Soils on site are characterized as Tujunga Sand, 0% to 5% slopes, which are considered hydric soils; Water; and Riverwash, which is not considered a hydric soil (USDA 2023a) (Figure 2, Soils and Hydrology). The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory data (USFWS 2023a) has freshwater forested/shrub wetland habitat, associated with the San Diego River, mapped as overlapping the southern edge of the Project site (Figure 2). No features depicted by the U.S. Geological Survey National Hydrography Database (USGS 2023) are present within the Project site; however, there are two flowlines north and south of the Project site (Figure 2).

The proposed Project would involve construction of 291 multifamily residential units, in addition to on-site parking and recreation areas. Off-site road improvements are proposed to the west side of Cottonwood Avenue, and a detention basin located within southwestern corner of the site would include an off-site storm drain outfall that directs overflow to the San Diego River immediately south of the site. To comply with the City of Santee Housing Element Rezone Program Implementation PEIR (City of Santee 2022), all riparian habitats within the main stem of

the San Diego River would be avoided by the proposed Project[1] and would be designated as biological open space and incorporated into the City of Santee's preserve system, including recordation of an easement to ensure their protection in perpetuity. Additionally, a 100-foot buffer from the edge of the riparian habitat associated with the San Diego River would be established within the Project site and would be managed for natural biological values as part of the City of Santee's preserve system.

[1] All impacts to the riparian resources within the main stem of the San Diego River would be avoided by the proposed Project, with the exception of a small impact (0.01 acres) occurring from the Project's proposed storm drain outfall (i.e., desiltation or erosion control facilities or other improvements necessary to protect the habitat).

2 Regulatory Setting

2.1 Federal

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by USFWS for most plant and animal species and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to "take" any listed species; "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits the intentional and unintentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the Migratory Bird Treaty Act, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Currently, the Migratory Birds office considers nests that support eggs, nestlings, or juveniles to be active. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). Executive Order 13186 requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

2.1.3 Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found in the Code of Federal Regulations (CFR) at 33 CFR Parts 320 to 332. Guidelines for implementation are referred to

as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less-adverse impacts.

Wetlands and Other Waters of the United States

Based on a recent court case ordering vacation of the Navigable Waters Protection Rule, USACE and the U.S. Environmental Protection Agency have halted implementation of the rule and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice. Per 33 CFR 328.3(a), waters of the United States are defined as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    iii. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)–(6) of this section; and

    Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11[m] which also meet the criteria of this definition) are not waters of the United States.

The USACE/U.S. Environmental Protection Agency Rapanos Guidance states that USACE will regulate traditional navigable waters and adjacent wetlands and relatively permanent waters tributary to traditional navigable waters and adjacent wetlands. Non-relatively permanent waters (those exhibiting less than 3 months of continuous surface flows) and their adjacent wetlands would be regulated if there is a significant nexus from the site to traditional navigable waters.

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge

dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine RWQCBs. A request for certification is submitted to the RWQCB at the same time that an application is filed with USACE.

2.2 State

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection for and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, under CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

2.2.2 California Fish and Game Code

Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Senate Bill 147, which amends the California Fish and Game Code to allow a 10-year permitting mechanism for a defined set of projects within the renewable energy, transportation, and water infrastructure sectors, was signed into law on July 10, 2023. Furthermore, it is the responsibility of the CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Sections 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks, and (2) existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream, or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high water mark to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete certified CEQA document.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (see Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the act as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project applicant.

Nesting Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act.

2.2.3 California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and of ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database is interested in tracking, regardless of their legal or protection status." This is a broader list than

those species that are protected under FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including, for example, the Audubon Watch List Species. Guidance documents prepared by other agencies, including the U.S. Bureau of Land Management's Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as California Rare Plant Rank (CRPR) 1 and 2 by the California Native Plant Society, and potentially some CRPR 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

2.2.4 Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Act, the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). All waters of the United States are waters of the state. Waters of the state include wetlands; the State Water Resources Control Board definition of wetlands (SWRCB 2021) includes the following:

1. Natural wetlands.
2. Wetlands created by modification of a surface water of the state.
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration.
    b. Specifically identified in a water quality control plan as a wetland or other water of the state.
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.
    d. Greater than or equal to 1 acre in size, unless the artificial wetland was constructed and is currently used and maintained primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining—even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

Wetlands that may not meet all of USACE's wetland delineation criteria are considered wetland waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2021). Additionally, aquatic resources that USACE determines to not be waters of the United States because they lack a significant nexus to a traditional navigable water or are above the ordinary high

water mark limit of federal jurisdiction may also be considered waters of the state. If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

2.3 Regional Resource Planning Context

2.3.1 Multiple Species Conservation Program Plan

The Project site is within the boundaries of the MSCP Plan (City of San Diego 1998). The MSCP Plan is a multijurisdictional habitat conservation planning program that involves USFWS, CDFW, the County of San Diego, the Cities of San Diego and Chula Vista, and other local jurisdictions and special districts. Local jurisdictions and special districts implement the MSCP Plan for their respective portions through subarea plans. The combination of the MSCP Plan and subarea plans serve as a habitat conservation plan pursuant to FESA Section 10(a)(1)(B), and as a natural community conservation plan pursuant to the California Natural Community Conservation Planning Act of 1991 (City of San Diego 1998).

The MSCP Plan study area encompasses 582,243 acres within the southwestern portion of San Diego County. As stated in the MSCP Plan, an objective of the MSCP is to conserve a connected system of biologically viable habitat lands in a manner that maximizes the protection of sensitive species and precludes the need for future listings of species as threatened or endangered. The MSCP Plan identifies a Multi-Habitat Planning Area (MHPA), which is the area within which the permanent MSCP Preserve is assembled and managed for its biological resources. The MHPA is defined in many areas by mapped boundaries in figures in the MSCP Plan and is also defined by quantitative targets for conservation of vegetation communities and goals and criteria for Preserve design. The MSCP Plan targets 171,917 acres within the MHPA for conservation (City of San Diego 1998).

A total of 85 plant and animal species are “covered” by the MSCP Plan. The MSCP Plan Final Environmental Impact Report/Environmental Impact Statement identifies “Vegetation Community Conservation Target Areas” for conservation by subarea (Appendix B of the MSCP Plan [City of San Diego 1998]). A total of 2,067 acres is expected to be conserved within the Santee Subarea MHPA. With approval of each subarea plan and corresponding implementing agreement, each participating local jurisdiction receives permits and/or authorization to directly impact or take MSCP Covered Species. The Covered Species include species listed as endangered or threatened by FESA and/or CESA, as well as unlisted species. Table 3-5 in the MSCP Plan provides a list of the MSCP Covered Species and includes specific conditions required for take authorizations (City of San Diego 1998).

2.3.2 Draft Santee Multiple Species Conservation Program Subarea Plan

The City has been preparing its subarea plan since the original approval of the San Diego MSCP Plan and is currently in the process of completing the Santee MSCP Subarea Plan. Although the Draft Santee MSCP Subarea Plan has not yet been approved or permitted, it is used as the guidance document for projects occurring within the City. The current Draft Santee MSCP Subarea Plan seeks coverage for up to 23 species and relies on a combination of hardline conservation areas, criteria-based upland standards areas, San Diego River conservation opportunities areas, and City-owned Preserve lands to protect species and habitat (City of Santee 2023). Coverage for species is dependent on a number of factors, including multijurisdictional participation, adequate building of the Preserve system, adequate protection of certain populations, permanent management funding, and other factors.

The Draft Santee MSCP Subarea Plan Preserve boundaries are a result of the City's efforts to refine and expand the MHPA boundaries to better define conservation priorities within the City and to formulate a Habitat Conservation Plan under the MSCP Plan. Because the Draft Santee MSCP Subarea Plan is still in development, portions of the subarea plan may still change, including hardline Preserve areas and Covered Species. As of June 2025, the Project site is located outside any of the Preserve areas currently identified in the Draft Santee MSCP Subarea Plan. The portion of the San Diego River that is adjacent to the southern boundary of the project site is part of the Draft Santee MSCP Subarea Plan's San Diego River Subunit (Figure 1). This portion of the San Diego River is County-owned and contributes to the overall functional east-west ecological linkage and wildlife corridor through the Subarea Plan Area but is not currently part of the City of Santee's preserve system.

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3 Methods

Data regarding biological resources present within the Project site were obtained through a review of pertinent literature and through field surveys conducted in 2023 and 2024; both are described in detail below. Survey conditions are provided in Table 1.

Table 1. Survey Conditions

Date	Hours	Personnel	Survey Focus	Survey Conditions
05/03/2023	09:01 a.m. – 11:00 a.m.	Brock Ortega	Least Bell's Vireo Survey	55–57°F, 90% cc, 1–3 mph
05/13/2023	06:05 a.m. – 08:30 a.m.	Brock Ortega	Least Bell's Vireo Survey	60–62°F, 100–80% cc, 0–1–3 mph
05/23/2023	08:50 a.m. – 10:55 a.m.	Brock Ortega	Least Bell's Vireo Survey	64–67°F, 70–60% cc, 1–3 mph
06/03/2023	06:05 a.m. – 07:55 a.m.	Brock Ortega	Least Bell's Vireo Survey	55–63°F, 100–90% cc, 0–3 mph
06/18/2023	08:25 a.m. – 10:55 a.m.	Brock Ortega	Least Bell's Vireo Survey	70–80°F, 20–0% cc, 1–3 mph
06/27/2023	06:05 a.m. – 08:20 a.m.	Brock Ortega	Least Bell's Vireo Survey	72–77°F, 50–10% cc, 0–3 mph
07/07/2023	08:25 a.m.–11:00 p.m.	Brock Ortega	Least Bell's Vireo Survey	65–78°F, 50–0% cc, 0–3 mph
07/09/2023	10:02 a.m.– 05:11 p.m.	Erin Bergman	Vegetation Mapping, Rare Plant Survey	77–83°F; 10–20% cc; 0–3 mph
07/11/2023	10:03 a.m.–12:58 p.m.	Dylan Ayers	Jurisdictional Aquatic Resource Assessment	80–89°F; 0% cc; 0–3 mph
07/20/2023	08:45 a.m.–11:00 a.m.	Brock Ortega	Least Bell's Vireo Survey	72–80°F, 0% cc, 0–3 mph
08/22/2023	11:34 a.m.–12:20 p.m.	Dylan Ayers	Jurisdictional Aquatic Resource Assessment	75–76°F; 0% cc; 3–5 mph
06/07/2024	09:02 a.m. – 11:05 a.m.	Dylan Ayers	Jurisdictional Aquatic Resource Assessment	66–75°F; 20-100% cc; 1–3 mph

Notes: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour winds.

3.1 Literature Review

Prior to conducting field surveys, Dudek biologists reviewed the latest CDFW California Natural Diversity Database (CDFW 2023a), California Native Plant Society Inventory of Rare and Endangered Plants of California (CNPS 2023), and USFWS Critical Habitat and Occurrence databases (USFWS 2023b) to identify special-status species that are known to occur or may potentially occur within the Project site based on the physical characteristics of the site (including biogeography, elevation, soils, and vegetation communities).

The following databases were reviewed prior to the jurisdictional delineation: historical aerial photographs (Google Earth 2023; Historic Aerials 2023); U.S. Geological Survey National Hydrography Dataset (USGS 2023); U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2023a); and the USFWS National Wetland Inventory (USFWS 2023a).

3.2 Survey Methods

Vegetation mapping within the Project site was conducted on July 9, 2023, by Dudek biologist Erin Bergman. Vegetation community classifications follow Holland (1986), as revised by Oberbauer et al. (2008). Vegetation communities and land covers were mapped in the field using a mobile data collection application. Vegetation surveys were conducted throughout the site on foot. Following the completion of fieldwork, vegetation polygons were digitized using ArcGIS, and geographic information system (GIS) coverage was created. Acreage calculations of vegetation communities and land covers were determined using ArcGIS.

A rare plant survey for special-status plant species was conducted concurrently with the vegetation mapping. Given the typical blooming periods of the special-status plant species potentially occurring within the Project site, based on soils, elevation, and vegetation communities, and due to the level of disturbance within the site, it was determined that all target special-status species could be surveyed for in one pass in July. The survey methods conformed to the California Native Plant Society Botanical Survey Guidelines (CNPS 2001), CDFW Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the USFWS General Rare Plant Survey Guidelines (Cypher 2002). All plant species encountered during the field surveys were identified to subspecies or variety, if applicable, to determine sensitivity status. If special-status plant or wildlife species were encountered, field personnel recorded data points demarcating the edge of the polygon and assessed population numbers using the Esri ArcGIS mobile application. Latin names for plant species observed during the survey follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2023), and common names follow the CDFW California Natural Community List (CDFW 2023b) or the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2023b).

Due to the proximity of the Project site to the San Diego River, it was determined that a protocol-level least Bell's vireo (*Vireo bellii pusillus*) survey should be conducted within the riparian habitat adjacent (i.e., within 500 feet) to the Project site. The eight surveys for least Bell's vireo followed the Least Bell's Vireo Survey Guidelines (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential least Bell's vireo habitats between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of least Bell's vireo vocalizations was not used during the surveys, per USFWS 2001 protocol. Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. All surveys consisted of slowly walking a methodical, meandering transect along the Project site's southern boundary, which is adjacent to the riparian habitat within the San Diego River corridor, and suitable habitat areas within the Project site's 500-foot buffer. This route was arranged to cover all suitable adjacent habitat. If least Bell's vireo or any other special-status species were encountered, field personnel recorded data points demarcating the location using the Esri ArcGIS mobile application. Survey conditions are summarized in Table 1.

All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, or other sign were recorded. The site was visually scanned with and without binoculars to identify wildlife. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, the American Ornithological Society for birds (AOS 2023), and Wilson and Reeder (2005) for mammals.

The jurisdictional delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. RWQCB typically asserts jurisdiction over the same areas as USACE. The delineation defined areas under the jurisdiction of CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979). Additionally, waters of the state were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed. The limits of aquatic resources were collected in the field using the Esri Collector mobile application with submeter accuracy. The geographic extents were digitized in GIS using ArcGIS software.

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4 Results

4.1 Vegetation Mapping and Land Covers

Based on species composition and general physiognomy, nine vegetation communities or land cover types occur within the Project site. Acreages for each vegetation community or land cover type are provided in Table 2, and their spatial distribution is shown in Figure 3, Biological Resources. Descriptions for each vegetation community or land cover type are provided below.

Table 2. Vegetation Communities and Land Covers within the Project Site

Vegetation Community/Land Cover Type	Holland/ Oberbauer Code	Off-Site Acreage	On-Site Acreage	Total Acreage
Riparian/Bottomland Vegetation Communities				
Southern Cottonwood–Willow Riparian Forest	61330	0.24	0.38	0.62
Arrowweed Scrub	63820	N/A	2.52	2.52
Coastal and Valley Freshwater Marsh	52410	0.21	0.01	0.22
Open Water	64140	0.23	N/A	0.23
Riparian/Bottomland Vegetation Communities Subtotal		*0.68*	*2.91*	*3.59*
Upland Vegetation Communities				
Non-Native Grassland	42200	N/A	6.98	6.98
Non-Native Grassland (broadleaf-dominated)	42210	0.14	3.77	3.92
Upland Vegetation Communities Subtotal		*0.14*	*10.75*	*10.89*
Land Cover Types				
Eucalyptus Woodland	79100	N/A	0.63	0.63
Disturbed Habitat	11300	0.05	7.26	7.31
Urban/Developed	12000	0.27	0.63	0.90
Land Cover Types Subtotal		*0.32*	*8.52*	*8.84*
Total		**1.15**	**22.18**	**23.32**

Notes: Totals may not sum due to rounding.
N/A = not applicable.

Southern Cottonwood–Willow Riparian Forest (61330)

Southern cottonwood–willow riparian forest is a tall, open, broadleafed, winter-deciduous riparian forest dominated by Fremont cottonwood (*Populus fremontii*) and several tree willow species (*Salix* sp.), with an understory of shrubby willows (Oberbauer et al. 2008). This habitat occurs on frequently overflowed lands along rivers and streams (Oberbauer et al. 2008).

Southern cottonwood–willow riparian forest totals 0.62 acres within the Project site and is associated with the San Diego River corridor. As a wetland community, southern cottonwood–willow riparian forest is typically regulated by the aquatic resource agencies.

Arrowweed Scrub (63820)

Arrowweed scrub consists of moderate or dense thickets where arrowweed (*Pluchea sericea*) is the heavily dominant species (Oberbauer et al. 2008). This vegetation community typically occurs on banks of streams and washes and is maintained by disturbance. Species that may also be present in sparse amounts include salt grass (*Distichlis spicata*), rushes (*Juncus* spp.), sandbar willow (*Salix exigua*), tamarisk (*Tamarix* spp.), and southern cattail (*Typha domingensis*) (Oberbauer et al. 2008).

Arrowweed scrub totals 2.52 acres within the Project site and occurs approximately 130 feet north of the riparian edge of the San Diego River with no direct surface connection to the river or any other watercourse. This community occurs within a flat area on the western boundary of the Project site approximately 15 feet in elevation above the San Diego River. The combination of human development and other urban manipulations in and around the project site have likely caused an increase in runoff, such that the arrowweed scrub is at least partially fed by the community park irrigation along the western boundary. Although it is disconnected from the active streambed channel associated with the San Diego River, as a wetland community, arrowweed scrub is typically regulated by the aquatic resource agencies.

Coastal and Valley Freshwater Marsh (52410)

Coastal and valley freshwater marsh is dominated by perennial, emergent monocots, often forming closed canopies (Oberbauer et. al. 2008). This community is permanently flooded by freshwater lacking a significant current (Oberbauer et al 2008). Because it is permanently flooded by freshwater, there is an accumulation of deep, peaty soils. It typically is dominated by species such as cattail (*Typha* spp.), sedge (*Carex* spp.), yellow nutsedge (*Cyperus esculentus*), and bulrushes (*Scirpus* spp.).

Coastal and valley freshwater marsh totals 0.22 acres within the Project site. As a wetland community, coastal and valley freshwater marsh is typically regulated by the aquatic resource agencies.

Open Water (64140)

Open water is defined by Oberbauer et al. (2008) as year-round bodies of fresh water (extremely low salinity) in the form of lakes, streams, ponds, or rivers that contain less than 10% vegetative cover. The open water within the Project site is associated with the San Diego River and totals 0.23 acres. As a wetland community, open water is typically regulated by the aquatic resource agencies.

Non-Native Grassland (42200)

Non-native grassland consists of dense to sparse cover of annual grasses with flowering culms between 0.5 to 3 feet in height (Oberbauer et al. 2008). In some areas, depending on past disturbance and annual rainfall, annual forbs may be the dominant species. However, it is presumed that grasses will dominate. According to Oberbauer et al. (2008), the subcategory of broadleaf-dominated non-native grassland applies to areas in which previous disturbance or presence of a nearby seed source has caused one or multiple invasive, non-native broadleaf species to make up over 50% of the vegetative cover. This is a common vegetation community in San Diego County in disturbed areas. Characteristic species include but are not limited to black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), fennel (*Foeniculum vulgare*), and knapweeds (*Centaurea* spp.) (Oberbauer et al. 2008).

Within the Project site, 10.89 acres of non-native grassland (including broadleaf-dominated) is dominated by slender oat (*Avena barbata*), bromes (*Bromus diandrus, B. hordeaceus, B. madritensis, B. rubens*), redstem stork's bill (*Erodium cicutarium*), Maltese star-thistle (*Centaurea melitensis*), and mustard.

Eucalyptus Woodland (79100)

This "naturalized" vegetation community is fairly widespread in Southern California and is considered a woodland habitat. It typically consists of monotypic stands of introduced Australian eucalyptus trees such as blue gum (*E. globulus*) and red gum (*E. camaldulensis*) species. The understory is either depauperate (i.e., lacking species variety) or absent, owing to high leaf litter. Although eucalyptus woodlands are of limited value to most native plants and animals, they frequently provide nesting and perching sites for several raptor species.

Within the Project site, 0.63 acres of eucalyptus woodland occurs along the eastern boundary and central portion of the Project site. This vegetation community is composed of sugar gum (*Eucalyptus cladocalyx*).

Disturbed Habitat (11300)

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks and construction pads, temporary construction staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years) (Oberbauer et al. 2008).

Disturbed habitat totals 7.31 acres within the Project site. Within the Project site, this land cover type includes dirt roads and areas lacking vegetation.

Urban/Developed (12000)

Urban/developed land consists of buildings, structures, homes, parking lots, paved roads, and maintained areas. Urban/developed areas do not support vegetation. Urban/developed land covers 0.90 acres of the Project site. The developed area is associated with Park Center Drive, Cottonwood Avenue, and a paved path with landscaping associated with Town Center Community Park.

4.2 Plant and Wildlife Species

A total of 64 vascular plant species consisting of 29 native species (45%) and 35 non-native species (55%) were recorded during the surveys (see Appendix A, Plant Compendium). A total of 80 wildlife species were observed within the Project site, including 62 bird species, 4 amphibian species, 4 reptile species, 7 mammal species, and 3 invertebrate species (see Appendix B, Wildlife Compendium).

4.2.1 Special-Status Plant Species

Special-status plant species include those listed, or candidates for listing, as threatened or endangered by USFWS and CDFW, and species identified as rare by the California Native Plant Society (particularly CRPR 1A, presumed

extinct in California; CRPR 1B, rare, threatened, or endangered throughout its range; and CRPR 2, rare or endangered in California, more common elsewhere). Appendix C, Special-Status Plant Species Potential to Occur, provides a table of all special-status plant species whose geographic ranges fall within the general vicinity of the Project site. Each special-status species' potential to occur within the Project site was evaluated based on known species distribution, species-specific habitat preferences, and Dudek biologists' knowledge of regional biological resources. Each special-status species was assigned a rating of "not expected," "low," "moderate," or "high" potential to occur within the Project site based on location relative to known occurrences, vegetation community, soil, and elevation.

One special-status plant species, white rabbit-tobacco (*Pseudognaphalium leucocephalum),* was observed within the Project site and immediately adjacent to the Project site boundary during the rare plant survey conducted in July 2023 (Figure 3). A total of 15 individuals (0.20 acres) occurred within an area composed entirely of sand, and 6 of these individuals (0.07 acres) occurred within the southeastern corner of the Project site. No other special-status plant species included in Appendix C are expected to occur within the Project site, based on the survey results, soils, elevation, and prior disturbances occurring within the Project site. Additionally, there is no USFWS-designated critical habitat for plant species within or directly adjacent to the Project site (USFWS 2023b).

4.2.2 Special-Status Wildlife Species

Special-status wildlife species include those listed, or candidates for listing, as threatened or endangered by USFWS and CDFW, and those designated as Species of Special Concern by CDFW and as sensitive by USFWS. Appendix D, Special-Status Wildlife Species Potential to Occur, provides a table of all special-status wildlife species whose geographic ranges fall within the general vicinity of the Project site. Each special-status species' potential to occur within the Project site was evaluated based on known species distribution, species-specific habitat preferences, and Dudek biologists' knowledge of regional biological resources. Each special-status species was assigned a rating of "not expected," "low," "moderate," or "high" potential to occur within the Project site, based on location relative to known occurrences, vegetation community, soil, and elevation.

One special-status wildlife species, monarch (*Danaus plexippus*), was observed passing through the Project site during the biological surveys. However, the Project site is not an established overwintering area for this species, the site does not provide any host plants (i.e., milkweed), and the site supports very limited nectar plants (i.e., the majority of the site contains non-native grasses). Two special-status wildlife species—least Bell's vireo and yellow warbler (*Setophaga petechia*)—were observed both within the Project site and within the Project site's 500-foot buffer, which overlaps the riparian habitat associated with the San Diego River (Figure 3). A total of two nesting pairs of least Bell's vireos were observed within the Project site and south of the Project site within the San Diego River corridor (Figure 3). A third nesting pair of least Bell's vireos were detected just outside the 500-foot buffer, along the riparian strip northwest of the Project, on the southern side of the baseball fields (Figure 3). This pair occasionally came within 500 feet of the Project site but mainly stayed within the confluence area of the San Diego River and the tributary to the north. This pair did not seem distressed by the abundant human activity in the area. A number of yellow warblers were detected in the riparian habitat areas within the Project site's 500-foot buffer.

Appendix D provides a summary of the special-status wildlife species documented within the Project vicinity and their potential to occur on site, based on the location of the site, species' range and distribution, and the vegetation communities found on site. Where pertinent, a distinction is made between foraging and breeding habitat available on site. A total of nine special-status wildlife species have moderate potential to occur within the Project site, and

one species has high potential to occur adjacent to Project site due to presence of suitable habitat within the San Diego River corridor.

There is no USFWS-designated critical habitat for any wildlife species within or directly adjacent to the Project site (USFWS 2023b).

4.3 Jurisdictional Aquatic Resources

The jurisdictional aquatic resource delineation determined there are potentially 0.45 acres of non-wetland waters/streambeds under USACE, RWQCB, and CDFW jurisdiction, and an additional 3.14 acres of CDFW-only riparian habitat within the Project site (Appendix E, Aquatic Resources Delineation Report). The non-wetland water/streambed includes the freshwater marsh and open water associated with the San Diego River occurring at the southern edge of the Project site. This area contained flowing water and was dominated by thick freshwater marsh vegetation, made up mostly of southern cattail, with a mature canopy of large willow (*Salix gooddingii*) and Fremont cottonwood trees intermixed around the margins of the active channel. Additionally, a total of 3.14 acres of riparian habitat under CDFW jurisdiction occurs within the Project site. The riparian habitat is mapped as arrowweed scrub (2.52 acres) and southern cottonwood–willow riparian forest (0.62 acres). The southern cottonwood-willow riparian forest is associated with the riparian canopy immediately above the San Diego River channel. The arrowweed scrub is approximately 130 feet north of the riparian edge of the San Diego River with no direct surface connection to the river or any other watercourse. Table 3 summarizes the acreage of the non-wetland water/streambed and riparian habitat within the Project site; the extent of jurisdictional aquatic resources is depicted in Figure 3.

Table 3. Jurisdictional Aquatic Resources within the Project Site

Feature Name/Dominant Vegetation	USACE/RWQCB (acreage)	CDFW (acreage)
Non-Wetland Water/Streambed		
Freshwater Marsh	0.22	0.22
Open Water	0.23	0.23
Non-Wetland Water/Streambed Subtotal	*0.45*	*0.45*
Riparian Habitat		
Arrowweed Scrub	N/A	2.52
Southern Cottonwood–Willow Riparian Forest	N/A	0.62
Riparian Habitat Subtotal	*N/A*	*3.14*
Total	**0.45**	**3.59**

Notes: Totals may not sum due to rounding.
USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; N/A = not applicable.

4.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires). Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat

linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping-stones for dispersal.

The MSCP Plan (City of San Diego 1998) defines core and linkage areas as those maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP study area, either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem will be maintained.

The Project site is not mapped as a core area or habitat linkage under the MSCP (City of San Diego 1998). Therefore, the Project site is not an established wildlife corridor or habitat linkage. However, the Project site is currently undeveloped land adjacent to the San Diego River and could potentially function as a wildlife corridor for local populations of common species. Larger species, like mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*), are not expected to use this highly urbanized vicinity of the river corridor due to the amount of adjacent commercial and industrial uses, significant presence of human encampments, and general lack of connectivity to larger core areas of suitable habitat. For the same reasons, it is unlikely that bobcat (*Lynx rufus*) would use this area. Species most likely to use this area include coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*).

5 Project Impacts

This section addresses direct and indirect impacts to biological resources that would result from implementation of the Project, provides the significance determinations for proposed or potential impacts, and proposes mitigation. Cumulative impacts are addressed in the Project's Environmental Impact Report.

5.1 Explanation of Findings of Significance

Impacts to sensitive vegetation communities, special-status plant and wildlife species, and jurisdictional aquatic resources, including wetlands, must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA Guidelines Section 15064(b) states that an ironclad definition of a "significant" effect is not possible because the significance of an activity may vary with the setting. Appendix G of the CEQA Guidelines, however, does provide "examples of consequences which may be deemed to be a significant effect on the environment" (14 CCR 15064[e]). These effects include substantial effects on rare or endangered animal or plant species or the habitat of the species. CEQA Guidelines Section 15065(a) is also helpful in defining whether a Project may have a significant effect on the environment. Under that section, a proposed Project may have a significant effect on the environment if the Project has the potential to (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of a major period of California history or prehistory.

The following are the significance thresholds for biological resources provided in the CEQA Guidelines Appendix G Environmental Checklist, which states that a Project would potentially have a significant effect if it does any of the following:

- **Impact BIO-1.** Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- **Impact BIO-2.** Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- **Impact BIO-3.** Has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- **Impact BIO-4.** Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impedes the use of native wildlife nursery sites.
- **Impact BIO-5.** Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- **Impact BIO-6.** Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or wildlife species. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether that impact can be mitigated to a level below significance.

5.2 Definition of Impacts

Direct permanent impacts refer to complete loss of a biological resource. For the purposes of this report, direct permanent impacts refer to the area where vegetation clearing, grubbing, or grading replaces biological resources. Direct permanent impacts were quantified by overlaying the proposed impact limits on the biological resources map of the Project site. Direct permanent impacts would occur from construction of the multifamily residential units, recreation and parking areas, associated off-site road improvement areas, and the storm drain outfall (i.e., headwall and riprap).

Direct temporary impacts refer to temporary loss of a biological resource. For the purposes of this report, it refers to the area where vegetation will be cleared but then restored to pre-existing conditions. Direct temporary impacts consist of an approximately 10-foot construction buffer, which surrounds the on-site permanent impacts, and the 20-foot-wide temporary work area associated with the storm drain pipe.

Indirect impacts are reasonably foreseeable effects on remaining or adjacent biological resources outside the direct disturbance zone caused by a Project's implementation. For the purposes of this report, indirect impacts may affect areas associated with biological resources present within the San Diego River corridor. Indirect impacts may be short term and construction related, or long term and associated with development in proximity to biological resources.

Cumulative impacts refer to the combined environmental effects of a Project and other relevant Projects. These impacts may be minor when analyzed individually but become collectively significant as they occur over time. Cumulative impacts are addressed in the Project's Environmental Impact Report.

The evaluation of Project impacts is organized by the resource potentially affected: riparian and sensitive vegetation communities (special-status vegetation communities), special-status species, jurisdictional waters and wetlands, and wildlife movement.

5.3 Mitigation Measures

These mitigation measures (MMs) have been taken directly from the City of Santee Housing Element Rezone Program Implementation PEIR (City of Santee 2022).

MM-BIO-1 Applications for future development, where the City has determined a potential for impacts to sensitive biological resources, shall be required to comply with the following mitigation measure.

a) Prior to issuance of any construction permit or any earth-moving activities, a site-specific general biological resources survey shall be conducted to identify the presence of any sensitive

biological resources, including any sensitive plant or wildlife species. A biological resources report shall be submitted to the City to document the results of the biological resources survey. The report shall include: (1) the methods used to determine the presence of sensitive biological resources; (2) vegetation mapping of all vegetation communities and/or land cover types; (3) the locations of any sensitive plant or wildlife species; (4) an evaluation of the potential for occurrence of any listed, rare, and narrow endemic species; and (5) an evaluation of the significance of any potential direct or indirect impacts from the proposed project. If suitable habitat for sensitive species is identified based on the general biological survey, then focused presence/absence surveys shall be conducted in accordance with applicable resource agency survey protocols and incorporated into the biological resources report. If potentially significant impacts to sensitive biological resources are identified, project-level grading and site plans shall incorporate project design features to avoid or minimize direct impacts on sensitive biological resources to the extent feasible, and the report shall also recommend appropriate mitigation to reduce the impacts to below a level of significance, where feasible. Mitigation measures shall be consistent with the standards contained in Section 5.3 of the 2018 Draft Santee Subarea Plan, and projects shall be required to obtain all necessary permits to ensure compliance with applicable federal, state, and local regulations, such as the federal and state Endangered Species Acts.

b) Environmentally Sensitive Areas shall be identified in the biological resources report and avoided to the maximum extent practicable. In areas near or adjacent to Environmentally Sensitive Areas (i.e., natural habitats and vegetation, wetlands, wildlife areas, wildlife corridors), the biological resources report will consider the following measures:

Avoidance of Environmentally Sensitive Areas. In areas near or adjacent to Environmentally Sensitive Areas, construction limits shall be clearly demarcated using highly visible barriers (such as silt fencing), which shall be installed under the supervision of a qualified biologist prior to the commencement of work. Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint, including designated staging areas, and routes of travel. The construction areas shall be limited to the minimal area necessary to complete the proposed project. The fencing shall remain in place until the completion of all construction activities and shall be promptly removed when construction is complete.

Biological Monitoring. A qualified biological monitor shall conduct construction monitoring of all work conducted within/adjacent to environmentally sensitive areas during all vegetation removal and ground-disturbing activities such as staging and grading, for the duration of the proposed project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat outside the project footprints and to survey for sensitive wildlife species. When vegetation removal and ground-disturbing activities are not occurring, as-needed monitoring at the project sites shall occur.

Worker Environmental Awareness Program. In areas near or adjacent to Environmentally Sensitive Areas, a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) training session for project and construction personnel prior to the commencement of work. The training shall include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA), the penalties associated with violating the provisions of

the acts, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries.

Best Management Practices. During future project construction activities, the following best management practices (BMPs) shall be implemented:

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive upland habitat areas. The designated upland areas shall be located to prevent runoff from any spills from entering Waters of the US.
- A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan shall be developed (where requirements are met) to minimize erosion and identify specific pollution prevention measures that shall eliminate or control potential point and nonpoint pollution sources on site during and following the project construction phase. The SWPPP shall identify specific BMPs during project construction to prevent any water quality standard exceedances. In addition, the SWPPP shall contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.
- Trash shall be stored in closed containers so that it is not readily accessible to scavengers and shall be removed from the construction site on a daily basis.
- Water quality shall be visually monitored by the biological monitor to ensure that no substantial increases in turbidity occur during construction.
- All relevant natural resource permits and authorizations shall be obtained from appropriate agencies (i.e., USACE, RWQCB, and CDFW) prior to the initiation of construction activities. Permit conditions contained within the permits and authorizations shall be employed throughout the duration of the project.
- Hydrologic connectivity shall be maintained within drainages during the duration of construction. Brush, debris material, mud, silt, or other pollutants from construction activities shall not be placed within drainages and shall not be allowed to enter a flowing stream.
- Dust control measures shall be implemented by the contractor to reduce excessive dust emissions. Dust control measures shall be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, the use of soil binders on dirt roads, and wetting or covering stockpiles.
- No pets shall be allowed in, or adjacent to, the project sites.
- Rodenticides, herbicides, insecticides, or other chemicals that could potentially harm wildlife or native plants shall not be used near or within Environmentally Sensitive Areas within or near the roadway segments.
- Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction.
- The cleaning of equipment will occur at least 300 feet from Environmentally Sensitive Area fencing.
- Use of Native Plants. All project-related planting and landscaping shall not use plants listed on California Invasive Plant Council. Locally native plants shall be used near open space and native areas to the greatest extent feasible.

MM-BIO-2 Applications for future development, wherein the City has determined a potential for impacts to least Bell's vireo, shall be required to comply with the following mitigation framework. Prior to issuance of a permit for grading or vegetation removal, USFWS protocol surveys for least Bell's vireo shall be required should project construction occur within 300 feet of riparian habitat during the breeding season (April 10 to July 31). If least Bell's vireo are identified during the protocol surveys, then noise attenuation measures shall be required to ensure that noise levels from construction do not exceed a 60 dB(A) hourly average per hour at the edge of the riparian habitat or to the ambient noise level if it exceeds 60 dB(A) prior to construction. Construction noise monitoring shall be required to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average unless an analysis completed by a qualified acoustician shows that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat.

MM-BIO-4 Applications for future development, where the City has determined a potential for impacts to mature trees and/or native vegetation suitable for nesting birds, shall be required to comply with the following mitigation framework. If any construction commences during the bird breeding season, a preconstruction survey for nesting birds shall occur within three days prior to construction activities by an experienced avian biologist. The survey shall occur within all suitable nesting habitat within the project impact area and a minimum 250-foot buffer (or as otherwise mandated by wildlife agencies [CDFW and USFWS]). If nesting birds are found, an avoidance area shall be established, in consultation with the wildlife agencies as appropriate, by a qualified biologist around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The project site shall be re-surveyed if there is a lapse in construction activities for more than 3 days.

MM-BIO-5 Prior to issuance of any grading or removal of sensitive vegetation communities, the applicant shall provide evidence to the City that replacement habitats have been preserved in accordance with the mitigation ratios in the 2018 Draft Santee Subarea Plan. The required acreages and types of replacement habitat shall be included as a note on the grading plans and the City shall require evidence of satisfaction prior to grading. Replacement habitats may be in the form of a dedicated easement, proof of purchase of mitigation credits, or other method of conservation. The applicant shall additionally implement all feasible avoidance and minimization measures to protect habitats remaining on site.

MM-BIO-6 Applications where the City has determined a potential for impacts to jurisdictional waters and wetlands, shall be required to comply with the following mitigation framework. Prior to issuance of any construction permit or any earth-moving activities, a site-specific general biological resources survey (BIO-1) shall be conducted to identify the presence of any sensitive biological resources, including any wetlands. Should any potential jurisdictional waters or wetlands be identified on site during the general biological resources survey, then a jurisdictional wetlands delineation shall be conducted following the methods outlined in the USACE's 1987 Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Delineation Manual for the Arid West Region. The limits of any wetland habitats on site under the sole jurisdiction of CDFW shall also be delineated, as well as any special aquatic sites that may not meet federal jurisdictional criteria but are regulated by the RWQCB. Avoidance measures based on project-level grading and site plans shall be incorporated into the project design to minimize direct impacts to jurisdictional waters

consistent with federal, state, and City guidelines. Unavoidable impacts to wetlands shall be minimized to the maximum extent practicable and would be subject to alternatives and mitigation analyses consistent with U.S. Environmental Protection Agency 404(b)(1) findings and procedures under the USACE's permit process. Unavoidable impacts would require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values. Wetland creation on site or within the same wetland system shall be given preference over replacement off site or within a different system. The City shall also control use and development in surrounding areas of influence to wetlands with the application of buffer zones. Buffer widths shall be 50 to 200 feet from the edge of the wetland/riparian habitat, unless the applicant demonstrates that a buffer of lesser width would protect the resources of the wetland based on site-specific information related to construction and operation. Use and development within buffer areas shall be limited to minor passive recreational uses with fencing, desiltation or erosion control facilities, or other improvements deemed necessary to protect the habitat, to be located in the upper (upland) half of the buffer when feasible wetlands and buffers shall be permanently conserved or protected through the application of an open space easement or other suitable device.

Additional requirements apply for development along the San Diego River to implement Draft Subarea Plan Section 5.3.4. Specifically, wherever development is proposed in or adjacent to riparian habitats along the main stem San Diego River, the riparian area and other wetlands or associated natural habitats located on the project site shall be designated as biological open space and incorporated into the preserve, including recordation of an easement to ensure their protection in perpetuity. In addition, a minimum 100-foot biological buffer shall be established for upland habitats, beginning at the outer edge of riparian vegetation. Within the 100-foot biological buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. In the event that natural habitats do not cover the 100-foot buffer area at the time of the proposed action, habitats appropriate to the location and soils shall be restored as a condition for the proposed action. In most cases, coastal sage scrub vegetation shall be the preferred habitat to restore within the biological buffer.

5.4 Impact Analysis

The majority of the Project site, 18.75 acres, would be directly impacted with Project implementation. Acreages for each vegetation community or land cover type permanently or temporarily impacted by the proposed Project are provided in Table 4, and their spatial distribution is shown in Figure 4, Impacts to Biological Resources. Sensitive vegetation communities, including southern cottonwood–willow riparian forest, arrowweed scrub, and non-native grassland (including broad-leaf dominated), are further analyzed in Section 5.4.2. No mitigation is required for permanent impacts to eucalyptus woodland, disturbed habitat, or urban/developed within the Project site because these land cover types are not considered sensitive and do not provide habitat value for Covered Species. All temporary impacts to disturbed habitat would be revegetated with native vegetation in accordance with PEIR MM-BIO-6.

Table 4. Permanent and Temporary Impacts to Vegetation Communities and Land Covers within the Project Site (Acres)

Vegetation Community/Land Cover Type	Holland/ Oberbauer Code	Perm	Temp	Total
Riparian/Bottomland Vegetation Communities				
Southern Cottonwood–Willow Riparian Forest	61330	<0.01	0.01	0.01
Arrowweed Scrub	63820	2.49	0.03	2.52
Riparian/Bottomland Vegetation Communities Subtotal		*2.49*	*0.03*	*2.53*
Upland Vegetation Communities				
Non-Native Grassland	42200	6.09	0.08	6.17
Non-Native Grassland (broadleaf-dominated)	42210	2.32	0.24	2.56
Upland Vegetation Communities Subtotal		*8.41*	*0.32*	*8.73*
Land Cover Types				
Eucalyptus Woodland	79100	0.63	0	0.63
Disturbed Habitat	11300	6.19	0.14	6.33
Urban/Developed	12000	0.44	0.09	0.53
Land Cover Types Subtotal		*7.26*	*0.23*	*7.49*
Total		**18.16**	**0.58**	**18.75**

Notes: Totals may not sum due to rounding.
Perm = permanent direct impacts; Temp = temporary direct impacts.

5.4.1 Impact BIO-1: Special-Status Species

Direct impacts to special-status plant and wildlife species could potentially result from the removal of occupied habitat through grading and other land development activities. Additionally, indirect impacts to special-status plant or wildlife species could also result from excess noise, lighting, or runoff generated during project construction. Implementation of the PEIR (City of Santee 2022) proposed MM-BIO-1 would reduce potential direct and indirect impacts to special-status species to less than significant.

One special-status plant species, white rabbit-tobacco, was observed within the Project site and immediately adjacent to the Project site boundary. No other special-status plant species included in Appendix C are expected to occur within the Project site. All white rabbit-tobacco individuals (0.20 acres; 15 individuals) would be avoided by the proposed Project with the establishment of the 100-foot buffer required by MM-BIO-6.

A pair of least Bell's vireos were observed during protocol-level breeding season surveys within the riparian habitat within the Project site, and two other least Bell's vireo pairs were detected in the riparian habitat areas within the Project site's 500-foot buffer. Direct impacts to least Bell's vireo individuals are not anticipated due to the Project's avoidance of impacts to occupied habitat through the establishment of a 100-foot buffer from the edge of the riparian habitat. However, indirect impacts to least Bell's vireos from construction noise would be significant, and impacts would be mitigated through implementation of PEIR MM-BIO-2, which would require noise attenuation measures for occupied habitat. Protocol-level surveys for least Bell's vireo required by MM-BIO-2 were conducted as part of the evaluation for this Project.

The PEIR (City of Santee 2022) identifies potential significant direct and indirect impacts to coastal California gnatcatchers (*Polioptila californica californica*) within the Project site. However, there is no suitable habitat for this species within the Project site, and this species was not incidentally observed during field surveys. Therefore, the PEIR's MM-BIO-3 does not apply to this Project.

Direct impacts to nesting birds protected under Section 3503 of the California Fish and Game Code could occur within vegetated areas of the Project site. Project implementation of PEIR proposed MM-BIO-4 would reduce potential direct impacts to nesting birds (including least Bell's vireo) to a less-than-significant level through performance of a pre-construction nesting bird survey if construction occurs during the nesting season. Therefore, no significant direct impacts to nesting birds are anticipated with Project implementation.

Three special-status wildlife species were either within the Project site (i.e., monarch and least Bell's vireo) or immediately outside the Project site within the 500-foot buffer (i.e., yellow warbler). One monarch individual was observed passing through the Project site during the biological surveys. However, the Project site is not an established overwintering area for this species, the site does not provide any host plants (i.e., milkweed), and the site supports very limited nectar plants (i.e., the majority of the site contains non-native grasses); therefore, direct or indirect impacts to this species are not anticipated. Additionally, a total of nine special-status wildlife species have moderate potential to occur, and one special-status wildlife species has high potential to occur within the Project site or adjacent to the Project site within the San Diego River corridor due to the presence of suitable habitat (Appendix D). Direct impacts to foraging or nesting habitat for special-status species would be reduced to less than significant with implementation of PEIR proposed MM-BIO-5, which would require preservation of suitable habitats.

The Project site does not occur within USFWS-designated critical habitat for plant or wildlife species. Therefore, no direct impacts would occur to USFWS-designated critical habitat with Project implementation.

5.4.2 Impact BIO-2: Sensitive Vegetation Communities

5.4.2.1 Direct Impacts

A total of 11.26 acres of sensitive vegetation communities would be impacted with Project implementation (Figure 4). Table 5 summarizes the permanent and temporary direct impacts to sensitive vegetation communities within the Project site. Communities listed by the CDFW as high priority for inventory (i.e., State Rank [S] 1, 2, or 3) are considered sensitive and typically require mitigation (CDFW 2023b). Southern cottonwood–willow riparian forest and arrowweed scrub both have a CDFW state ranking of S3 (CDFW 2023b). Therefore, impacts to these vegetation communities would be considered significant and require mitigation. Mitigation shall include reestablishment of the permanent impact acreage at a minimum ratio of 1:1 to meet the regional MSCP (City of San Diego 1998) "no net loss" policy. Additionally, although non-native grassland (including broadleaf-dominated) is not considered sensitive by CDFW, direct impacts to non-native grassland (including broadleaf-dominated) would require mitigation to comply with regional MSCP conservation goals (City of San Diego 1998).

Table 5. Impacts to Sensitive Vegetation Communities within the Project Site

Vegetation Community	Holland/ Oberbauer Code	Perm (acres)	Temp (acres)[1]	Total (acres)
Riparian/Bottomland Vegetation Communities				
Southern Cottonwood–Willow Riparian Forest[2]	61330	<0.01	0.01	0.01
Arrowweed Scrub	63820	2.49	0.03	2.52
Riparian/Bottomland Vegetation Communities Subtotal		*2.49*	*0.03*	*2.53*
Upland Vegetation Communities				
Non-Native Grassland	42200	6.09	0.08	6.17
Non-Native Grassland (broadleaf-dominated)	42210	2.32	0.24	2.56
Upland Vegetation Communities Subtotal		*8.41*	*0.32*	*8.73*
Total		**10.90**	**0.35**	**11.26**

Notes: Totals may not sum due to rounding.
Perm = permanent direct impacts; Temp = temporary direct impacts.
1 All temporary direct impact areas will be restored in-place to pre-Project conditions or biologically superior conditions. In accordance with PEIR MM-BIO-5 and MM-BIO-6, a Habitat Mitigation and Monitoring Plan shall be prepared for the project and will include restoration of the temporary impact areas. If restoration is not feasible, all temporary impacts should be considered permanent impacts and mitigated according to the ratios provided in Table 6.
2 Permanent impacts to southern cottonwood-willow riparian forest total 0.004 acres.

Mitigation for the permanent loss of sensitive vegetation communities would occur through implementation of MM-BIO-5 and MM-BIO-6. Per Table 6, the proposed Project would require 15.89 acres of mitigation for impacts to sensitive vegetation communities within the Project site.

Table 6. Mitigation for Permanent Impacts to Sensitive Vegetation Communities within the Project Site

Vegetation Community	Holland/ Oberbauer Code	Perm Impact Total (acres)	Mitigation Ratio[1]	Required Mitigation (acres)
Riparian/Bottomland Vegetation Communities				
Southern Cottonwood–Willow Riparian Forest[2]	61330	<0.01	3:1	0.01
Arrowweed Scrub	63820	2.49	3:1	7.47
Riparian/Bottomland Vegetation Communities Subtotal		*2.49*	*N/A*	*7.48*
Upland Vegetation Communities				
Non-Native Grassland	42200	6.09	1:1	6.09
Non-Native Grassland (broadleaf-dominated)	42210	2.32	1:1	2.32
Upland Vegetation Communities Subtotal		*8.41*	*N/A*	*8.41*
Total		**10.90**	**N/A**	**15.89**

Note: Totals may not sum due to rounding.
Perm = permanent direct impact; N/A = not applicable.
1 Mitigation rations are based on the Draft Santee Subarea Plan.
2 Permanent impacts to southern cottonwood-willow riparian forest total 0.004 acres. Therefore, at a 3:1 ratio, the required mitigation totals 0.01 acres.

Implementation of MM-BIO-6 would provide a portion of the arrowweed scrub mitigation requirements (a minimum of 2.49 acres) through the establishment of this vegetation community within the 100-foot buffer area adjacent to

the San Diego River. The existing arrowweed scrub is approximately 130 feet north of the riparian edge of the San Diego River with no direct surface connection to the river or any other watercourse. This community occurs within a flat area on the western boundary of the Project site approximately 15 feet in elevation above the San Diego River. The arrowweed scrub is at least in part being fed by irrigation from the community park off-site and is completely surrounded by non-native land covers (i.e. non-native grassland, disturbed habitat, and developed lands). Therefore, establishing a minimum of 2.49 acres of arrowweed scrub within the on-site 100-foot buffer area would provide higher value habitat than at its current location (i.e. connectivity to native habitats associated with the San Diego River, increase in species diversity, increase in aerial extent, and a reduction in edge effects) and would satisfy the "no net loss" requirement for riparian communities as would the establishment of 0.01 acres of southern cottonwood -willow riparian forest within the 100-foot buffer. Should more than 2.49 acres of arrowweed scrub establishment occur within the 100-foot buffer, acreages identified under **Arrowweed Scrub** options 2 through 7, as described below, would be reduced proportionally. Portions of the site that will be revegetated in compliance with MM-BIO-6 shall be designated as biological open space and incorporated into the City of Santee's preserve system, including recordation of an easement to ensure their protection in perpetuity. Designated biological open space easement areas will be detailed on Project building and landscape plans. Implementation of the Santee Housing Element Implementation PEIR MM-BIO-5 would satisfy the remaining mitigation requirements for southern cottonwood–willow riparian forest, arrowweed scrub and non-native grassland through the following methods:

Southern Cottonwood–Willow Riparian Forest

1. Establishment of a minimum of 0.01 acres of southern cottonwood–willow riparian forest within the Project Site 100-foot buffer;

   if option 1 is not available, option 2 would be considered

2. Restoration of 0.01 acres of southern cottonwood–willow riparian forest within the boundary of the draft Subarea Plan San Diego River Subunit;

   if option 2 is not available, option 3 would be considered

3. Preservation of 0.01 acres of existing southern cottonwood–willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit through a dedicated conservation easement;

   if option 3 is not available, option 4 would be considered

4. In-kind creation of 0.01 acres of southern cottonwood–willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit to be preserved in perpetuity through a dedicated conservation easement;

   if option 4 is not available, option 5 would be considered

5. In-kind creation of 0.01 acres of southern cottonwood–willow riparian forest within the boundary of the Draft Santee MSCP Subarea Plan (other subunits) to be preserved in perpetuity through a dedicated conservation easement;

   if option 5 is not available, option 6 would be considered

6. Purchase of 0.01 acres of riparian forest mitigation credits from a mitigation bank whose service area includes the Draft Santee MSCP Subarea Plan;

   if option 6 is not available, option 7 would be considered

7. Purchase of 0.01 acres of riparian forest mitigation credits from a mitigation bank whose service area is outside of the Draft Santee MSCP Subarea Plan, and within San Diego County.

Arrowweed Scrub

1. Establishment of a minimum of 2.49 acres of arrowweed scrub within the Project Site 100-foot buffer;

   And a combination of the following, in the preferred order as follows:

2. Restoration of up to 4.98 acres of arrowweed scrub or up-tiered restoration of mulefat scrub within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit;

   if option 2 is not available, option 3 would be considered

3. Preservation of up to 4.98 acres of existing arrowweed scrub within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit through a dedicated conservation easement;

   if option 3 is not available, option 4 would be considered

4. In-kind creation of up to 4.98 acres of arrowweed scrub within the boundary of the Draft Santee MSCP Subarea Plan San Diego River Subunit to be preserved in perpetuity through a dedicated conservation easement;

   if option 4 is not available, option 5 would be considered

5. In-kind creation of up to 4.98 acres of arrowweed scrub within the boundary of the Draft Santee MSCP Subarea Plan (other subunits) to be preserved in perpetuity through a dedicated conservation easement;

   if option 5 is not available, option 6 would be considered

6. Purchase of up to 4.98 acres of riparian forest mitigation credits from a mitigation bank whose service area includes the Draft Santee MSCP Subarea Plan;

   if option 6 is not available, option 7 would be considered

7. Purchase of up to 4.98 acres of riparian forest mitigation credits from a mitigation bank whose service area is outside of the Draft Santee MSCP Subarea Plan, and within San Diego County.

Non-Native Grassland

1. Purchase of 8.41 acres of non-native grassland mitigation credits from Cleveland Corridor Mitigation Bank.

Habitat Mitigation and Monitoring Plan (HMMP)

The Project applicant will submit an HMMP for establishment and in-kind creation within the 100-foot San Diego River buffer and off-site mitigation areas (if acquired). The HMMP will include:

- goals and objectives
- regulatory setting
- site selection criterion
- baseline site condition information

- restoration design approach
- rationale for success
- implementation program (including the construction period and a 5-year maintenance and monitoring program)
- annual performance standards for native and non-native vegetation cover designed to assess progress toward final mitigation goals (e.g. by the end of Year 5, the establishment area is expected to achieve at least 75% absolute native vegetation cover, non-native plant cover should not exceed 10%, with perennial invasive species maintained at 0%)
- long-term site protection and management

The HMMP shall detail the final mitigation implementation for permanent impacts to arrowweed scrub and southern cottonwood-willow riparian forest (i.e., establishment), temporary impact areas to be restored in-place to pre-Project conditions or biologically superior conditions, and preservation areas (i.e., southern cottonwood-willow riparian forest and freshwater marsh). The HMMP will be submitted to CDFW and the City for review and approval. Once the HMMP is approved by CDFW and the City, the Project applicant will record a conservation easement in perpetuity and enter the land into the City of Santee's preserve system.

As a condition of approval and in conformance with MM-BIO-5, prior to issuance of the first grading permit for the Project, the Project applicant will submit a biological mitigation compliance memo to the City outlining the feasibility of each method, identifying the selected approach(es) and providing verification that mitigation for impacts to arrowweed scrub, southern cottonwood–willow riparian forest, and non-native grassland has been satisfied. Mitigation of impacts through the proposed implementation strategy would reduce Project impacts to these sensitive vegetation communities to less than significant. No new significant impacts to sensitive vegetation communities would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

5.4.2.2 Indirect Impacts

Project implementation has the potential to result in indirect impacts to sensitive vegetation communities occurring adjacent to the Project site.

Construction-Related: Sensitive vegetation communities may be indirectly impacted during construction of the proposed Project. Potential short-term or temporary indirect impacts to sensitive vegetation communities resulting from construction activities include inadvertent spillover impacts, including unintentional clearing, trampling, or grading outside of the Project footprint; generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; and the adverse effect of invasive plant species. These potential construction-related, indirect impacts to sensitive vegetation communities would be potentially significant absent mitigation.

Implementation of PEIR proposed MM-BIO-1 would minimize the effect of construction-related indirect impacts to sensitive vegetation communities to less than significant with mitigation incorporated. No new significant indirect impacts to sensitive vegetation communities would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

5.4.3 Impact BIO-3: State or Federally Protected Wetlands

5.4.3.1 Direct Impacts

There are no impacts within USACE or RWQCB jurisdictional aquatic resources. A total of 2.53 acres of CDFW-regulated riparian habitat would be impacted by the proposed Project, as summarized in Table 7 and shown in Figure 4. Impacts to CDFW riparian habitat would be significant and require mitigation. Mitigation shall include reestablishment of the permanent impact acreage at a minimum ratio of 1:1 to meet the regional MSCP (City of San Diego 1998) "no net loss" policy.

Table 7. Permanent and Temporary Impacts to Potential Jurisdictional Aquatic Resources within the Project Site (Acres)

Vegetation Community	Perm	Temp[1]	Total Impacts
CDFW Riparian Habitat			
Southern Cottonwood–Willow Riparian Forest	<0.01	0.01	0.01
Arrowweed Scrub	2.49	0.03	2.52
Total	**2.49**	**0.03**	**2.53**

Notes: CDFW = California Department of Fish and Wildlife; Perm = permanent direct impacts; Temp = temporary direct impacts. Totals may not sum due to rounding.

1 All temporary direct impact areas will be restored in-place to pre-Project conditions or biologically superior conditions. In accordance with PEIR MM-BIO-5 and MM-BIO-6, a Habitat Mitigation and Monitoring Plan shall be prepared for the project and will include restoration of the temporary impact areas. If restoration is not feasible, all temporary impacts should be considered permanent impacts and mitigated according to the ratios provided in Table 6.

All jurisdictional aquatic resources would be avoided by the proposed Project to the extent feasible. All impacts to the riparian resources within the main stem of the San Diego River would be avoided by the proposed Project, with the exception of a small impact (less than 0.01 acres of southern cottonwood-willow riparian forest) occurring from the Project's proposed storm drain outfall (i.e., desiltation or erosion control facilities or other improvements necessary to protect the habitat). The storm drain outfall is located on County-owned property and will require an easement issued by the County. Storm basin overflow discharging into the river would not be considered an impact as the quantity and quality of the discharge is consistent with the City's Municipal Separate Storm Sewer System (MS4) permit (see Section 3.10, Hydrology and Water Quality for more information).

Implementation of PEIR proposed MM-BIO-6 would provide a portion of the arrowweed scrub mitigation requirements (a minimum of 2.49 acres) through the establishment of this vegetation community within the 100-foot buffer adjacent to the San Diego River. The existing arrowweed scrub is approximately 130 feet north of the riparian edge of the San Diego River with no direct surface connection to the river or any other watercourse. This community occurs within a flat area on the western boundary of the Project site approximately 15 feet in elevation above the San Diego River. The arrowweed scrub is at least in part being fed by irrigation from the community park off-site and is completely surrounded by non-native land covers (i.e. non-native grassland, disturbed habitat, and developed lands). Therefore, establishing a minimum of 2.49 acres of arrowweed scrub within the on-site 100-foot buffer area would provide higher value habitat than at its current location (i.e. connectivity to native habitats associated with the San Diego River, increase in species diversity, increase in aerial extent, and a reduction in edge effects) and would satisfy the "no net loss" requirement for riparian communities as would the establishment of 0.01 acres of southern cottonwood -willow riparian forest within the 100-foot buffer. Should more than 2.49 acres of arrowweed scrub establishment occur within the 100-foot buffer, acreages identified under Arrowweed Scrub

options 2 through 7, described in Section 5.4.2.1, would be reduced proportionally. Portions of the site that will be revegetated in compliance with MM-BIO-6 shall be designated as biological open space and incorporated into the City of Santee's preserve system, including recordation of an easement to ensure their protection in perpetuity. Designated biological open space easement areas will be detailed on Project building and landscape plans. Implementation of the Santee Housing Element Implementation PEIR MM-BIO-5 would satisfy the remaining mitigation requirements for southern cottonwood–willow riparian forest, arrowweed scrub and non-native grassland through the methods described in Section 5.4.2.1. A Habitat Mitigation and Monitoring Plan shall be prepared for the project's on-site 100-foot buffer area and shall include the following information: details on the mitigation plan's goals and objectives; site selection; baseline information; restoration design approach; rationale for success; the implementation program (including the construction period and the 5-year maintenance and monitoring program); annual performance standards for native and non-native vegetation cover designed to assess progress toward final mitigation goals (e.g. by the end of Year 5, the establishment area is expected to achieve at least 75% absolute native vegetation cover, non-native plant cover should not exceed 10%, with perennial invasive species maintained at 0%); and long-term site protection and management. The project's Habitat Mitigation and Monitoring Plan for the project's on-site 100-foot buffer area shall include the mitigation for permanent impacts to arrowweed scrub (i.e. establishment), temporary impact areas to be restored in-place to pre-Project conditions or biologically superior conditions, and preservation existing sensitive vegetation communities within the 100-foot buffer areas (i.e. southern cottonwood-willow riparian forest and freshwater marsh).

Portions of the site that will be revegetated in compliance with MM-BIO-6 shall be designated as biological open space and incorporated into the City's preserve, including recordation of an easement to ensure their protection in perpetuity. Designated biological open space easement areas will be detailed on Project building and landscaping plans. Mitigation for the remaining loss of CDFW riparian habitat areas will occur through implementation of MM-BIO-6, which requires in-kind creation to prevent any net loss of wetland functions and values. Implementation of PEIR MM-BIO-5 would satisfy the remaining mitigation requirements for arrowweed scrub and southern cottonwood-willow riparian forest through a combination of establishment, restoration and conservation of sensitive habitats as described above in section 5.4.2.1. The proposed Project will meet the mitigation requirements for CDFW riparian habitat in accordance with the ratios listed in Table 6. No new significant impacts to wetlands would occur, and no previously identified significant impacts would substantially increase in severity. Similar to the conclusion of the PEIR, impacts would be less than significant with mitigation.

5.4.3.2 Indirect Impacts

Project implementation has the potential to result in indirect impacts to jurisdictional aquatic resources associated with the San Diego River occurring within 500 feet of the Project site.

Construction-Related: Jurisdictional aquatic resources of the United States/state may be indirectly impacted during construction. Potential short-term or temporary indirect impacts to jurisdictional aquatic resources resulting from construction activities include the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; and unintentional clearing, trampling, or grading outside of the proposed construction zone. Construction-related indirect impacts to jurisdictional aquatic resources would be potentially significant.

Implementation of PEIR proposed MM-BIO-1 would minimize construction-related indirect impacts through biological monitoring, a Worker Environmental Awareness Program that will cover the special-status resources and mitigation requirements for the Project, delineation of Project boundaries, implementation of standard dust control

measures, development of a stormwater pollution prevention plan, and requiring all vehicles and equipment to be serviced in designated staging areas. Therefore, construction-related indirect impacts to jurisdictional aquatic resources would be less than significant with mitigation incorporated.

5.4.4 Impact BIO-4: Wildlife Corridors and Habitat Linkages

5.4.4.1 Direct Impacts

The Project site is not mapped as a core area or habitat linkage under the MSCP (City of San Diego 1998) and is identified in the Draft Santee Subarea Plan as an anticipated development area (City of Santee 2022). Therefore, the Project site is not an established wildlife corridor or habitat linkage. However, the Project site is currently undeveloped land adjacent to the San Diego River, and the site could potentially function as a wildlife corridor for local populations of common species. Species most likely to use this area include coyote, raccoon, striped skunk, and Virginia opossum. None of these species are special status, and they would continue to use the areas adjacent to the Project site after buildout. Impacts to aquatic resources associated with the San Diego River corridor are minimal and would be reduced to less than significant with implementation of PEIR proposed MM-BIO-6. Therefore, impacts to wildlife corridors and habitat linkages are less than significant.

5.4.4.2 Indirect Impacts

Project implementation has the potential to result in indirect impacts to the San Diego River corridor, which occurs adjacent to the Project site and may function as a local wildlife corridor.

Construction-Related: The San Diego River wildlife corridor may be indirectly impacted during construction of the proposed Project. Potential short-term or temporary indirect impacts to biological resources within the San Diego River wildlife corridor resulting from construction activities include inadvertent spillover impacts, including unintentional clearing, trampling, or grading outside of the Project footprint; generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; night-time lighting; and the adverse effects of invasive plant species. These potential construction-related, indirect impacts to the San Diego River wildlife corridor would be potentially significant absent mitigation. Implementation of the PEIR proposed MM-BIO-1 would reduce potential indirect impacts to wildlife corridors to less than significant.

5.4.5 Impact BIO-5: Local Policies and Ordinances

City of Santee

The City's Urban Forestry Ordinance contains tree-related policies, regulations, and generally accepted standards for planting, trimming, and removing trees on public property and public rights-of-way (Santee Municipal Code, Section 8.06 [City of Santee 2020]). The ordinance gives the City control of all trees, shrubs, and other plantings in any street, park, public right-of-way, landscape maintenance district or easement, or other City-owned property. City staff review of development plans for the City-owned and maintained property would ensure that the proposed landscaping and maintenance requirements conform to the Urban Forestry Ordinance. The proposed Project would not require removal of any trees within the City's purview according to Santee Municipal Code Section 8.06 (City of Santee 2020). Therefore, as no impacts are proposed by the Project, the Project would comply with the Urban Forestry Ordinance, and no mitigation measures are required.

Biological resources are discussed and specific objectives and policies are presented in the Conservation Element of the City of Santee General Plan (City of Santee 2003). The proposed Project does not conflict with any objectives or policies as presented in the Conservation Element of the Santee General Plan. Therefore, impacts to local policies and ordinances would be less than significant, and no mitigation measures are required.

5.4.6 Impact BIO-6: Habitat Conservation Plans

MSCP Plan and Draft Santee MSCP Subarea Plan

The Project site is within the boundaries of the MSCP Plan (City of San Diego 1998). The Draft Santee MSCP Subarea Plan would serve as a habitat conservation plan under the MSCP Plan (City of San Diego 1998) pursuant to Section 10(a)(1)(B) of FESA and as a natural community conservation plan pursuant to the California Natural Community Conservation Planning Act of 1991. The Draft Santee MSCP Subarea Plan, once finalized, will contribute to the regional MSCP for preservation, mitigation for impacts, and conservation of sensitive biological resources within San Diego County. The Draft Santee MSCP Subarea Plan is also intended to provide cumulative mitigation for impacts to Covered Species within the City's jurisdiction, as long as projects are consistent with and covered by provisions of the Santee MSCP Subarea Plan, and to ensure sufficient biological resources are conserved to assist in the conservation and recovery of Covered Species under the MSCP. Although the Draft Santee MSCP Subarea Plan has not yet been approved or permitted, it is used as the guidance document for projects occurring within the City. The proposed Project is an anticipated development area under the Santee Subarea Plan (City of Santee 2022).

The portion of the San Diego River that is adjacent to the southern boundary of the project site is part of the Draft Santee MSCP Subarea Plan's San Diego River Subunit. This portion of the San Diego River is County-owned and contributes to the overall functional east-west ecological linkage and wildlife corridor through the Subarea Plan Area but is not currently part of the City of Santee's preserve system. As directed by MM-BIO-6, the Project would establish a 100-foot buffer from the riparian edge to avoid any impacts to the San Diego River corridor (Figure 4). MM-BIO-1 through MM-BIO-6 are proposed to prevent any direct or indirect impacts to special-status species, sensitive vegetation communities, and/or jurisdictional aquatic resources associated with the San Diego River Preserve. Furthermore, Project implementation would not significantly conflict with the provisions of the MSCP Plan or Draft Santee MSCP Subarea Plan, nor would it prevent the Draft Santee MSCP Subarea Plan from being approved or compromise continued implementation of the MSCP in San Diego County. Therefore, impacts to habitat conservation plans would be less than significant with the implementation of the project's mitigation measures.

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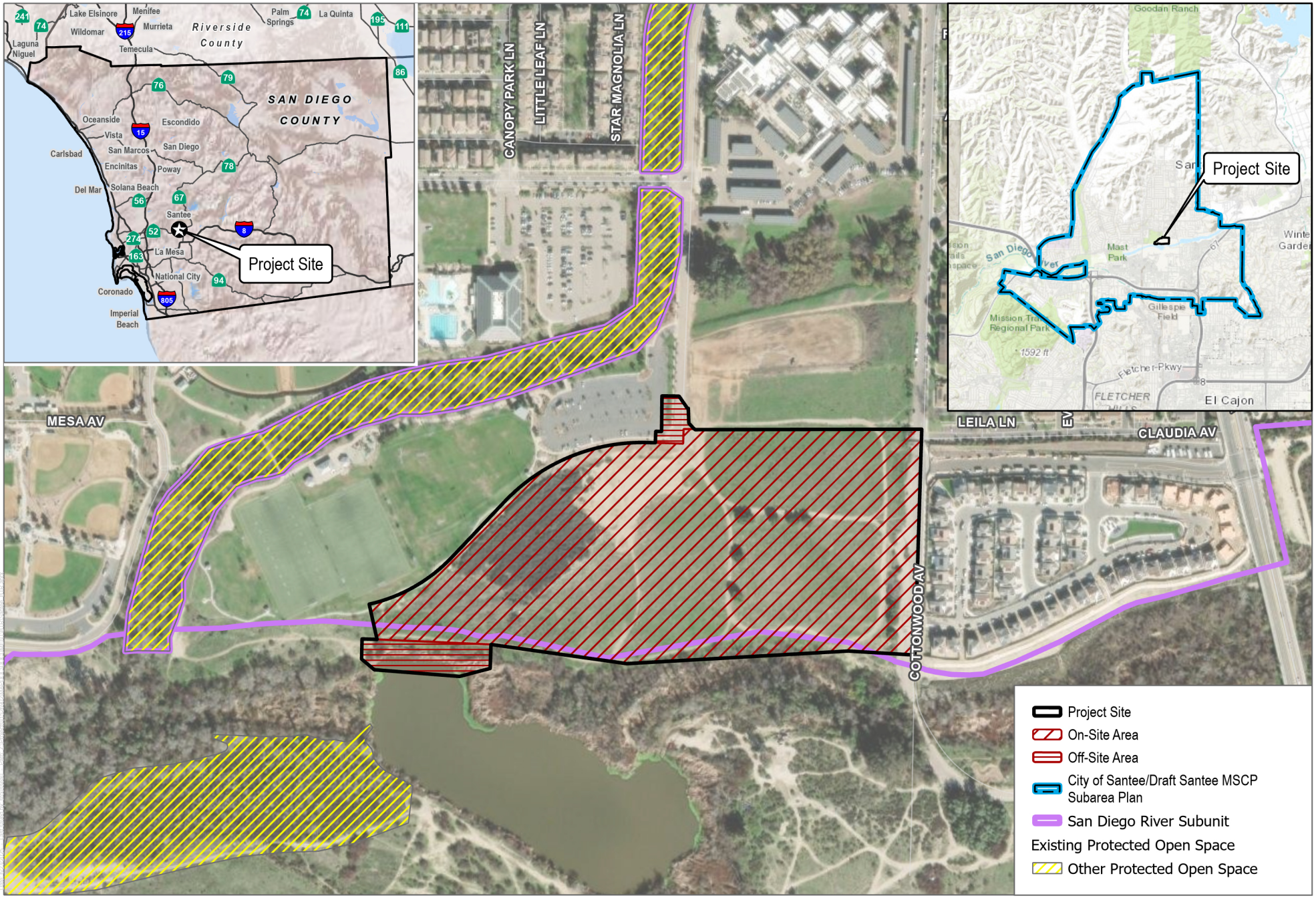

SOURCE: ESRI IMAGERY (ACCESSED 2025)

DUDEK

0 200 400 Feet

Figure 1
Project Location

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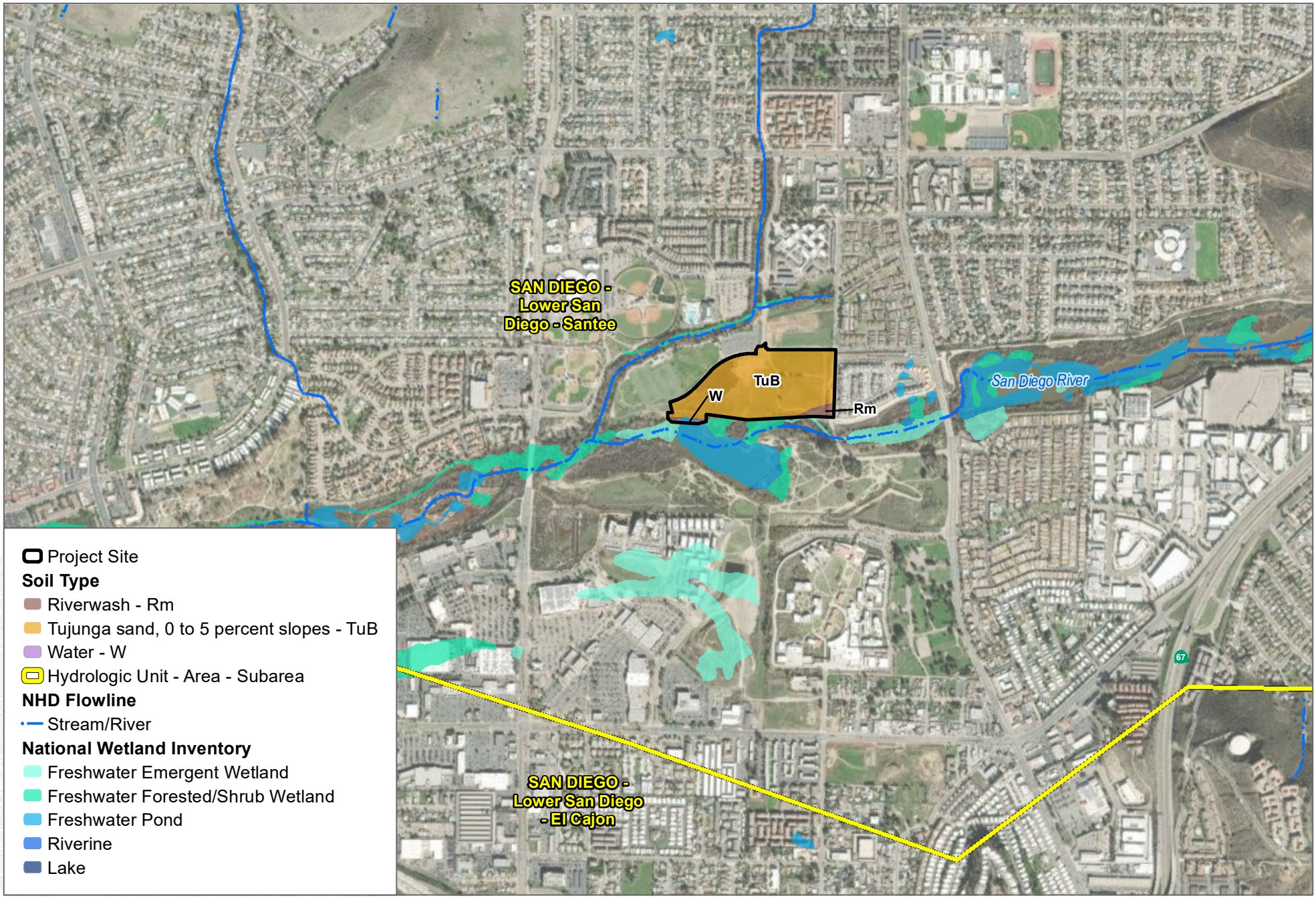

SOURCE: ESRI IMAGERY (ACCESSED 2025); USFWS 2024; USGS 2024

DUDEK

0 650 1,300 Feet

FIGURE 2

Soils and Hydrology

Cottonwood and Park Project / Biological Technical Report

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500-Ft Buffer

On-Site Area

Off-Site Area

Wildlife

- Least Bell's Vireo *(Vireo bellii pusillus)*, B-LBVI
- Yellow Warbler*(Setophaga petechia)*, B-YWAR
- White Rabbit-Tobacco *(Pseudognaphalium leucocephalum)*, Pseleu

Vegetation Communities and Land Cover Types

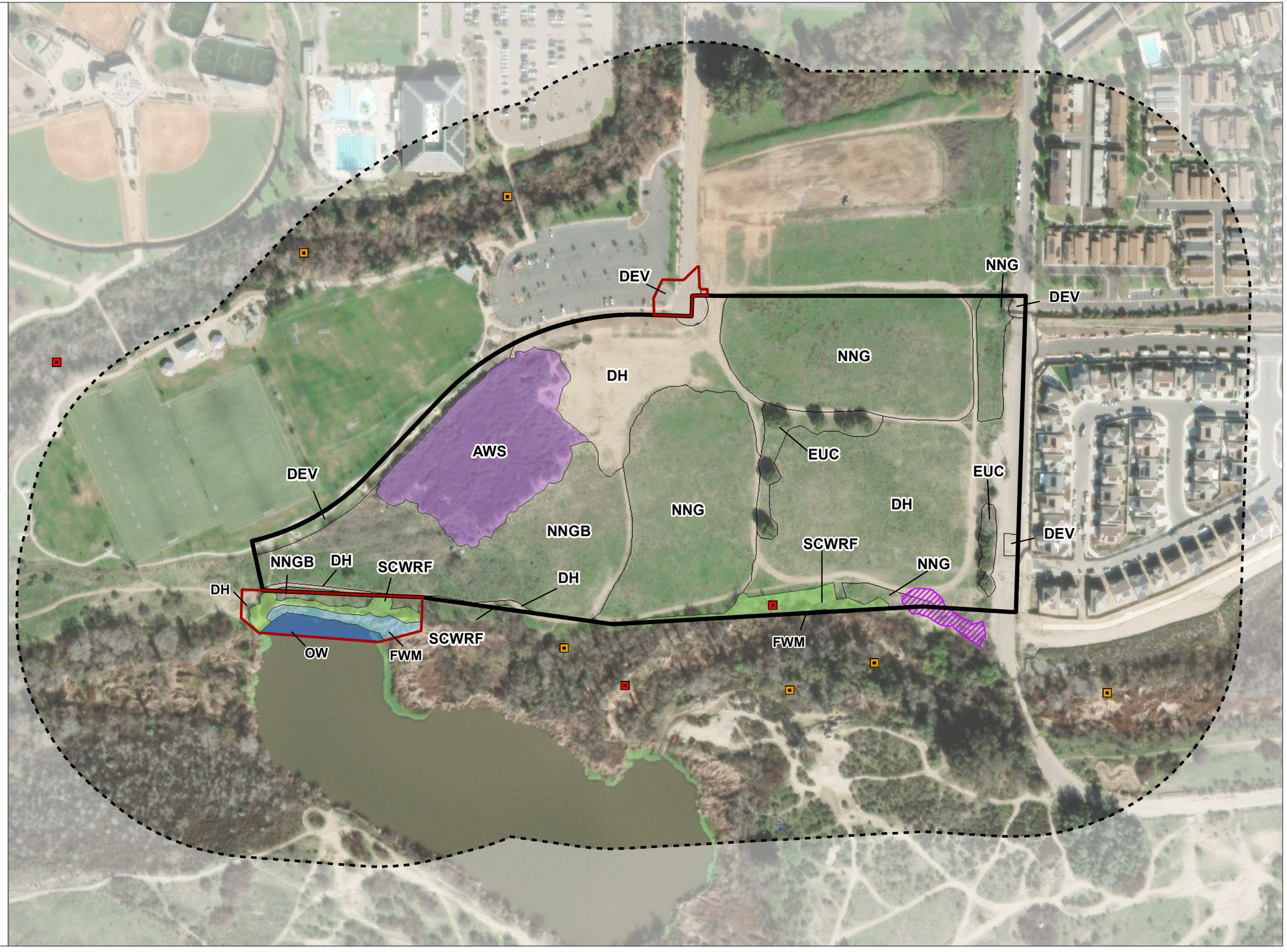
- Arrowweed Scrub - AWS
- Coastal and Valley Freshwater Marsh -
- Disturbed Habitat - DH
- Eucalyptus Woodland - EUC
- Non-Native Grassland - NNG
- Non-Native Grassland: Broadleaf-Dominated - NNGB
- Open Water - OW
- Southern Cottonwood-Willow Riparian Forest - SCWRF
- Urban/Developed - DEV

USACE/RWQCB/CDFW

- Open Water, OW
- Coastal and Valley Freshwater Marsh, FWM

CDFW Riparian Habitat

- Arrowweed Scrub, AWS
- Southern Cottonwood-Willow Riparian Forest, SCW RF



SOURCE: ESRI IMAGERY (ACCESSED 2025)

DUDEK

0 110 220 Feet

FIGURE 3

Biological Resources

Cottonwood and Park Project / Biological Technical Report

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- On-Site Area
- Off-Site Area
- 500-Ft Buffer
- Permanent Impact
- Temporary Impact
- San Diego River Subunit

Wildlife Point

- Least Bell's Vireo *(Vireo bellii pusillus)*, B-LBVI
- Yellow Warbler*(Setophaga petechia)*, B-YWAR
- White Rabbit-Tobacco *(Pseudognaphalium leucocephalum)*, Pseleu

Vegetation Communities and Land Cover Types

- Arrowweed Scrub - AWS
- Coastal and Valley Freshwater Marsh - FWM
- Disturbed Habitat - DH
- Eucalyptus Woodland - EUC
- Non-Native Grassland - NNG
- Non-Native Grassland: Broadleaf-Dominated - NNGB
- Southern Cottonwood-Willow Riparian Forest - SCWRF
- Urban/Developed - DEV

USACE/RWQCB/CDFW

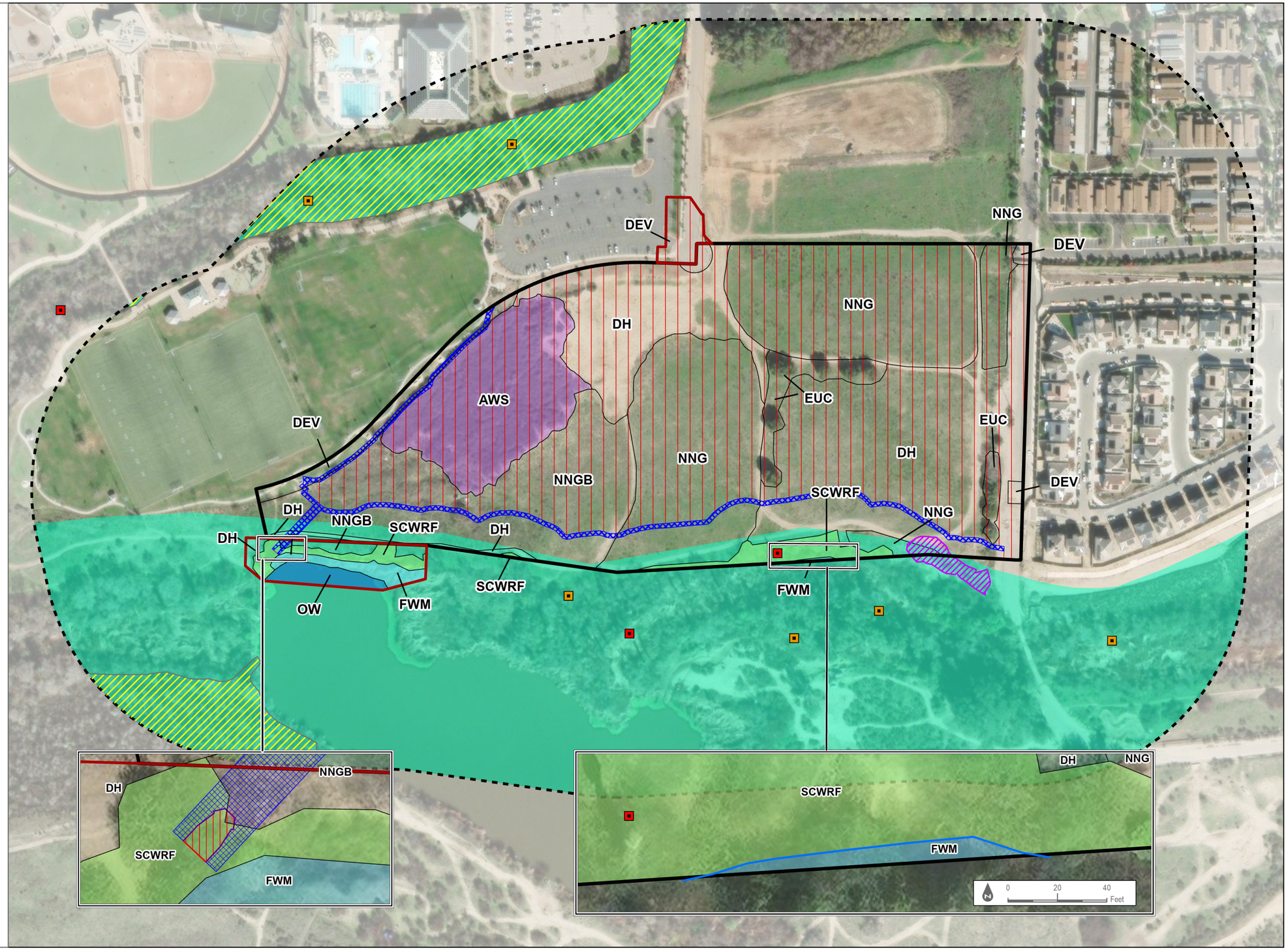
- Open Water, OW
- Coastal and Valley Freshwater Marsh, FWM

CDFW Riparian Habitat

- Arrowweed Scrub, AWS
- Southern Cottonwood-Willow Riparian Forest, SCWRF

Existing Protected Open Space

- Other Protected Open Space



SOURCE: ESRI IMAGERY (ACCESSED 2025)

DUDEK 0 110 220 Feet

Figure 4

Impacts to Biological Resources

Cottonwood and Park Project / Biological and Technical Report

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Appendix A
Plant Compendium

Vascular Species

Eudicots

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus* – prostrate pigweed

ANACARDIACEAE – SUMAC OR CASHEW FAMILY

Malosma laurina – laurel sumac

ASTERACEAE – SUNFLOWER FAMILY

Ambrosia acanthicarpa – flatspine bur ragweed
Ambrosia psilostachya – western ragweed
Baccharis salicifolia – mulefat
Baccharis sarothroides – desertbroom
* *Centaurea melitensis* – Maltese star – thistle
* *Cotula australis* – Australian waterbuttons
* *Erigeron bonariensis* – asthmaweed
Erigeron canadensis – Canadian horseweed
* *Helminthotheca echioides* – bristly oxtongue
Heterotheca grandiflora – telegraphweed
Isocoma menziesii – Menzies's golden bush
* *Lactuca serriola* – prickly lettuce
* *Logfia gallica* – narrowleaf cottonrose
Pluchea sericea – arrow weed
Pseudognaphalium beneolens – Wright's cudweed
Xanthium strumarium – cocklebur

BORAGINACEAE – BORAGE FAMILY

Amsinckia menziesii – Menzies' fiddleneck
Heliotropium curassavicum var. *oculatum* – seaside heliotrope
Phacelia minor – wild Canterbury bells

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
* *Capsella bursa – pastoris*—shepherd's purse
* *Hirschfeldia incana* – shortpod mustard

CARYOPHYLLACEAE – PINK FAMILY

* *Spergularia bocconi* – Boccone's sandspurry

CHENOPODIACEAE – GOOSEFOOT FAMILY

Atriplex serenana var. *serenana* – bractscale

* *Salsola tragus* – prickly Russian thistle

CUCURBITACEAE – GOURD FAMILY

Cucurbita foetidissima – Missouri gourd

EUPHORBIACEAE – SPURGE FAMILY

Croton californicus – California croton

Croton setiger – dove weed

* *Ricinus communis* – castorbean

FABACEAE – LEGUME FAMILY

Acmispon americanus var. *americanus* – American bird's – foot trefoil

Acmispon strigosus – strigose bird's – foot trefoil

* *Lotus corniculatus* – bird's–foot trefoil

Lupinus bicolor – miniature lupine

* *Parkinsonia aculeata* – Jerusalem thorn

GERANIACEAE – GERANIUM FAMILY

* *Erodium botrys* – longbeak stork's bill

* *Erodium cicutarium* – redstem stork's bill

* *Erodium moschatum* – musky stork's bill

LAMIACEAE – MINT FAMILY

* *Marrubium vulgare* – horehound

MALVACEAE – MALLOW FAMILY

* *Malva parviflora* – cheeseweed mallow

MYRSINACEAE – MYRSINE FAMILY

* *Lysimachia arvensis* – scarlet pimpernel

MYRTACEAE – MYRTLE FAMILY

* *Eucalyptus cladocalyx* – sugargum

ONAGRACEAE – EVENING PRIMROSE FAMILY

Camissoniopsis bistorta – southern suncup

PLANTAGINACEAE – PLANTAIN FAMILY

Plantago ovata – desert Indianwheat

POLYGONACEAE – BUCKWHEAT FAMILY

Lastarriaea coriacea – leather spineflower
* *Polygonum aviculare* – prostrate knotweed
* *Rumex crispus* – curly dock

SALICACEAE – WILLOW FAMILY

Populus fremontii ssp. *fremontii* – Fremont cottonwood
Salix gooddingii – Goodding's willow

SOLANACEAE – NIGHTSHADE FAMILY

Datura wrightii – sacred thorn – apple
* *Nicotiana glauca* – tree tobacco

TAMARICACEAE – TAMARISK FAMILY

* *Tamarix ramosissima*—tamarisk

VIBURNACEAE – MUSKROOT FAMILY

Sambucus mexicana – blue elderberry

ZYGOPHYLLACEAE – CALTROP FAMILY

* *Tribulus terrestris* – puncturevine

Monocots

POACEA – GRASS FAMILY

* *Avena barbata* – slender oat
* *Bromus diandrus* – ripgut brome
* *Bromus hordeaceus* – soft brome
* *Bromus madritensis* – compact brome
* *Bromus rubens* – red brome
* *Cynodon dactylon* – Bermudagrass
* *Festuca myuros* – rat–tail fescue
Muhlenbergia rigens – deer grass
* *Polypogon monspeliensis* – annual rabbitsfoot grass

* Signifies introduced (non–native) species.

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Appendix B
Wildlife Compendium

Amphibians

Frogs

HYLIDAE – TREEFROGS

Pseudacris hypochondriaca – Baja California treefrog

RANIDAE – TRUE FROGS

* *Lithobates catesbeianus* – American bullfrog

Salamanders

PLETHODONTIDAE – LUNGLESS SALAMANDERS

Batrachoseps attenuatus – California slender salamander

Toads

BUFONIDAE – TRUE TOADS

Anaxyrus boreas – western toad

Birds

Blackbirds, Orioles, and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red–winged blackbird

Euphagus cyanocephalus – Brewer's blackbird

Icterus cucullatus – hooded oriole

* *Molothrus ater* – brown–headed cowbird

Bushtits

AEGITHALIDAE – LONG–TAILED TITS AND BUSHTITS

Psaltriparus minimus – bushtit

Cardinals, Grosbeaks, and Allies

CARDINALIDAE – CARDINALS AND ALLIES

Passerina caerulea – blue grosbeak

Pheucticus melanocephalus – black–headed grosbeak

Cormorants

PHALACROCORACIDAE – CORMORANTS

Nannopterum auritus – double–crested cormorant

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch

Spinus psaltria – lesser goldfinch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe

Sayornis saya – Say's phoebe

Tyrannus vociferans – Cassin's kingbird

Grebes

PODICIPEDIDAE – GREBES

Aechmophorus occidentalis – western grebe

Podilymbus podiceps – pied–billed grebe

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii – Cooper's hawk

Buteo jamaicensis – red–tailed hawk

Buteo lineatus – red–shouldered hawk

Herons and Bitterns

ARDEIDAE – HERONS, BITTERNS, AND ALLIES

Ardea alba – great egret

Ardea herodias – great blue heron

Egretta thula – snowy egret

Nycticorax nycticorax – black–crowned night–heron

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird
Calypte costae – Costa's hummingbird
Selasphorus sasin – Allen's hummingbird

Jays, Magpies, and Crows

CORVIDAE – CROWS AND JAYS

Aphelocoma californica – California scrub–jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird
Toxostoma redivivum – California thrasher

Old World Sparrows

PASSERIDAE – OLD WORLD SPARROWS

* *Passer domesticus* – house sparrow

Old World Warblers and Gnatcatchers

POLIOPTILIDAE – GNATCATCHERS

Polioptila caerulea – blue–gray gnatcatcher

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Patagioenas fasciata – band–tailed pigeon
Zenaida macroura – mourning dove
* *Columba livia* – rock pigeon (rock dove)

Rails, Gallinules, and Coots

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana – American coot

Silky Flycatchers

PTILOGONATIDAE – SILKY–FLYCATCHERS

Phainopepla nitens – phainopepla

Swallows

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow

Swifts

APODIDAE – SWIFTS

Aeronautes saxatalis – white–throated swift

Thrushes

TURDIDAE – THRUSHES

Sialia mexicana – western bluebird

Turdus migratorius – American robin

Vireos

VIREONIDAE – VIREOS

Vireo bellii pusillus – least Bell's vireo

Waterfowl

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

Branta canadensis – Canada goose

Bucephala albeola – bufflehead

Oxyura jamaicensis – ruddy duck

Spatula discors – blue–winged teal

Mareca strepera – gadwall

Spatula clypeata – northern shoveler

Mareca americana – American wigeon

Wood Warblers and Allies

PARULIDAE – WOOD–WARBLERS

Geothlypis trichas – common yellowthroat
Setophaga petechia – yellow warbler

Woodpeckers

PICIDAE – WOODPECKERS AND ALLIES

Colaptes auratus – northern flicker
Dryobates nuttallii – Nuttall's woodpecker

Wrens

TROGLODYTIDAE – WRENS

Cistothorus palustris – marsh wren
Troglodytes aedon – house wren
Thryomanes bewickii – Bewick's wren

Waxbills

ESTRILDIDAE – WAXBILLS

* *Lonchura punctulata* – scaly–breasted munia

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Melospiza melodia – song sparrow
Melozone crissalis – California towhee
Pipilo maculatus – spotted towhee

Typical Warblers, Parrotbills, Wrentit

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

Invertebrates

Butterflies

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES

Danaus Plexippus – monarch

Vanessa cardui – painted lady

HESPERIIDAE – SKIPPERS

Erynnis funeralis – funereal duskywing

Mammals

Canids

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

Hares and Rabbits

LEPORIDAE – HARES AND RABBITS

Sylvilagus bachmani – brush rabbit

Opossums

DIDELPHIDAE – NEW WORLD OPOSSUMS

* *Didelphis virginiana* – Virginia opossum

Pocket Gophers

GEOMYIDAE – POCKET GOPHERS

Thomomys bottae – Botta's pocket gopher

Squirrels

SCIURIDAE – SQUIRRELS

Otospermophilus beecheyi – California ground squirrel

Rats, Mice, and Voles

CRICETIDAE – RATS, MICE, AND VOLES

Microtus californicus – California vole

Raccoons

PROCYONIDAE – RACCOONS AND RELATIVES

Procyon lotor – northern raccoon

Reptiles

Lizards

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

Uta stansburiana – common side–blotched lizard

ANGUIDAEALLIGATOR LIZARDS

Elgaria multicarinata – southern alligator lizard

Snakes

COLUBRIDAE – COLUBRID SNAKES

Pituophis catenifer – gophersnake

* Signifies introduced (non–native) species.

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Appendix C

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/1B.1/Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay, openings/ annual herb/Apr–June/35–3,145	Not expected to occur. No clay soils or vernal pools present.
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1/ None	Coastal dunes, coastal scrub (sandy)/ annual herb/Mar–June (July)/0–35	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Adolphia californica	California adolphia	None/None/2B.1/ None	Chaparral, coastal scrub, valley and foothill grassland; clay/perennial deciduous shrub/ Dec–May/35–2,425	Not expected to occur. This perennial species would have been observed during the rare plant survey and there are no clay soils present.
Allium marvinii	Yucaipa onion	None/None/1B.2/ None	Chaparral (clay, openings)/perennial bulbiferous herb/Apr–May/2,490–3,490	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Ambrosia chenopodiifolia	San Diego bur-sage	None/None/2B.1/ None	Coastal scrub/perennial shrub/Apr–June/ 180–510	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Ambrosia monogyra	singlewhorl burrobrush	None/None/2B.2/ None	Chaparral, Sonoran desert scrub; sandy/ perennial shrub/Aug–Nov/35–1,640	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; alkaline (sometimes), clay (sometimes), disturbed areas (often), loam (sometimes), sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Not expected to occur. This species would have been observed during the rare plant survey if present.
Aphanisma blitoides	aphanisma	None/None/1B.2/ None	Coastal bluff scrub, coastal dunes, coastal scrub; gravelly (sometimes), sandy (sometimes)/annual herb/Feb–June/ 5–1,000	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/None/1B.1/None	Chaparral (maritime, sandy)/perennial evergreen shrub/June–Apr/0–1,195	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Arctostaphylos otayensis	Otay manzanita	None/None/1B.2/ None	Chaparral, cismontane woodland/perennial evergreen shrub/Jan–Apr/900–5,575	Not expected to occur. The site is outside of the species' known elevation range and this perennial species would have been observed during the rare plant survey if present.
Artemisia palmeri	San Diego sagewort	None/None/4.2/None	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; mesic, sandy/perennial deciduous shrub/ (Feb) May–Sep/15–3,000	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Asplenium vespertinum	western spleenwort	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub; rocky/perennial rhizomatous herb/Feb–June/590–3,280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Astragalus deanei	Dean's milk-vetch	None/None/1B.1/ None	Chaparral, cismontane woodland, coastal scrub, riparian forest/perennial herb/ Feb–May/245–2,280	Not expected to occur. No suitable vegetation present.
Astragalus oocarpus	San Diego milk-vetch	None/None/1B.2/ None	Chaparral (openings), cismontane woodland/perennial herb/May–Aug/ 1,000–5,000	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2/ None	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline (sometimes), clay (sometimes)/perennial herb/Mar–Oct/10–1,505	Not expected to occur. This species would have been observed during the rare plant survey.
Atriplex pacifica	south coast saltscale	None/None/1B.2/ None	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/Mar–Oct/0–460	Not expected to occur. No suitable vegetation present.
Baccharis vanessae	Encinitas baccharis	FT/SE/1B.1/None	Chaparral (maritime), cismontane woodland; sandstone/perennial deciduous shrub/Aug–Nov/195–2,360	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Bergerocactus emoryi	golden-spined cereus	None/None/2B.2/ None	Chaparral, closed-cone coniferous forest, coastal scrub; sandy/perennial stem/ May–June/10–1,295	Not expected to occur. No suitable vegetation present.
Bloomeria clevelandii	San Diego goldenstar	None/None/1B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial bulbiferous herb/Apr–May/165–1,525	Not expected to occur. No clay soils present.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1/None	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; clay (often)/perennial bulbiferous herb/ Mar–June/80–3,670	Not expected to occur. No clay soils present.
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1/ None	Chaparral, cismontane woodland, closed-cone coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools; clay, mesic/perennial bulbiferous herb/May–July/100–5,550	Not expected to occur. This species was not observed during the rare plant survey and no clay soils are present.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2/None	Chaparral, coastal scrub; burned areas, disturbed areas, loam (sometimes), sandy (sometimes)/annual herb/(Jan) Mar–June/ 35–4,000	Not expected to occur. No suitable vegetation present.
Calochortus dunnii	Dunn's mariposa-lily	None/SR/1B.2/None	Chaparral, closed-cone coniferous forest, valley and foothill grassland; gabbroic (sometimes), rocky/perennial bulbiferous herb/(Feb) Apr–June/605–6,000	Not expected to occur. The site is outside of the species' known elevation range.
Carex obispoensis	San Luis Obispo sedge	None/None/1B.2/ None	Chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland; clay (often), gabbroic (sometimes), seeps (often), serpentinite (often)/perennial cespitose herb/Apr–June/ 35–2,690	Not expected to occur. This species was not observed during the rare plant survey and there are no clay soils present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Castilleja plagiotoma	Mojave paintbrush	None/None/4.3/None	Great Basin scrub (alluvial), Joshua tree "woodland," lower montane coniferous forest, pinyon and juniper woodland/ perennial herb (hemiparasitic)/Apr–June/ 985–8,200	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Ceanothus cyaneus	Lakeside ceanothus	None/None/1B.2/ None	Chaparral, closed-cone coniferous forest/ perennial evergreen shrub/Apr–June/ 770–2,475	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Ceanothus otayensis	Otay Mountain ceanothus	None/None/1B.2/ None	Chaparral (gabbroic, metavolcanic)/ perennial evergreen shrub/Jan–Apr/ 1,965–3,605	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/2B.2/ None	Chaparral/perennial evergreen shrub/ Dec–May/5–1,245	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Centromadia pungens ssp. *laevis*	smooth tarplant	None/None/1B.1/ None	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/annual herb/Apr–Sep/ 0–2,095	Not expected to occur. This species was not observed during the rare plant survey.
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	FE/SE/1B.2/None	Coastal dunes, marshes and swamps (coastal salt)/annual herb (hemiparasitic)/ May–Oct (Nov)/0–100	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/1B.2/ None	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools; clay (often)/annual herb/Apr–July/ 100–5,015	Not expected to occur. This species was not observed during the rare plant survey and there are no clay soils present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Clarkia delicata	delicate clarkia	None/None/1B.2/ None	Chaparral, cismontane woodland; gabbroic (often)/annual herb/Apr–June/770–3,280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Clinopodium chandleri	San Miguel savory	None/None/1B.2/ None	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; gabbroic (sometimes), rocky (sometimes)/perennial shrub/Mar–July/ 395–3,525	Not expected to occur. This perennial shrub species was not observed during the rare plant survey.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/1B.2/ None	Chaparral, cismontane woodland/perennial evergreen shrub/Apr–June/100–2,590	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2/None	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, seeps, serpentinite/annual herb/Mar–July/ 100–2,425	Not expected to occur. This species was not observed during the rare plant survey.
Corethrogyne filaginifolia var. *incana*	San Diego sand aster	None/None/1B.1/ None	Chaparral, coastal bluff scrub, coastal scrub/perennial herb/June–Sep/10–375	Not expected to occur. No suitable vegetation present.
Cylindropuntia californica var. *californica*	snake cholla	None/None/1B.1/ None	Chaparral, coastal scrub/perennial stem/ Apr–May/100–490	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Deinandra conjugens	Otay tarplant	FT/SE/1B.1/None	Coastal scrub, valley and foothill grassland; clay/annual herb/(Apr) May–June/80–985	Not expected to occur. No clay soils present.
Deinandra floribunda	Tecate tarplant	None/None/1B.2/ None	Chaparral, coastal scrub/annual herb/ Aug–Oct/230–4,000	Not expected to occur. No suitable vegetation present.
Dicranostegia orcuttiana	Orcutt's bird's-beak	None/None/2B.1/ None	Coastal scrub/annual herb (hemiparasitic)/ (Mar) Apr-July (Sep)/35–1,145	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Dudleya variegata	variegated dudleya	None/None/1B.2/ Covered	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial herb/Apr–June/ 10–1,900	Not expected to occur. This species was not observed during the rare plant survey, and there are no clay soils present.
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	None/None/1B.1/ None	Chaparral, coastal scrub; mesic/perennial evergreen shrub/(July)Sep–Nov/ 100–1,965	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Eriodictyon sessilifolium	sessile-leaved yerba santa	None/None/2B.1/ None	Coastal scrub; volcanic/perennial shrub/ July/560–560	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Eriogonum evanidum	vanishing wild buckwheat	None/None/1B.1/ None	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland; gravelly (sometimes), sandy (sometimes)/annual herb/July–Oct/ 3,605–7,295	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1/Covered	Coastal scrub, valley and foothill grassland, vernal pools; mesic/annual/perennial herb/Apr–June/65–2,030	Not expected to occur. This perennial species was not observed during the rare plant survey, and no vernal pools are present.
Euphorbia abramsiana	Abrams' spurge	None/None/2B.2/ None	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/(Aug)Sep–Nov/- 15–4,295	Not expected to occur. No suitable vegetation present.
Euphorbia misera	cliff spurge	None/None/2B.2/ None	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky/perennial shrub/ (Oct)Dec–Aug/35–1,640	Not expected to occur. No suitable vegetation present.
Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/perennial stem/ May–June/10–1,475	Not expected to occur. This perennial species was not observed during the rare plant survey.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Frankenia palmeri	Palmer's frankenia	None/None/2B.1/ None	Coastal dunes, marshes and swamps (coastal salt), playas/perennial herb/ May–July/0–35	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Fraxinus parryi	chaparral ash	None/None/2B.2/ None	Chaparral/perennial shrub/Mar–May/ 700–2,030	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Fremontodendron mexicanum	Mexican flannelbush	FE/SR/1B.1/None	Chaparral, cismontane woodland, closed-cone coniferous forest; gabbroic, serpentinite/perennial evergreen shrub/ Mar–June/35–2,345	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Galium proliferum	desert bedstraw	None/None/2B.2/ None	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; carbonate, rocky/annual herb/Mar–June/ 3,900–5,345	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1/ None	Coastal scrub (mesic), vernal pools/ ephemeral liverwort/35–1,965	Not expected to occur. No suitable vegetation present.
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	None/None/3.1/None	Chaparral (disturbed areas, mesic)/annual herb/Apr–June/1,475–2,295	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Grindelia hallii	San Diego gumplant	None/None/1B.2/ None	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/perennial herb/May–Oct/ 605–5,725	Not expected to occur. The site is outside of the species' known elevation range.
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; clay, openings/annual herb/ Mar–May/65–3,130	Not expected to occur. No clay soils present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Hesperocyparis forbesii	Tecate cypress	None/None/1B.1/ None	Chaparral, closed-cone coniferous forest; clay, gabbroic (sometimes)/perennial evergreen tree/260–4,920	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	None/None/1B.1/ None	Chaparral (coastal), coastal dunes, coastal scrub/perennial herb/Mar–Dec/0–4,015	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Holocarpha virgata ssp. *elongata*	graceful tarplant	None/None/4.2/ None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/annual herb/May–Nov/195–3,605	Not expected to occur. This species was not observed during the rare plant survey.
Horkelia truncata	Ramona horkelia	None/None/1B.3/ None	Chaparral, cismontane woodland; clay, gabbroic/perennial herb/May–June/ 1,310–4,265	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/1B.2/ None	Chaparral, coastal scrub (often disturbed areas, sandy)/perennial shrub/Apr–Nov/ 35–820	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Iva hayesiana	San Diego marsh-elder	None/None/2B.2/ None	Marshes and swamps, playas/perennial herb/Apr–Oct/0–1,640	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Juglans californica	Southern California black walnut	None/None/4.2/ None	Chaparral, cismontane woodland, coastal scrub, riparian woodland/perennial deciduous tree/Mar–Aug/165–2,950	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/None/4.2/ None	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt), meadows and seeps (alkaline seeps)/ perennial rhizomatous herb/ (Mar)May–June/10–2,950	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1/ None	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/ 5–4,000	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lathyrus splendens	pride-of-California	None/None/4.3/ None	Chaparral/perennial herb/Mar–June/ 655–5,000	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2/ None	Chaparral, cismontane woodland, closed-cone coniferous forest/perennial shrub/ Apr–July/1,705–4,490	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Lepechinia ganderi	Gander's pitcher sage	None/None/1B.3/ None	Chaparral, closed-cone coniferous forest, coastal scrub, valley and foothill grassland; gabbroic (sometimes)/perennial shrub/ June–July/1,000–3,295	Not expected to occur. The site is outside of the species' known elevation range.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3/None	Chaparral, coastal scrub/annual herb/ Jan–July/5–2,900	Not expected to occur. No suitable vegetation present.
Leptosyne maritima	sea dahlia	None/None/2B.2/ None	Coastal bluff scrub, coastal scrub/perennial herb/Mar–May/15–490	Not expected to occur. No suitable vegetation present.
Monardella breweri ssp. *microcephala*	small-headed monardella	None/None/2B.2/ None	Chaparral, cismontane woodland, lower montane coniferous forest; disturbed areas (sometimes), granitic, openings/annual herb/May–Aug/755–3,935	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/None/1B.2/ None	Chaparral, cismontane woodland/perennial rhizomatous herb/June–Aug/985–5,165	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Monardella viminea	willowy monardella	FE/SE/1B.1/Covered	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; alluvial terraces, washes/perennial herb/ June–Aug/165–740	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Myosurus minimus ssp. *apus*	little mousetail	None/None/3.1/None	Valley and foothill grassland, vernal pools (alkaline)/annual herb/Mar–June/ 65–2,095	Not expected to occur. No vernal pools or clay soils present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Nama stenocarpa	mud nama	None/None/2B.2/ None	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/ Jan–July/15–1,640	Not expected to occur. No suitable vegetation present.
Navarretia fossalis	spreading navarretia	FT/None/1B.1/None	Chenopod scrub, marshes and swamps (shallow freshwater), playas, vernal pools/annual herb/Apr–June/100–2,145	Not expected to occur. This species is strongly associated with vernal pools, which are not present within the project site (USFWS 2009).
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.2/ None	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/Apr–July/ 10–3,965	Not expected to occur. This species was not observed during the rare plant survey, and no vernal pools are present.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/None/1B.2/ None	Coastal dunes/annual herb/Apr–Sep/ 0–330	Not expected to occur. No suitable vegetation present.
Nolina interrata	Dehesa nolina	None/SE/1B.1/None	Chaparral (gabbroic, metavolcanic, serpentinite)/perennial herb/June–July/ 605–2,805	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1/None	Vernal pools/annual herb/Apr–Aug/ 50–2,165	Not expected to occur. No vernal pool habitat present.
Packera ganderi	Gander's ragwort	None/SR/1B.2/None	Chaparral (burned areas, gabbroic outcrops)/perennial herb/Apr–June/ 1,310–3,935	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Pentachaeta aurea ssp. *aurea*	golden-rayed pentachaeta	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/annual herb/Mar–July/ 260–6,065	Not expected to occur. This species was not observed during the rare plant survey.
Piperia cooperi	chaparral rein orchid	None/None/4.2/None	Chaparral, cismontane woodland, valley and foothill grassland/perennial herb/ Mar–June/50–5,200	Not expected to occur. This species was not observed during the rare plant survey, and grassland areas present are highly disturbed.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Pogogyne abramsii	San Diego mesa mint	FE/SE/1B.1/Covered	Vernal pools/annual herb/Mar–July/ 295–655	Not expected to occur. No suitable vegetation present.
Pogogyne nudiuscula	Otay Mesa mint	FE/SE/1B.1/None	Vernal pools/annual herb/May–July/ 295–820	Not expected to occur. No vernal pool habitat present.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2/ None	Chaparral, cismontane woodland, coastal scrub, riparian woodland; gravelly, sandy/ perennial herb/(July) Aug–Nov (Dec)/ 0–6,885	Observed within the project site during the rare plant survey in 2023. Six individuals were observed within the southeastern corner of the project site immediately adjacent to the San Diego River corridor.
Quercus cedrosensis	Cedros Island oak	None/None/2B.2/None	Chaparral, closed-cone coniferous forest, coastal scrub/perennial evergreen tree/ Apr–May/835–3,145	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1/None	Chaparral, closed-cone coniferous forest, coastal scrub; clay, loam, sandy/perennial evergreen shrub/Feb–Apr (May–Aug)/ 50–1,310	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Quercus engelmannii	Engelmann oak	None/None/4.2/None	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/ perennial deciduous tree/Mar–June/ 165–4,265	Not expected to occur. This perennial species was not observed during the rare plant survey.
Ribes canthariforme	Moreno currant	None/None/1B.3/None	Chaparral, riparian scrub/perennial deciduous shrub/Feb–Apr/1,115–3,935	Not expected to occur. The site is outside of the species' known elevation range, and this perennial species would have been observed during the rare plant survey if present.
Romneya coulteri	Coulter's matilija poppy	None/None/4.2/None	Chaparral, coastal scrub; burned areas (often)/perennial rhizomatous herb/ Mar–July (Aug)/65–3,935	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Salvia munzii	Munz's sage	None/None/2B.2/None	Chaparral, coastal scrub/perennial evergreen shrub/Feb–Apr/375–3,490	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Selaginella cinerascens	ashy spike-moss	None/None/4.1/None	Chaparral, coastal scrub/perennial rhizomatous herb/65–2,095	Not expected to occur. No suitable vegetation present.
Senecio aphanactis	chaparral ragwort	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub; alkaline (sometimes)/annual herb/ Jan–Apr (May)/50–2,620	Not expected to occur. No suitable vegetation present.
Sphaerocarpos drewiae	bottle liverwort	None/None/1B.1/None	Chaparral, coastal scrub; openings/ ephemeral liverwort/295–1,965	Not expected to occur. No suitable vegetation present.
Stemodia durantifolia	purple stemodia	None/None/2B.1/None	Sonoran desert scrub (often mesic, sandy)/perennial herb/(Jan) Apr–Dec/ 590–985	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Stipa diegoensis	San Diego County needle grass	None/None/4.2/None	Chaparral, coastal scrub; mesic (often), rocky/perennial herb/Feb–June/ 35–2,620	Not expected to occur. No suitable vegetation present.
Streptanthus bernardinus	Laguna Mountains jewelflower	None/None/4.3/None	Chaparral, lower montane coniferous forest/perennial herb/May–Aug/ 2,195–8,200	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Stylocline citroleum	oil neststraw	None/None/1B.1/None	Chenopod scrub, coastal scrub, valley and foothill grassland; clay/annual herb/ Mar–Apr/165–1,310	Not expected to occur. No clay soils present.
Suaeda esteroa	estuary seablite	None/None/1B.2/None	Marshes and swamps (coastal salt)/ perennial herb/(Jan–May) July–Oct/0–15	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.
Tetracoccus dioicus	Parry's tetracoccus	None/None/1B.2/None	Chaparral, coastal scrub/perennial deciduous shrub/Apr–May/540–3,280	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present. This perennial

Scientific Name	Common Name	Status (Federal/State/CRPR/ Santee Subarea Plan)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				species would have been observed during the rare plant survey if present.
Texosporium sancti-jacobi	woven-spored lichen	None/None/3/None	Chaparral (openings)/crustose lichen (terricolous)/195–2,165	Not expected to occur. No suitable vegetation present.
Triquetrella californica	coastal triquetrella	None/None/1B.2/None	Coastal bluff scrub, coastal scrub/moss/ 35–330	Not expected to occur. No suitable vegetation present.
Viguiera laciniata	San Diego County viguiera	None/None/4.3/None	Chaparral, coastal scrub/perennial shrub/Feb–June (Aug)/195–2,460	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Xanthisma junceum	rush-like bristleweed	None/None/4.3/None	Chaparral, coastal scrub/perennial herb/ Jan–Oct/785–3,280	Not expected to occur. The site is outside of the species' known elevation range, and there is no suitable vegetation present.

Notes: CRPR = California Rare Plant Rank.
Status Legend
Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
State
SE: State listed as endangered
SR: State listed as rare
CRPR: California Rare Plant Rank
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which more information is needed – A Review List
4: Plants of Limited Distribution – A Watch List
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

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Appendix D

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC/None	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. No suitable stream channels present. Outside of known range (USFWS 2009).
Spea hammondii	western spadefoot	PT/SSC/Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Not expected to occur. No suitable ephemeral wetlands, and the grassland areas are highly disturbed.
Reptiles				
Anniella stebbinsi	southern California legless lizard	None/SSC/None	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Moderate potential to occur. Suitable riparian habitat and sandy soils occur along the southern boundary of the project site.
Arizona elegans occidentalis	California glossy snake	None/SSC/None	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	Not expected to occur. No suitable scrub or chaparral present. Suitable soils are highly disturbed.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL/Covered	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Not expected to occur. No suitable vegetation present.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC/None	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Moderate potential to occur. Suitable riparian habitat and sandy soils occur along the southern boundary of the project site.
Chelonia mydas	green sea turtle	FT/None/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	Not expected to occur. No suitable habitat present.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Coleonyx variegatus abbotti	San Diego banded gecko	None/SSC/None	Rocky areas within coastal scrub and chaparral	Not expected to occur. No suitable vegetation present.
Crotalus ruber	red diamondback rattlesnake	None/SSC/None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Not expected to occur. No suitable vegetation present. Abundant human activity.
Actinemys pallida	southwestern pond turtle	PT/SSC/None	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Suitable wetland habitat is present around the project area within the San Diego River. However, southwestern pond turtle is not currently known from the San Diego River in the City of Santee. Therefore, this species is not expected to occur.
Masticophis fuliginosus	Baja California coachwhip	None/SSC/None	In California restricted to southern San Diego County, where it is known from grassland and coastal sage scrub; open areas in grassland and coastal sage scrub	Not expected to occur. Grassland areas are highly disturbed.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC/Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains, including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. No suitable vegetation present.
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC/None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Not expected to occur. No suitable vegetation present.
Thamnophis hammondii	two-striped gartersnake	None/SSC/None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Moderate potential to occur. Suitable riparian habitat associated with the San Diego River occurs along the southern boundary of the project site.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST/None	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grassland, woodland, and agriculture	Low potential to occur. Marginal suitable emergent wetlands present. Only known historically to occur at Santee Lakes (CDFW 2023).
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC/None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Low potential to occur. No suitable nesting vegetation present.
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL/None	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to occur. The site is small, highly disturbed, and surrounded by existing development.
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC/Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Site contains suitable ground squirrel burrows; however, this species was not observed during field surveys. Not known from Santee (CDFW 2023).
Buteo swainsoni (nesting)	Swainson's hawk	None/ST/None	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur. This species no longer nests in southern California.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC/Covered	Southern cactus scrub patches	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC/None	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren, or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur. No suitable vegetation present.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE/None	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. Not observed during riparian bird surveys. Riparian habitat not dense enough to support this species.
Coturnicops noveboracensis	yellow rail	BCC/SSC/None	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	Not expected to occur. No suitable vegetation present.
Elanus leucurus (nesting)	white-tailed kite	None/FP/None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grasslands, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Low potential to occur. Species not observed during field surveys.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE/None	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. Species not observed during riparian bird surveys. USFWS agreed that focused surveys not needed in this area.
Icteria virens (nesting)	yellow-breasted chat	None/SSC/None	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	High potential to occur. Species not observed during riparian bird surveys. However, this species is known to occur in the immediate vicinity (i.e. San Diego River).
Ixobrychus exilis (nesting)	least bittern	None/SSC/None	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. No suitable vegetation present.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE/None	Nests and forages in coastal saltmarsh dominated by pickleweed (*Salicornia* spp.)	Not expected to occur. No suitable vegetation present.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC/Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. No suitable vegetation present and this species was not incidentally observed during riparian bird surveys within the site.
Rallus obsoletus levipes	Ridgway's rail	FE/FP, SE/None	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable coastal wetland habitat present.
Setophaga petechia (nesting)	yellow warbler	None/SSC/None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Observed within riparian areas immediately south of the project site.
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE/None	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. The site lacks suitable habitat for this species. This species establishes nesting colonies along coastal beach or estuarine habitats, which is not present in the project area.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE/Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Observed within riparian areas within the project site (along the southern boundary) and immediately south, north, and west of the project site. All riparian vegetation around the project is expected to be occupied.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Mammals				
Antrozous pallidus	pallid bat	None/SSC/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in trees and human-built structures	Moderate potential to forage, not expected to roost. Limited suitable roosting vegetation present.
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/SSC/None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Not expected to occur. No suitable vegetation present.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Not expected to occur. No suitable vegetation present.
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC/None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	Not expected to occur. No suitable vegetation present.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC/None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, human-built structures, and tunnels	Moderate potential to forage, not expected to roost. Limited suitable roosting vegetation present.
Dasypterus xanthinus	western yellow bat	None/SSC/None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Moderate potential to forage, not expected to roost. Limited suitable roosting vegetation present.
Eumops perotis californicus	western mastiff bat	None/SSC/None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Moderate potential to forage, not expected to roost. Limited suitable roosting vegetation present.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC/None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC/None	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	Moderate potential to forage, not expected to roost. Limited suitable roosting vegetation present.
Nyctinomops macrotis	big free-tailed bat	None/SSC/None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. No suitable rocky habitat present.
Taxidea taxus	American badger	None/SSC/None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Site is highly disturbed and surrounded by existing development.
Lasiurus frantzii	western red bat	None/SSC/None	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	Moderate potential to forage, not expected to roost. Limited suitable roosting vegetation present.
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE/Covered	Open grassland and scrub communities supporting suitable floral resources	Not expected to occur. Site is highly disturbed with limited floral resources present (i.e., majority of site contains non-native grasses).
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None/Covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No vernal pools present.
Euphydryas editha quino	Quino checkerspot butterfly	FE/None/Covered	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta*, P. *patagonica*, and *Antirrhinum coulterianum*, among others	Not expected to occur. No primary host plants are present (i.e., only *Plantago ovata* was observed at very low density within the site), site lacks clay soils preferred by primary host plants, very limited flowering plants present for nectar sources, the site is outside the USFWS recommended survey area, and the non-native grassland is highly disturbed.

Scientific Name	Common Name	Status (Federal/State/Santee Subarea Plan)	Habitat	Potential to Occur
Lycaena hermes	Hermes copper	FT/None/Covered	Mixed woodlands, chaparral, and coastal scrub	Not expected to occur. No suitable vegetation or host plants present.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None/Covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No vernal pools present.
Danaus plexippus plexippus pop. 1	monarch – California overwintering population	FC/None/None	Wind-protected tree groves with nectar sources and nearby water sources	Observed during surveys within project site. However, the project site is not an established overwintering area for this species, nor does it provide any host plants (i.e., milkweed) and very limited nectar plants (i.e., majority of site contains non-native grasses).

Notes: USFWS = U.S. Fish and Wildlife Service.
Status Legend
Federal
BCC: U.S. Fish and Wildlife Service—Bird of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listed as threatened
PT: Federally proposed as threatened
State
FP: California Department of Fish and Wildlife Fully Protected species
SCE: State candidate for listing as endangered
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
WL: California Department of Fish and Wildlife Watch List species

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Appendix E

Aquatic Resources Delineation Report

Aquatic Resources Delineation Report

Cottonwood and Park Project

JANUARY 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APT	Antecedent Precipitation Tool
ARC	antecedent runoff condition
NWW	non-wetland water
OHWM	ordinary high-water mark
PDSI	Palmer Drought Severity Index
Project	Cottonwood and Park Project
USACE	U.S. Army Corps of Engineers
WSP	wetland sampling point

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Executive Summary

This aquatic resources delineation report was prepared in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This report presents the results of the jurisdictional aquatic resource delineation conducted by Dudek for the 23.23-acre Cottonwood and Park Project site (i.e., Review Area) in Santee, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act (33 USC 1344).

According to recent aerial imagery, the Review Area has remained largely undeveloped since at least 1994. Historic aerials show similar conditions in 1953, the earliest year available. In all years reviewed, the Review Area has been consistently mowed and otherwise managed, particularly in the flat non-native grasslands and disturbed habitats. A storage yard was present at the southeast corner of the Review Area from around 2000 to 2010; some ornamental trees planted in association with that storage yard remain in the Review Area. Besides the storage yard, the development of the nearby Town Center Community Park, starting around 2000, also has created noticeable changes in the Review Area. These include the installation of expansive sections of impermeable surfaces (i.e., asphalt parking lot, concrete walking trails, buildings), as well as the use of irrigation systems to support installed landscaping north of the Review Area. The combination of human development and other urban manipulations in and around the Review Area may have caused an increase in runoff, such that the arrowweed scrub near the western edge of the Review Area has been increasing in size since it was first observed within the site, using historical aerials, around 1970. The conditions recorded during the 2023 site visit largely match the conditions shown in available aerial imagery.

The jurisdictional delineation was conducted by Dudek biologist Dylan Ayers on July 11, 2023, August 22, 2023, and June 7, 2024. Prior to conducting the jurisdictional delineation, U.S. Fish and Wildlife Service's National Wetland Inventory data was reviewed to determine if the Review Area contained any features mapped by the U.S. Fish and Wildlife Service (USFWS 2023). Site-specific topographical data were reviewed in conjunction with aerials, both current and historical, to determine the potential presence of non-wetland waters. Current vegetation mapping was reviewed to assess whether the Review Area supported hydrophytic vegetation and potential wetlands; multiple areas supporting hydrophytic vegetation were also assessed for the presence of wetland hydrology and hydric soils to determine whether they were three-parameter wetlands. Jurisdictional boundaries were mapped in the field using the ESRI Field Maps application.

Three aquatic resources (non-wetland water [NWW]-1, NWW-2, and NWW-3) totaling 0.45 acres potentially under the jurisdiction of the U.S. Army Corps of Engineers was recorded at the Review Area. Five wetland sampling points—WSP-1, WSP-2, WSP-3a, WSP-3b, and WSP-4a—were established in areas that exhibited dominant stands of hydrophytic vegetation. Two ordinary high-water mark data forms, ODP-1 and ODP-2, were also collected. NWW-1, NWW-2, and NWW-3 include the portion of the San Diego River that occurs at the southern edge of the Review Area; the San Diego River is a perennial river feature that exhibits a direct surface connection to the Pacific Ocean. NWW-1, NWW-2, and NWW-3 would also be regulated as waters of the state under the jurisdiction of the Regional Water Quality Control Board. A total of 3.59 acres of California Department of Fish and Wildlife–jurisdictional riparian habitat occurs in the Review Area. This includes NWW-1, NWW-2, and NWW-3, in addition to 0.62 acres of southern cottonwood–willow riparian forest (RIP-1, RIP-3, and RIP-4) associated with the San Diego River along the Review Area's southern border, as well as 2.52 acres of arrowweed scrub (RIP-2), a hydrophytic vegetation community.

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1 Introduction

This aquatic resources delineation report was prepared in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This report presents the results of the jurisdictional aquatic resource delineation conducted by Dudek biologists for the Cottonwood and Park Project (Project) in Santee, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (33 USC 1344).

1.1 Disclaimer Statement

This report presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) within the identified 23.23-acre Project site (i.e., Review Area) using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this report are subject to verification by the aquatic resource agencies (USACE, RWQCB, and CDFW). This report may be used to determine the presence and boundaries of the potential aquatic resources under USACE, RWQCB, and CDFW jurisdictions.

1.2 Contact Information

Contact information for the Project applicant and agent are provided in Table 1. Access to the Review Area is not restricted, but if a site visit is requested, the project applicant or agent will accompany regulatory staff to the Review Area. City Ventures is the project applicant and landowner.

Table 1. Contact Information

Project Applicant	City Ventures	**Agent**	Dudek
Contact Name	Michael You	**Contact Name**	Brock Ortega
Address	3121 Michelson Drive, Suite 150 Irvine, California 92612	**Address**	605 Third Street Encinitas, California 92024
Phone	408.828.9498	**Phone**	760.479.4254
Email	myou@cityventures.com	**Email**	bortega@dudek.com

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2 Review Area Description and Landscape Setting

This report focuses on the approximately 23.23-acre Review Area in Santee in San Diego County. The Review Area is located on Assessor's Parcel Numbers 381-051-1800, 381 051-1400, 381-051-1700, and 381-050-7700 (Figure 1, Project Vicinity). The approximate center of the focused survey area is located at 32.848483° latitude and −116.975704° longitude. Directions to the Review Area are as follows: from the Interstate 8 and Interstate 5 interchange, take Interstate 8 east; drive approximately 15 miles toward Santee; take exit 2 toward CA-67; and continue on CA-67 for 1 mile until exiting at Prospect Avenue. After exiting onto Prospect Avenue, take the first right onto Magnolia Avenue and drive 2.5 miles northwest on Magnolia Avenue before taking a left onto Park Center Drive; the Review Area will be visible at the south end of Park Center Drive, near a large public parking lot. The northern and western edges of the Review Area border several parcels including the sports fields and parking lot associated with the nearby Town Center Community Park, the eastern edge borders Cottonwood Avenue, and the southern edge of the Review Area directly abuts the vegetation communities associated with the nearby San Diego River. Several informal footpaths transect the Review Area, which is dominated by non-native grasses and disturbed land. Topography in the Review Area is generally flat, with some variation near the northern and southern edges of the Review Area; the Review Area slopes downwards noticeably near the San Diego River. Elevations in the focused survey area range from 338 feet above mean sea level to 345 feet above mean sea level. The Project is within the El Cajon U.S. Geological Survey quadrangle map.

2.1 Soils

Soil types within the Review Area are shown in Table 2 and on Figure 2, Soils. Tujunga sands, 0% to 5% slopes, are considered partially hydric soils (USDA 2023a).

Table 2. Soils in the Review Area

Map Unit Symbol	Soil Description	Hydric Soil Rating
Rm	Riverwash	Not hydric
TuB	Tujunga sand, 0% to 5% slopes	Partially hydric
W	Water	Not hydric

Sources: USDA 2023a, 2023b.

2.2 Watershed

The Review Area is in the San Diego Hydrologic Unit, the Lower San Diego Hydrologic Area, and the Santee Subarea (Figure 3, Hydrology). The Lower San Diego Hydrologic Area includes the Lower San Diego River Watershed, which extends from the mouth of the San Diego River to Channel Road in Lakeside.

2.3 Vegetation

Eight vegetation communities or land cover types were mapped in the focused survey area: southern cottonwood–willow riparian forest, disturbed habitat, freshwater marsh, urban/developed land, eucalyptus woodland,

arrowweed scrub, open water, and non-native grassland (including broadleaf dominated). The acreages of the mapped vegetation communities and landcovers in the Review Area are presented in Table 3 and shown in Figure 4, Potential Jurisdictional Aquatic Resources.

Table 3. Vegetation Communities in the Review Area

Vegetation Community	Location (Latitude/Longitude; Decimal Degrees)	Acres[1]
Arrowweed scrub	32.848691, −116.977185	2.52
Disturbed habitat	32.849030, −116.976162	7.31
Eucalyptus woodland	32.848763, −116.974817	0.63
Freshwater marsh	32.847591, −116.974639	0.22
Southern cottonwood-willow riparian forest	32.847638, −116.975175	0.62
Non-native grassland (including broadleaf-dominated)	32.848266, −116.975589	10.89
Open water	32.847555, −116.978596	0.23
Urban/developed land	32.849399, −116.975709	0.80
	Total	**23.23**

Note:
[1] Totals may not sum due to rounding.

2.4 Review Area Alterations, Current and Past Land Use

According to recent aerial imagery, the Review Area has remained largely undeveloped since at least 1994 (Google Earth 2023). Historic aerials show similar conditions in 1953, the earliest year available (Historic Aerials 2023). Since 1953, the Review Area has been consistently mowed and otherwise managed, particularly in the flat non-native grasslands and disturbed habitats. A storage yard was present at the southeast corner of the Review Area from around 2000 to 2010; some ornamental eucalyptus trees planted in association with that storage yard still remain in the Review Area. Besides the storage yard, the development of the nearby Town Center Community Park, starting around 2000, also has created noticeable changes in the Review Area. Development all around the Review Area, including at the community park, involved the installation of expansive sections of impermeable surfaces (i.e., asphalt parking lot, concrete walking trails, buildings), as well as the use of irrigation systems to support installed landscaping. The combination of human development and other urban manipulations in and around the Review Area may have caused an increase in runoff, such that the arrowweed (*Pluchea sericea*) scrub near the western edge of the Review Area has been increasing in size since it was first observed within the site, using historical aerials, around 1970. The conditions recorded during the 2023 and 2024 site visit largely match the conditions shown in available aerial imagery.

3 Precipitation Data and Analysis

The USACE-developed Antecedent Precipitation Tool (APT) was used to assess whether the delineation date occurred in a drier, average, or wetter than normal period (USACE 2023). To determine what constitutes a "typical year," USACE developed the APT. The information generated from the APT can help to determine whether normal hydrologic and/or climatic conditions were present during the site visit and assist with completing the Wetland Determination Data Form.

The APT provides three climatological parameters: Palmer Drought Severity Index (PDSI), season, and antecedent precipitation condition. The PDSI is a standardized index calculated on a monthly basis with PDSI value outputs ranging from −4 (extreme drought) to +4 (very wet) (NOAA 2023) to assess drought conditions (i.e., PDSI Class). The APT determines wet vs. dry season based on related procedures provided in the applicable regional supplement for the Review Area (in this case, the Arid West Supplement). If the antecedent runoff condition (ARC) score is less than 10, then the antecedent precipitation condition is classified as drier than normal; normal conditions are present with an ARC score of 10 to 14; and conditions are wetter than normal when an ARC score is greater than 14 (USACE 2023).

Table 4 summarizes the key data extrapolated from the APT output: estimated drought conditions (PDSI class), wet or dry season determination, ARC score, and antecedent precipitation condition. The PDSI demonstrated that the Review Area was experiencing "severe wetness" during the July and August 2023 site visits, which occurred after the start of the region's dry season. Based on the APT output provided in Appendix A and summarized in Table 4, the precipitation and climatic conditions for the Review Area were wetter than normal during the time of the delineation site visits.

Table 4. Antecedent Precipitation Tool Data for the Review Area

Main Field Survey Date	PDSI Class	Season	ARC Score	Antecedent Precipitation Condition
07/11/2023	Severe wetness	Dry season	15	Wetter than normal
08/22/2023	Severe wetness	Dry season	12	Normal conditions

Notes: PDSI = Palmer Drought Severity Index; ARC = antecedent runoff condition.

Additionally, according to the U.S. Department of Agriculture's Agricultural Applied Climate Information System (USDA 2023c), the area around the Review Area receives an average of 12.8 inches of precipitation annually.

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4 Investigation Methods

The jurisdictional delineation was conducted by Dudek biologist Dylan Ayers on July 11, 2023; supplementary site visits were conducted on August 22, 2023 and June 7, 2024 (Table 5). Prior to conducting the jurisdictional delineation, U.S. Fish and Wildlife Service's National Wetland Inventory data (USFWS 2023) was reviewed to determine if the Review Area contained any features mapped by the U.S. Fish and Wildlife Service. Site-specific topographical data were reviewed in conjunction with aerials, both current and historical, to determine the potential presence of non-wetland waters. Current vegetation mapping was reviewed to assess whether the Review Area supported hydrophytic vegetation and potential wetlands; multiple areas supporting hydrophytic vegetation were also assessed for the presence of wetland hydrology and hydric soils to determine whether they were three-parameter wetlands. Jurisdictional boundaries were mapped in the field using the ESRI Field Maps application.

Table 5. Schedule of the Aquatic Resources Delineation

Date	Hours	Personnel	Conditions
07/11/2023	1003–1258	Dylan Ayers	80°F–89°F; 0% cloud cover; 3–5 mph winds
08/22/2023	1134–1220	Dylan Ayers	75°F–76°F; 0% cloud cover; 3–5 mph winds
06/07/2024	0902–1105	Dylan Ayers	66°F –75°F; 20–100% cloud cover; 1–3 mph winds

Notes: °F = degrees Fahrenheit; mph = miles per hour.

4.1 U.S. Army Corps of Engineers

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated on topographical maps in conjunction with ESRI Collector on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM manual.

Wetland Determination Data Forms were taken at certain points within drainages or vegetation communities where a predominance of hydrophytic vegetation was present; hydrology, vegetation, and soils were assessed to determine whether USACE three-parameter wetlands were present. USACE OHWM forms were completed at representative cross-sections of non-wetland waters to capture their characteristics and widths. All data forms can be found in Appendix B, and photos of the potential aquatic features delineated within the Review Area are provided in Appendix C.

4.2 Waters of the State

The jurisdiction-specific methods used to delineate CDFW and RWQCB jurisdiction are described below.

Regional Water Quality Control Board Jurisdiction Methods

The RWQCB typically asserts jurisdiction over the same areas as USACE. Guidance from USACE was used to determine the extent of resources regulated by the RWQCB under the Porter–Cologne Act. Non-wetland waters subject to RWQCB jurisdiction were delineated based on the presence of an ordinary high-water mark (OHWM), as

determined by USACE guidance, or any other surface water regulated under the Porter–Cologne Act. Wetland waters subject to RWQCB jurisdiction were assessed based on methods described in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b) and the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2010) were reviewed to assist in determining the limits of non-wetland waters under the jurisdiction of the RWQCB. In 2019, the State Water Resources Control Board issued the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). These procedures define wetlands that encompass "the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands." Per the SWRCB, "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2021).

California Department of Fish and Wildlife Jurisdiction Methods

The delineation defined areas under the jurisdiction of CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code. CDFW asserts jurisdiction over rivers, streams, lakes, and riparian vegetation associated with these features. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology). Additionally, waters of the state were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed.

5 Aquatic Resource Narrative

5.1 USACE/RWQCB Jurisdictional Aquatic Resources

Three aquatic resources totaling 0.45 acres potentially under the jurisdiction of USACE and RWQCB were recorded within the Review Area (Figure 4). This was determined through the establishment of six wetland sampling points (WSPs) (WSP-1, WSP-2, WSP-3a, WSP-3b, WSP-4a, and WSP-4b) within the Review Area at locations that exhibited dominance of hydrophytic vegetation communities and potential wetland hydrology. Two OHWM data forms, ODP-1 and ODP-2, were collected; ODP-1 depicts a non-jurisdictional upland swale feature; ODP-2 depicts the edge of the San Diego River, described herein as Non-Wetland Water (NWW) 1, NWW-2, and NWW-3, which occurs at the southern edge of the Review Area. Photos of the potential aquatic features delineated within the Review Area are provided in Appendix C, and their locations are depicted in Figure 5, Photo Point Locations.

5.1.1 NWW-1

NWW-1 describes a 0.01-acre and 114-linear-foot portion of the San Diego River that occurs at the southern edge of the Review Area and is described in WSP-3a, WSP-3b, and ODP-2 (Table 6). NWW-1 is dominated by thick freshwater marsh vegetation, made up mostly of cattail (*Typha domingensis*), with a mature canopy of large Goodding's willow (*Salix gooddingii*) and cottonwood (*Populus fremontii*) trees intermixed around the margins of the active channel. Water was flowing in the river during both site visits. The OHWM of NWW-1 is indicated by a clear change in slope. The flat portions of the Review Area give way to a noticeable slope downwards at the Review Area's southern edge; NWW-1 occurs at the bottom of the slope as depicted in ODP-2. WDP-3b was collected at the top of slope and did not indicate wetland conditions. The change in slope near the OHWM is accompanied by a clearly visible change from riparian and upland vegetation species to obligate freshwater marsh vegetation, including cattails and yerba mansa (*Anemopsis californica*). WSP-3a was established at this location, just below the observed OHWM; all three federal wetland parameters were recorded at WSP-3a; as such, NWW-1 may be considered a wetland water. However, NWW-1 was defined as a non-wetland water of the United States throughout its extent because it is located entirely within a riverine feature (i.e., all recorded freshwater marsh vegetation is below OHWM) and because guidance has been received directly from USACE regional staff that potential aquatic resources exhibiting all three wetland parameters that are located within riverine features are to be considered potential vegetated non-wetland waters of the United States.

5.1.2 NWW-2

NWW-2 describes a 0.23-acre and 310-linear-foot portion of the San Diego River that occurs at the southern edge of the Review Area (Table 6). NWW-2 is dominated by ponded freshwater occurring below the OHWM, indicated by a clear change in slope. NWW-2 was defined as a non-wetland water throughout its extent because it is located entirely within a riverine feature (i.e., San Diego River).

5.1.3 NWW-3

NWW-3 describes a 0.21-acre and 250-linear-foot portion of the San Diego River that occurs at the southern edge of the Review Area and is described in WSP-4a (Table 6). NWW-3 is dominated by thick freshwater marsh vegetation, made up mostly of cattail, with a mature canopy of large Goodding's willow and cottonwood trees intermixed around

the margins of the active channel. The OHWM of NWW-3 is indicated by a clear change in slope. The flat portions of the Review Area give way to a noticeable slope downward at the Review Area's southern edge; NWW-3 occurs at the bottom of the slope. WDP-3b was collected at the top of slope and did not indicate wetland conditions. The change in slope near the OHWM is accompanied by a clearly visible change from riparian and upland vegetation species to obligate freshwater marsh vegetation. WSP-4a was established at this location, just below the observed OHWM; all three federal wetland parameters were recorded at WSP-4a; as such, NWW-3 may be considered a wetland water. However, NWW-3 was defined as a non-wetland water throughout its extent because it is located entirely within a riverine feature (i.e., all recorded freshwater marsh vegetation is below OHWM) and because guidance has been received directly from USACE regional staff that potential aquatic resources exhibiting all three wetland parameters that are located within riverine features are to be considered potential vegetated non-wetland waters.

Table 6. USACE and RWQCB Aquatic Resource Summary

Feature Name	Cowardin Code[1]	Observed OHWM Indicators[2]	Observed Wetland Parameters[3]	Presence of OHWM/Wetland	Dominant Vegetation	Location (Lat, Long)	Active Channel Width Range (feet)	Linear Feet	Acres
NWW-1	PEM1	CVS, CVC, BBS	HV, WH, HS	Yes/Yes	Freshwater Marsh	32.847610, −116.974891	<5	114	0.01
NWW-2	POW	CVS, CVC, BBS	WH, HS	Yes/No	Open Water	32.847555, −116.978596	400	310	0.23
NWW-3	PEM1	CVS, CVC, BBS	HV, WH, HS	Yes/Yes	Freshwater Marsh	32.847601, −116.978610	19–400	250	0.21
							Total	**674**	**0.45**

Source: Cowardin et al. 1979.
Notes: USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; NWW = non-wetland water.
See Appendix B for additional details.
1 PEM1 = persistent, emergent, palustrine; POW = palustrine, open water.
2 Ordinary high water mark (OHWM) indicators: CVS = change in vegetation species; CVC = change in vegetation cover; BBS = break in bank slope.
3 Wetland indicators: WH = wetland hydrology; HV = hydrophytic vegetation; HS = hydric soils.

5.2 CDFW Jurisdictional Aquatic Resources

The three non-wetland waters associated with the San Diego River as described above are also potentially under CDFW jurisdiction as streambeds (i.e., NWW-2) and riparian habitat (i.e., NWW-1 and NWW-3). Adjacent to these three features, but above the OHWM, is 0.62 acres of forested riparian habitat (RIP-1, RIP-3, and RIP-4), which occurs along the southern portion of the Review Area associated with the San Diego River.

WSP-1 was established beneath a section of the riparian vegetation (i.e., RIP-4) at the southern edge of the Review Area, distinct from the sampling that occurred at NWW-1. This section of the Review Area directly abuts the San Diego River's riparian corridor and slopes down significantly toward the river channel; WSP-1 is at the top of this

slope. Similar to WSP-3b, this vegetation community was dominated by Gooding's willow and was intermixed with non-native species, such as wild oat (*Avena barbata*) and tree tobacco (*Nicotiana glauca*). No hydric soils indicators were recorded in the fine sandy soils at WSP-1, and no hydrology indicators were observed. Therefore, the riparian vegetation sampled at WSP-1 was considered CDFW-only.

WSP-2 was established beneath a thick canopy of arrowweed scrub (i.e., RIP-2) located toward the northwest corner of the Review Area. WSP-2 exhibited a clear dominance of hydrophytic vegetation due to the presence of the arrowweed canopy; no other plant species were recorded at WSP-2. Soils sampled from beneath the canopy consisted entirely of very fine sand with some loam texture present. This soil type present, Tujunga sand, 0% to 5% slopes, is considered partially hydric (USDA 2023a). Despite the clear expansion of this community as depicted in historical aerials and the proximity to a significant aquatic feature (the San Diego River), there were no primary indicators and insufficient secondary indicators of wetland hydrology recorded at WSP-2. Therefore, the riparian vegetation sampled at WSP 2 was considered CDFW-only.

In addition to the riparian habitats associated with the active river channel, 2.52 acres of arrowweed scrub, a hydrophytic vegetation community, is present approximately 130 feet north of the river, on flat lands adjacent to the nearby community park in the Review Area; although it is disconnected from the active streambed channel, this vegetation community may be considered CDFW-jurisdictional riparian vegetation. Figure 4 shows all CDFW jurisdictional aquatic resources identified within the Review Area, and each feature is summarized in Table 7.

Table 7. CDFW Jurisdictional Aquatic Resource Summary

Feature Name	Vegetation Type	Total (acres)
Streambed		
NWW-2	Open water	0.23
Riparian Habitat		
NWW-1	Freshwater marsh	0.01
NWW-3	Freshwater marsh	0.21
RIP-1	Southern cottonwood-willow riparian forest	0.37
RIP-2	Arrowweed scrub	2.52
RIP-3	Southern cottonwood-willow riparian forest	0.24
RIP-4	Southern cottonwood-willow riparian forest	0.01
	Riparian Habitat Subtotal	*3.36*
	Total	**3.59**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water; RIP = riparian habitat.
Totals may not sum due to rounding.

5.3 Non-Jurisdictional Feature

One swale feature was recorded at the southern edge of the Review Area. This feature lacked any consistent indicators of an OHWM, as shown in ODP-1, and was uniformly dominated by upland non-native grasses. This swale feature appears to collect overland flows from the surrounding lands and focus them downslope and out of the Review Area toward the San Diego River. The lack of OHWM excludes this feature from potential USACE, RWQCB, or CDFW jurisdiction; as such, this feature is not depicted in any report figure and is not discussed further in this document.

5.4 National Wetland Inventory

The Review Area contains one mapped resource from the U.S. Fish and Wildlife Service's National Wetland Inventory data (USFWS 2023) (Figure 3). Freshwater forested/shrub wetland and freshwater emergent wetland habitat is mapped as overlapping the southern edge of the Review Area, approximately at the same location where NWW-1, NWW-2, NWW-3 and the associated riparian canopy (RIP-1, RIP-3, and RIP-4) currently exists. One feature depicted by the National Hydrography Database, the San Diego River, is present within the Review Area, described above as NWW-1 and NWW-2.

6 Results and Conclusions

Dudek conducted a formal jurisdictional delineation of the Review Area in July 2023, August 2023, and June 2024. Six WSPs were established at representative locations to determine the location and type of potential aquatic resources; two OHWM data points were also established. Based on the conditions observed, 0.45 acres and 674 linear feet of non-wetland water (NWW-1, NWW-2, and NWW-3) may be regulated by USACE, RWQCB, and CDFW within the Review Area. All three federal wetland parameters were recorded at NWW-1 and NWW-3, although because it is within a riverine feature (San Diego River) and because the parameters were recorded below the OHWM of the river, it is considered a non-wetland water of the United States. Additionally, there are four riparian habitat areas (i.e., RIP-1, RIP-2, RIP-3, and RIP-4) under CDFW-only jurisdiction. Therefore, the CDFW jurisdictional total within the Review Area is 3.59 acres. This report can be used by the regulatory agencies to determine if they would regulate the features described herein.

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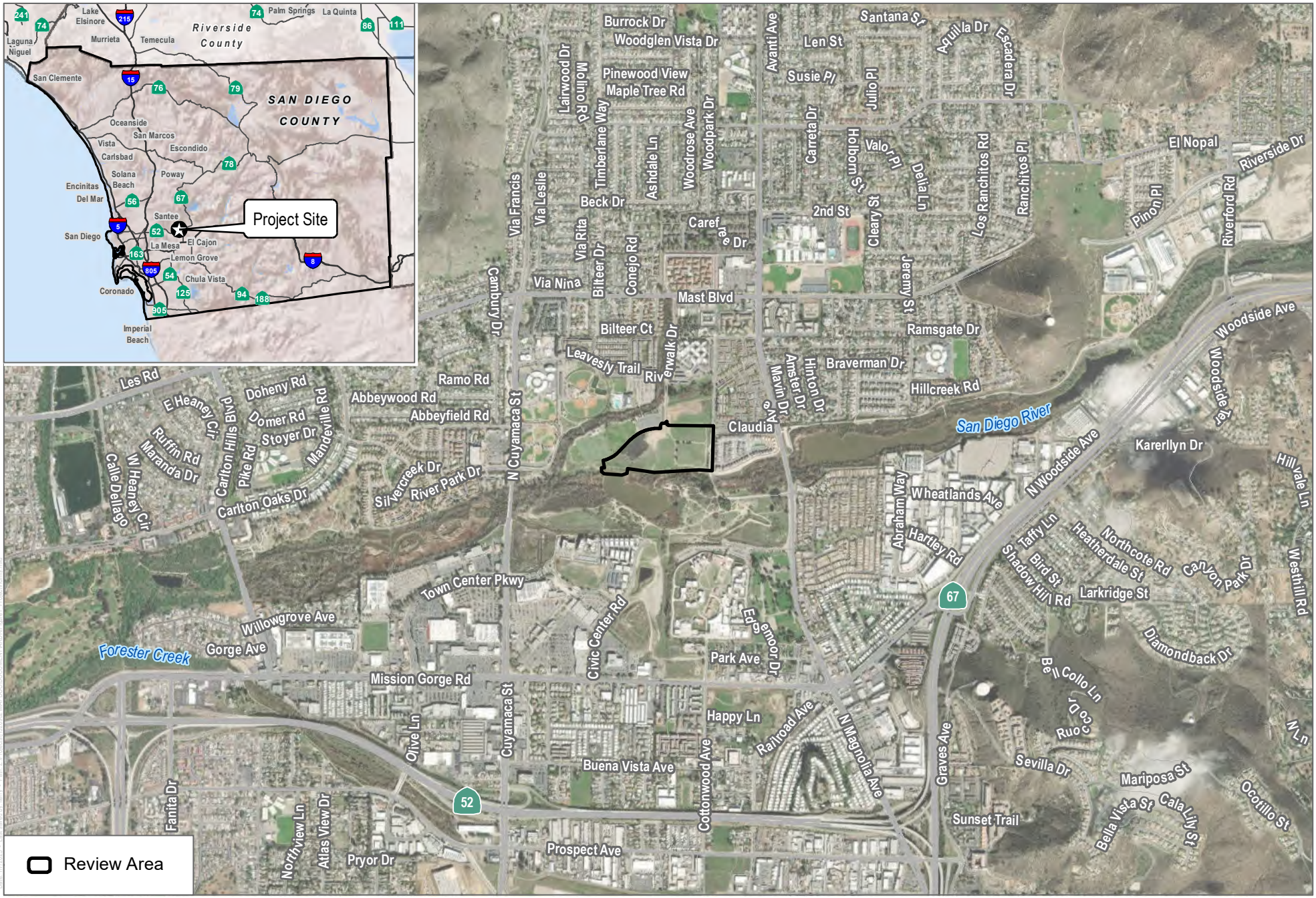

SOURCE: ESRI Imagery 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Vicinity

Santee 3 Project

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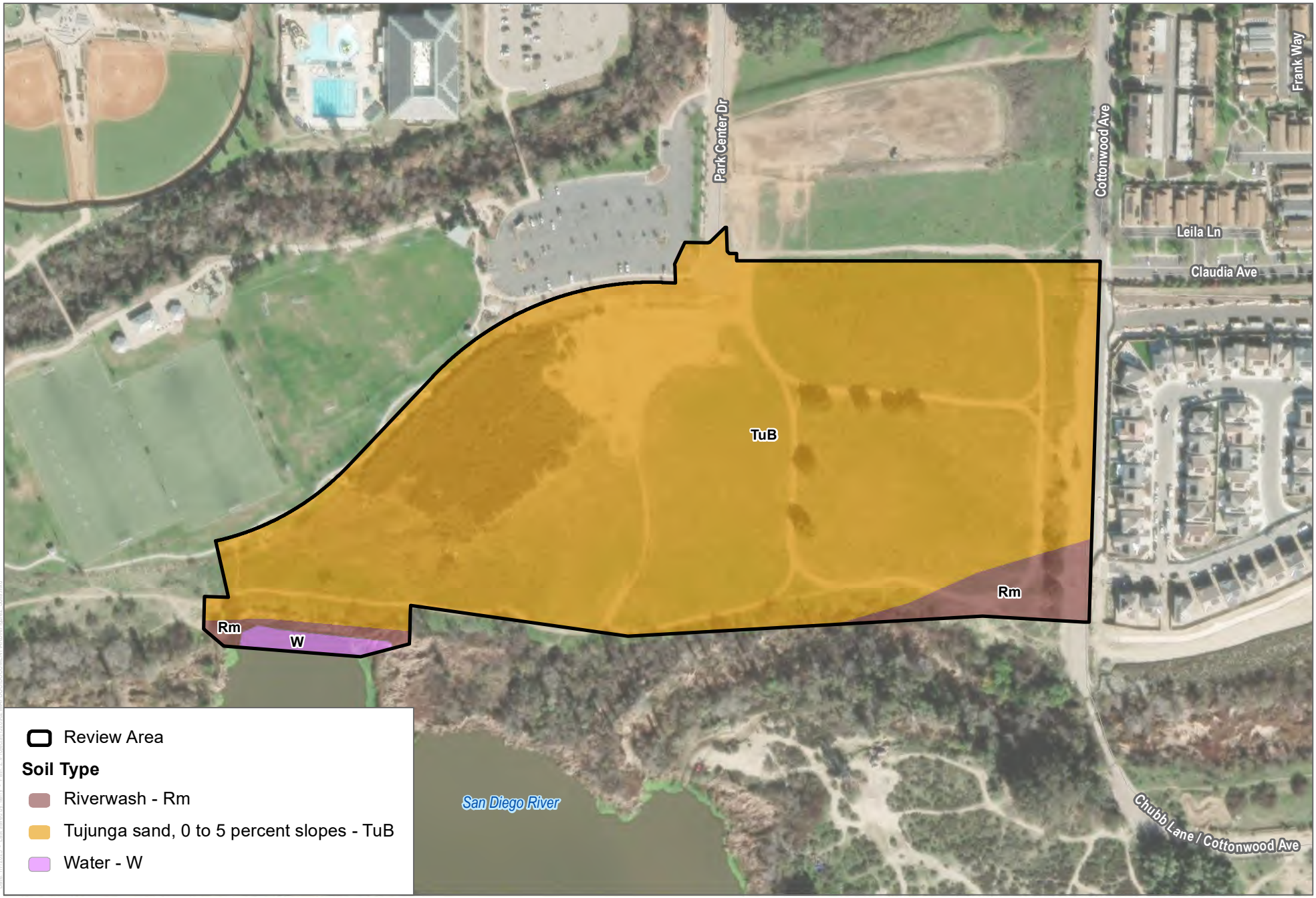

SOURCE: ESRI Imagery 2023, USDA Soils 2023

DUDEK

0 125 250 Feet

FIGURE 2

Soils

Santee 3 Project

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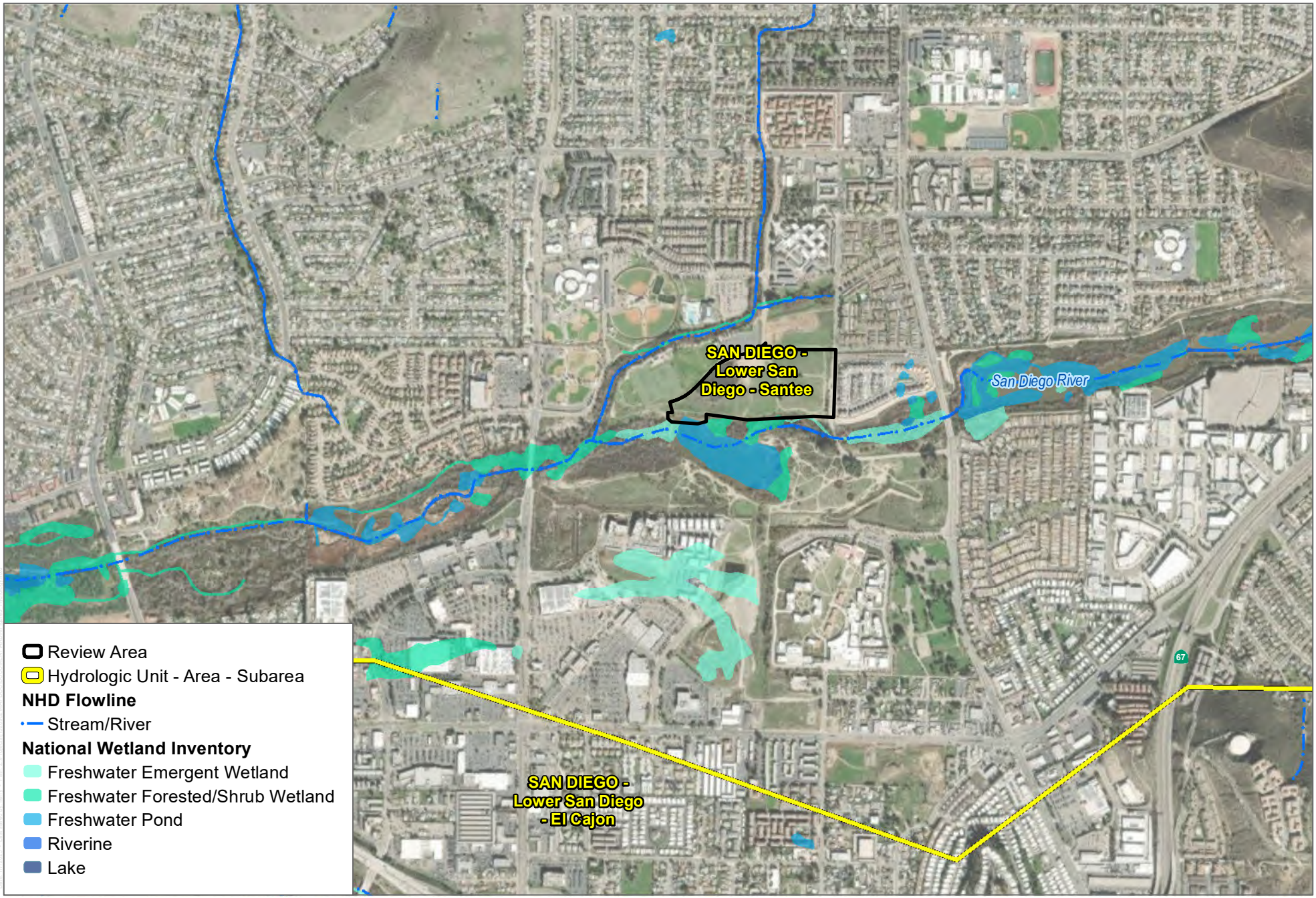

SOURCE: ESRI Imagery 2022, USFWS 2019, USGS 2019

DUDEK

0 650 1,300 Feet

FIGURE 3

Hydrology

Santee 3 Project

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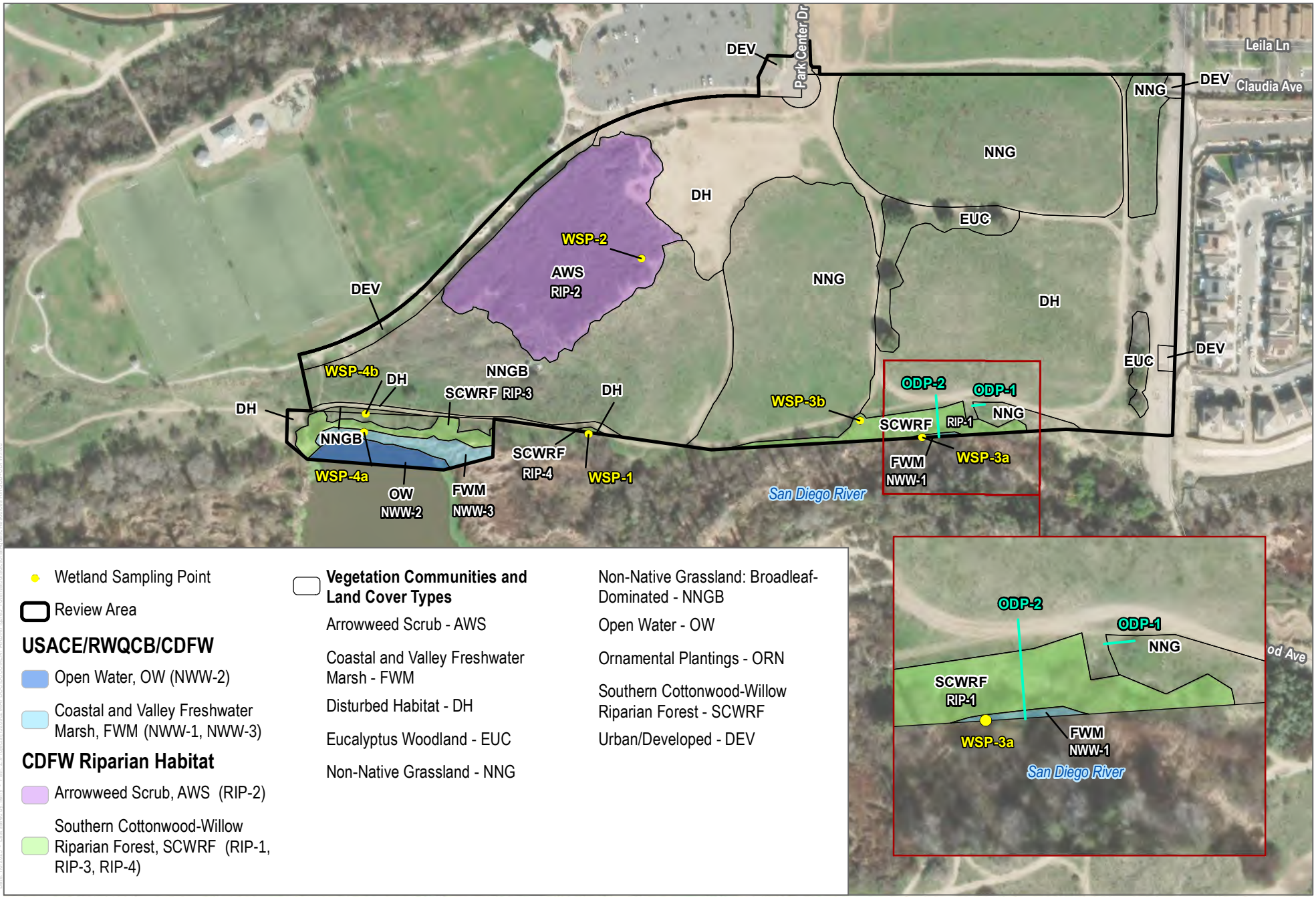

Wetland Sampling Point

Review Area

USACE/RWQCB/CDFW

Open Water, OW (NWW-2)

Coastal and Valley Freshwater Marsh, FWM (NWW-1, NWW-3)

CDFW Riparian Habitat

Arrowweed Scrub, AWS (RIP-2)

Southern Cottonwood-Willow Riparian Forest, SCWRF (RIP-1, RIP-3, RIP-4)

Vegetation Communities and Land Cover Types

Arrowweed Scrub - AWS

Coastal and Valley Freshwater Marsh - FWM

Disturbed Habitat - DH

Eucalyptus Woodland - EUC

Non-Native Grassland - NNG

Non-Native Grassland: Broadleaf-Dominated - NNGB

Open Water - OW

Ornamental Plantings - ORN

Southern Cottonwood-Willow Riparian Forest - SCWRF

Urban/Developed - DEV

SOURCE: ESRI Imagery 2023

DUDEK

0 125 250 Feet

FIGURE 4

Potential Jurisdictional Aquatic Resources

Santee 3 Project

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SOURCE: ESRI Imagery 2022

DUDEK

0 125 250 Feet

FIGURE 5

Photo Point Locations

Santee 3 Project

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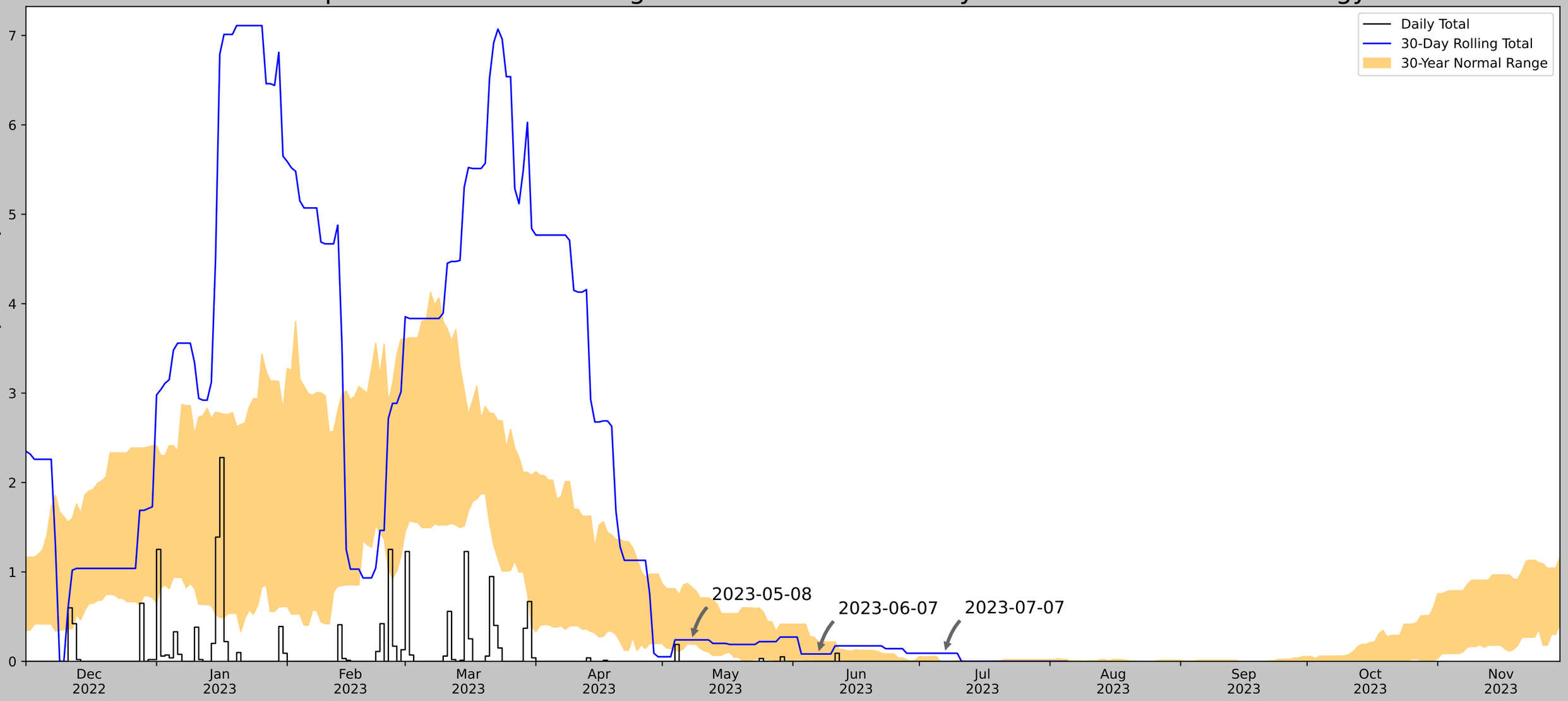
Appendix A

Antecedent Precipitation Tool Output

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.848483, -116.975704
Observation Date	2023-07-07
Elevation (ft)	344.268
Drought Index (PDSI)	Severe wetness (2023-06)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-07	0.0	0.0	0.090551	Wet	3	3	9
2023-06-07	0.0	0.222441	0.082677	Normal	2	2	4
2023-05-08	0.189764	0.828346	0.240157	Normal	2	1	2
Result							Wetter than Normal - 15

US Army Corps of Engineers

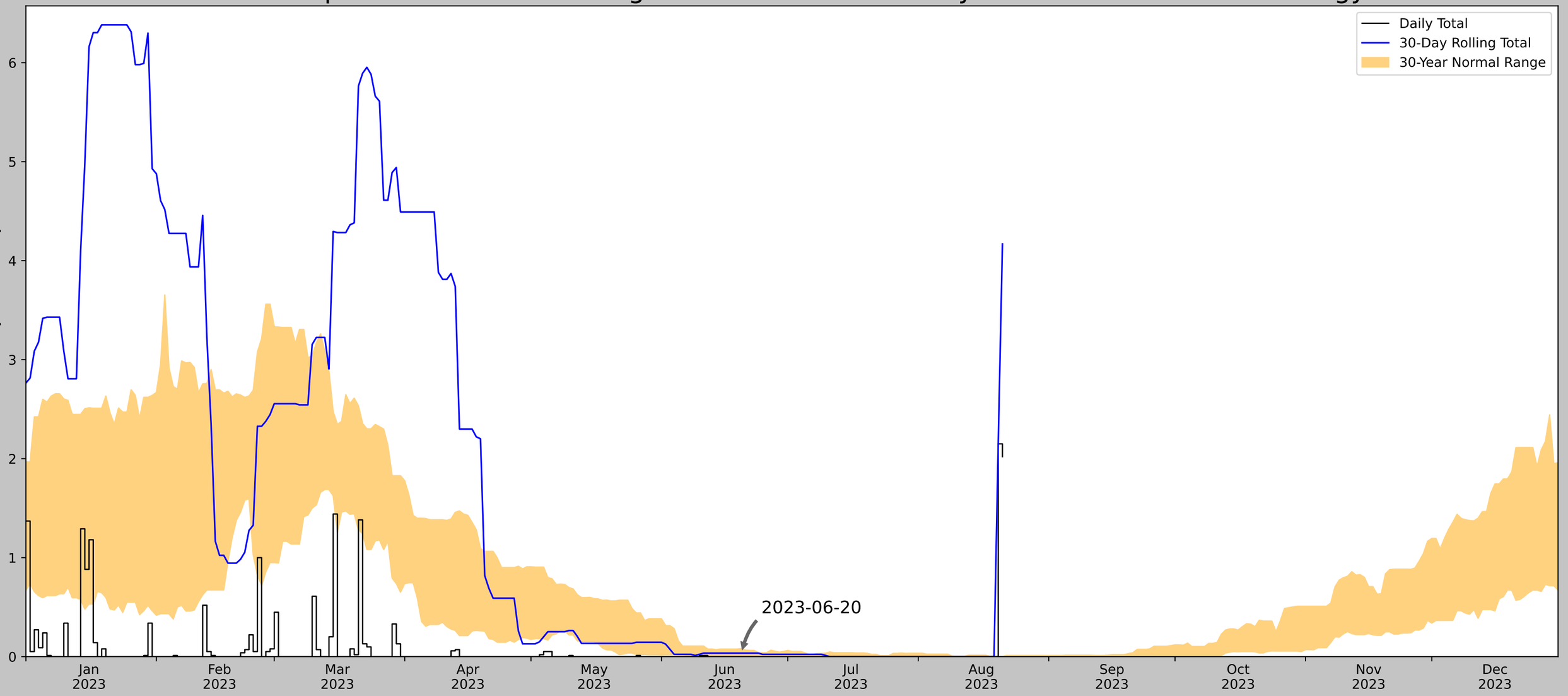
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
EL CAJON	32.8006, -116.9281	495.079	4.311	150.811	2.59	10288	85
EL CAJON 2.3ENE	32.8112, -116.9254	609.908	0.749	114.829	0.423	42	2
EL CAJON 2.3 S	32.7698, -116.9593	737.861	2.795	242.782	1.936	0	3
LAKESIDE 2 E	32.8536, -116.8947	689.961	4.144	194.882	2.672	926	0
LA MESA	32.7675, -117.0233	529.856	5.984	34.777	2.901	66	0
SAN DIEGO MONTGOMERY FLD	32.8144, -117.1375	417.979	12.198	77.1	6.43	31	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.848483, -116.975704
Observation Date	2023-08-19
Elevation (ft)	344.268
Drought Index (PDSI)	Severe wetness (2023-07)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-08-19	0.0	0.003543	0.0	Normal	2	3	6
2023-07-20	0.0	0.032677	0.0	Normal	2	2	4
2023-06-20	0.0	0.082283	0.035433	Normal	2	1	2
Result							Normal Conditions - 12

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SAN DIEGO MONTGOMERY FLD	32.8144, -117.1375	417.979	9.684	73.711	5.072	8936	90
SAN DIEGO 1.5 WNW - KFMB	32.8266, -117.1569	425.853	1.407	7.874	0.644	1	0
SAN DIEGO 1.9 W	32.8139, -117.1693	366.142	1.847	51.837	0.927	4	0
SAN DIEGO 3.2 WNW	32.8353, -117.1859	374.016	3.159	43.963	1.56	4	0
SAN DIEGO MIRAMAR NAS	32.8667, -117.1333	477.034	3.622	59.055	1.844	2404	0
SAN DIEGO 7.9NE	32.8057, -117.0732	242.126	3.782	175.853	2.367	1	0
LA MESA	32.7675, -117.0233	529.856	7.382	111.877	4.148	3	0

Appendix B
Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Santee 3 City/County: Santee Sampling Date: 07/11/2023
Applicant/Owner: City Ventures State: CA Sampling Point: WSP-1
Investigator(s): DA Section, Township, Range: 0, 15S, 1W
Landform (hillslope, terrace, etc): Top of slope Local relief (concave, convex, none): convex Slope (%):
Subregion (LRR): C Lat: 32.84754772 Long: -116.97711993 Datum:
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes (TuB) NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point collected at top of slope, leading down to riparian/wetland area, collected beneath canopy on slope

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	40	Yes	FACW
2.			
3.			
4.			
	40	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	10	Yes	FACW
2. *Nicotiana glauca* / Tree tobacco	5	Yes	FAC
3.			
4.			
5.			
	15	= Total Cover	

Herb Stratum (Plot size: 5-ft)			
1. *Avena barbata* / Slim oat, Slender wild oat	90	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	90	x 5 =	450
Column Totals:	145 (A)		565 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WSP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/4	100					Fine Sndy Lm	Very loose sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Santee 3 City/County: Santee Sampling Date: 07/11/2023
Applicant/Owner: City Ventures State: CA Sampling Point: WSP-2
Investigator(s): DA Section, Township, Range: 0, 15S, 1W
Landform (hillslope, terrace, etc): Low area with facw veg Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR): C Lat: 32.84856362 Long: -116.97673039 Datum:
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes (TuB) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No		
Hydric Soil Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes		No	X	

Remarks:
Point collected in area with thick cover of facw vegetation, no noticeable change in elevation from upland area

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Pluchea sericea* / Arrow weed, Arrow-weed	100	Yes	FACW
2.			
3.			
4.			
5.			
	100	= Total Cover	

Herb Stratum (Plot size: 5-ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WSP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/3	100					Fine Sndy Lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Sample was poorly consolidated fine sand that fell apart easily; no stratification seen in sample or on pit walls.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Santee 3 City/County: Santee Sampling Date: 08/22/2023
Applicant/Owner: City Ventures State: CA Sampling Point: WSP-3a
Investigator(s): DA Section, Township, Range: 0, 15S, 1W
Landform (hillslope, terrace, etc): Edge of river Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR): Lat: 32.84755483333333 Long: -116.975398 Datum:
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes (TuB) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks: Sample collected at edge of river with obligate vegetation present; standing water visible.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	50	Yes	FACW
2. *Tamarix parviflora* / Tamarisk, Smallflower tamarisk	10	No	FAC
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	15	Yes	FACW
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1. *Anemopsis californica* / Yerba mansa	35	Yes	OBL
2. *Typha domingensis* / Cattail, Southern cattail	35	Yes	OBL
3. *Avena barbata* / Slim oat, Slender wild oat	30	Yes	NI
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	65	x 2 =	130
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	175 (A)		380 (B)

Prevalence Index = B/A = 2.17

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WSP-3a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1						Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: Sample taken in standing water; hydric soils assumed based on predominance of mature, hydrophytic, vegetation, and clear indicators of wetland hydrology. Pit collected below OHWM of river; dark organic soils not consolidated, difficult to collect intact sample. Some sulfide odor detected but not consistent enough to use A4

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) **(Riverine)**
- X Sediment Deposits (B2) **(Riverine)**
- X Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No	Depth (inches):	4
Water Table Present?	Yes	X	No	Depth (inches):	5
Saturation Present? (includes capillary fringe)	Yes	X	No	Depth (inches):	0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Santee 3 City/County: Santee Sampling Date: 08/22/2023
Applicant/Owner: City Ventures State: CA Sampling Point: WAP-3b
Investigator(s): DA Section, Township, Range: 0, 15S, 1W
Landform (hillslope, terrace, etc): Top of slope Local relief (concave, convex, none): convex Slope (%):
Subregion (LRR): C Lat: 32.84766833 Long: -116.97538783 Datum:
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes (TuB) NWI classification: Forested Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	60	Yes	FACW
2.			
3.			
4.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	10	Yes	FACW
2.			
3.			
4.			
5.			
	10	= Total Cover	

Herb Stratum (Plot size: 5-ft)			
1. *Avena barbata* / Slim oat, Slender wild oat	85	Yes	NI
2. *Cucurbita palmata* / Coyote melon	10	No	NI
3.			
4.			
5.			
6.			
7.			
8.			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	70	x 2 =	140	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	95	x 5 =	475	
Column Totals:	165	(A)	615	(B)

Prevalence Index = B/A = 3.73

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WSP-3b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Santee 3 City/County: Santee Sampling Date: 06/07/2024
Applicant/Owner: City Ventures State: CA Sampling Point: WSP-4a
Investigator(s): DA Section, Township, Range: 0, 15S, 1W
Landform (hillslope, terrace, etc): Edge of river Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR): C Lat: 32.847611 Long: -116.978491 Datum:
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes (TuB) NWI classification: Forested Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks: Point collected within freshwater marsh vegetation at edge of river

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	10	Yes	FACW
2.			
3.			
4.			
	10	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Salix gooddingii* / Gooding's willow, Goodding's black willow	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	

Herb Stratum (Plot size: 5-ft)			
1. *Typha domingensis* / Cattail, Southern cattail	40	Yes	OBL
2. *Avena barbata* / Slim oat, Slender wild oat	25	Yes	NI
3. *Erigeron bonariensis* / Flax-leaved horseweed	10	No	FACU
4.			
5.			
6.			
7.			
8.			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	25	x 5 =	125
Column Totals:	105 (A)		265 (B)

Prevalence Index = B/A = 2.52

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: WSP-4a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5YR 3/1	100					Sandy Loam	
8-14	2.5YR 3/1	60					Sandy Loam	
8-14	10YR 2/1	40						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: Reduced conditions initially indicated by dark/black material oozing from just beneath brownish top layer of soil when taking steps around area. Hydrogen sulfide present in area before and after digging, lingered in pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) **(Riverine)**
- X Sediment Deposits (B2) **(Riverine)**
- X Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 2
Water Table Present?	Yes	X	No	___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Santee 3 City/County: Santee Sampling Date: 06/07/2024
Applicant/Owner: City Ventures State: CA Sampling Point: WSP-4b
Investigator(s): DA Section, Township, Range: 0, 15S, 1W
Landform (hillslope, terrace, etc): Top of slope Local relief (concave, convex, none): convex Slope (%):
Subregion (LRR): C Lat: 32.84769915521013 Long: -116.9784665159663 Datum:
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes (TuB) NWI classification: Forested Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks: Point collected in upland area adjacent to river, near walking path

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1. *Avena barbata* / Slim oat, Slender wild oat	65	Yes	NI
2. *Erigeron bonariensis* / Flax-leaved horseweed	10	No	FACU
3. *Hirschfeldia incana* / Mustard	1	No	NI
4.			
5.			
6.			
7.			
8.			
	76	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	66	x 5 =	330
Column Totals:	76 (A)		370 (B)

Prevalence Index = B/A = 4.87

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

SOIL

Sampling Point: WSP-4b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ODP-1

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Santee3
Project Number: 15269.02
Stream: Swale
Investigator(s): DMA

Date: 7/11/23
Town: Santee
Photo begin file#:

Time:
State: CA
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Undeveloped state lands north of the SD river in Santee

Projection:
Datum: WGS84
Coordinates: 32.84777, -116.974677

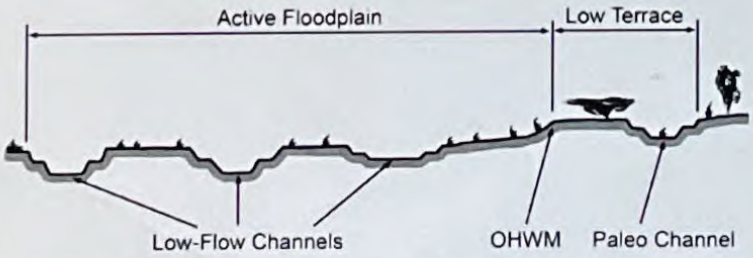
Potential anthropogenic influences on the channel system: pedestrian impacts from homeless encampments, flat review area nearby is mowed

Brief site description: Site has remain undeveloped for many years. Flat review area slopes down to river channel at southern edge. ODP-1 collected near this change in slope

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

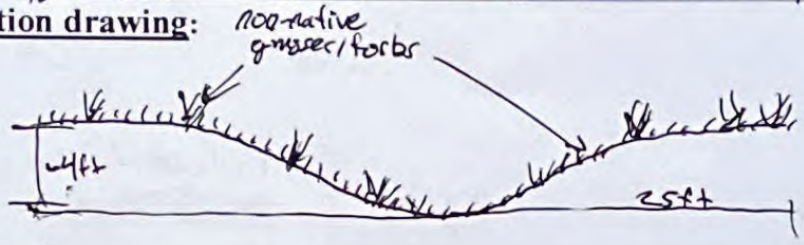


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☐ GPS
   - ☒ Other: No OHWM

Project ID: 15264.02 **Cross section ID:** ODP-1 **Date:** 7/11/23 **Time:**

Cross section drawing:



NO OHWM

facing south

OHWM

GPS point: _____

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

ODP-2

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Santee 3
Project Number: 15269.02
Stream: NWW-1
Investigator(s): DMA
Date: 8/22/23
Town: Santee
Photo begin file#:
Time:
State: CA
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: see ODP-1

Projection: **Datum:** WGS84
Coordinates: 32.8476, -116.9748

Potential anthropogenic influences on the channel system:

see ODP-1

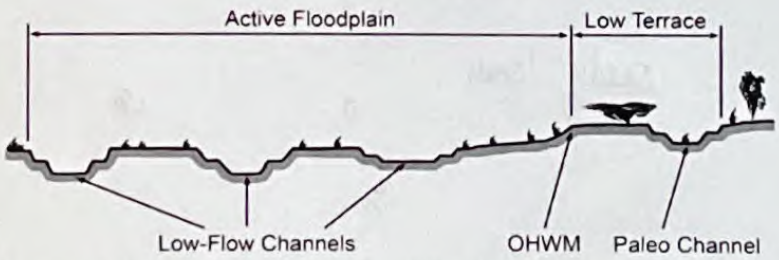
Brief site description:

See ODP-1

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

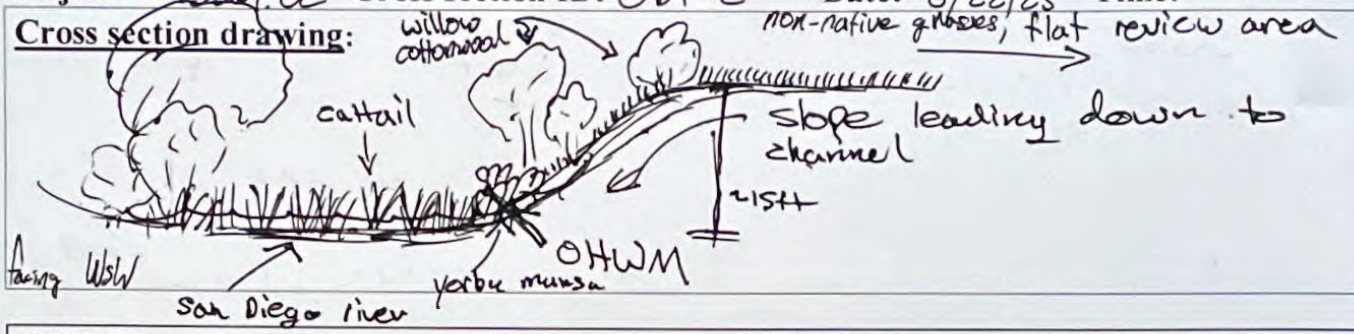


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: 15269.02 **Cross section ID:** ODP-2 **Date:** 8/22/23 **Time:**

Cross section drawing:



OHWM

GPS point: 32.8476, -116.9748

Indicators:

- [ ] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments: clearly defined OHWM due to river coming right up to the bottom of slope. Seems potentially manufactured/manipulated

Floodplain unit:

- [x] Low-Flow Channel
- [x] Active Floodplain
- [ ] Low Terrace

GPS point: see above

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: ____ % Tree: 40 % Shrub: 10 % Herb: 100 %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments: due to manipulation of the river in this region, the river is coming right up to the slope. River has no room to expand/carve northward. OHWM is at bottom of slope

Appendix C
Review Area Photos

Photo 1. View of WSP-1 shown, facing north. Sample point collected beneath southern willow scrub canopy at southern edge of the Review Area. Willow canopy shown intermixed with non-native grasses growing along the sloped lands leading down to the San Diego River.

Photo 2. View of WSP-2 shown, facing west. Point taken in arrowweed scrub vegetation community near western edge of Review Area. This area is dominated by arrowweed and exhibited loose, sandy soils, and no herbaceous cover.

Photo 3. View of WSP-3a shown, facing southeast, looking downslope. Sample point collected beneath riparian canopy at shift between upland slope and NWW-1 feature. Willow, yerba mansa, and cattail pictured at or below OHWM. Flowing water observed just below OHWM, obscured by vegetation in this image.

Photo 4. View of WSP-3b shown, facing northwest, looking upslope. Point taken beneath riparian canopy which extends upslope from river channel at southern edge of Review Area. Understory is mix of non-native grasses and other herbaceous species.

Photo 5. View of ODP-1 collected at a non-jurisdictional swale, facing south. Swale occurs on southern edge of Review Area and directs water towards the river channel. This feature did not exhibit an OHWM and is not depicted on any report figures.

Photo 6. View of ODP-2 collected at NWW-1, facing south-southwest. Photo collected from top of slope leading down towards NWW-1; shift between vegetation communities depicted [upland grasses on slope; riparian tree/shrub community near NWW-1 OHWM; cattails below NWW-1 OHWM in background; riparian tree/shrub community beyond cattails on opposite bank of river (outside Review Area)]

Photo 7. View collected from within community park, facing south. Border between ornamental park lands and arrowweed community shown.

Photo 8. Additional view of arrowweed scrub community, facing southwest. Photo collected from walking path near public parking lot. Difference in elevation shown between arrowweed community and parking area to the north (right hand side of photo). Disturbed habitat shown on lefthand side; evidence of offroad vehicle use observed.

Photo 9. View of upland portion of Review Area, facing west. Photo collected from eastern portion of Review Area along informal walking path. Non-native grassland pictured.

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Appendix C

Phase I Environmental Site Assessment

Assessor's Parcel Number: 381-051-18-00
Santee, California 92071

Phase I Environmental Site Assessment

November 29, 2023

Prepared for:

City Ventures
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Prepared by:

Stantec Consulting Services Inc.
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Project No.: 185806312

Sign-off Sheet and Signatures of Environmental Professionals

This document entitled Phase I Environmental Site Assessment (Report) was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of City Ventures (the “Client”). The conclusions in the Report are Stantec’s professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient’s own risk.

Stantec can neither warrant nor guarantee that information received from the “Client” and third parties in the preparation of the Report is correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec’s contract with the Client (the Master Services Agreement, or “MSA”). While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of Title 40 of the Code of Federal Regulations, Part 312, (40 CFR 312). I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the property. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Abbreviations

AAI	All Appropriate Inquiries
AP	Alquist-Priolo
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
ASTM	ASTM International
AUL	Activity Use Limitation
BER	Business Environmental Risk
Bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CREC	Controlled Recognized Environmental Conditions
EP	Environmental Professional
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
DTSC	Department of Toxic Substances Control
ft amsl	Feet above mean sea level
HREC	Historical Recognized Environmental Conditions
LUST	Leaking Underground Storage Tank
PCBs	Polychlorinated Biphenyls
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
SVOC	Semi-Volatile Organic Compounds
USDA-NRCS	United States Department of Agriculture-Natural Resources Conservation Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screen
VOCs	Volatile Organic Compounds

1.0 EXECUTIVE SUMMARY

Stantec Consulting Services Inc. (Stantec) has completed a Phase I Environmental Site Assessment (ESA) report of the property located adjacent to the intersection of Cottonwood Avenue and Park Center Drive, in the city of Santee, San Diego County, California (the "Subject Property"), on behalf of City Ventures (the "Client"). The work was performed according to the MSA. City Ventures (the "User") has been designated as the User of this report. The intended use of this Phase I ESA is for due diligence in support of potential redevelopment.

The Phase I ESA was conducted in conformance with the requirements of ASTM International (ASTM) Designation E1527-21, and All Appropriate Inquiries (AAI) as defined by the United States Environmental Protection Agency (EPA) in Title 40 of the Code of Federal Regulations, Part 312 (40 CFR 312), except as may have been modified by the scope of work, and terms and conditions, requested by the Client. Any exceptions to, or deletions from, the ASTM or AAI practice are described in Section 2.3.

The Subject Property consists of approximately 20.96 acres of vacant land and is associated with Assessor's Parcel Number (APN) 381-051-18-00. Adjoining properties, as well as the nearby area, are commercial, residential, and open space. A Subject Property Location Map is provided as Figure 1. A Subject Property Vicinity Map illustrating the main features of the Subject Property and vicinity is provided as Figure 2. Photographs taken during the site reconnaissance visit are provided in Appendix A.

Historical records indicate the Subject Property was primarily vacant land between the early 1900s to early 2000s, partially developed in the southeast corner with a potential storage yard in the early to mid-2000s, and vacant land again by the late 2000s to present day. The eastern portion of the Subject Property appears to have been cleared and possibly utilized for agricultural purposes in the 1949 photograph. This possible historical agricultural use was identified as a recognized environmental condition (REC) to the Subject Property in a Phase I ESA completed by Stantec in November of 2017.

To assess this REC as identified in the 2017 Phase I ESA, Stantec completed a Phase II ESA on November 16, 2017 for the Subject Property. That Phase II ESA included shallow soil sampling to evaluate the potential presence of organochlorine pesticides (OCPs) and the metals lead and arsenic, often associated with herbicide application, in relation to the potential historical agricultural use. A total of twenty-one (21) soil samples were collected from one-foot below ground surface (bgs) across the Subject Property. Each soil sample was analyzed for OCPs, lead, and arsenic. There were no detections of OCPs above reporting levels in any of the soil samples analyzed (*i.e.,* the results were "non-detect"). Arsenic was only reported at one location, HA-4, at 5.6 milligrams per kilogram (mg/kg), which is well within the expected naturally-occurring background concentrations and below anticipated regulatory cleanup levels for arsenic. Lead was detected 19 of 21 soil samples at concentrations ranging between 1.1 and 34 mg/kg. All detections of lead were well below the residential U.S. EPA regional screening level (RSL) and the Department of Toxic Substances Control (DTSC) HERO Note 3 residential screening level of 80 mg/kg, and within expected naturally-occurring background concentrations. Based on these results, the historical agricultural use of

the Subject Property was determined not to be a recognized environmental condition, and no further assessment was warranted in the 2017 Phase II ESA. Stantec continues to support that conclusion.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property. Any exceptions to, or deletions from, this practice are described Section 2.3 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs), Controlled RECs (CRECs), Historical RECs (HRECs) and/or significant data gaps in connection with the Subject Property.

This assessment has revealed the following items of note in connection with the Subject Property:

- Historical records indicate the Subject Property was partially developed in the southeast corner with a storage yard comprised of multiple potential containers and/or vehicles in the early to mid-2000s. No records of spills or releases are listed, and no evidence of spills and/or releases were observed during the site reconnaissance; therefore, Stantec concludes that this historical use does not represent a REC.

- According the EDR report, the southwestern portion of the Subject Property lies within a 0.2% Annual Chance Flood Hazard Zone. Additionally, the southern border of the Subject Property falls within the National Wetland Inventory, and adjoins the San Diego River to the south. It is recommended that a wetland delineation be conducted on the Subject Property prior to redevelopment, in accordance with applicable state and federal regulations. If wetlands are identified, development of the Subject Property should proceed in accordance with the wetlands-related requirements of the state and local authorities.

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

The objective of this Phase I ESA was to perform AAI into the past ownership and uses of the Subject Property consistent with good commercial or customary practice as outlined by ASTM International (ASTM) in "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," Designation E1527-21. "All Appropriate Inquiries" is the process for evaluating a property's environmental condition for the purpose of qualifying for landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) following final rule of Part 312 of Title 40, Code of Federal Regulations (40 CFR Part 312). The purpose of this Phase I ESA was to identify, to the extent feasible, adverse environmental conditions, including recognized environmental conditions ("RECs"), in connection with the Subject Property.

The ASTM E1527-21 standard indicates that the goal of the Phase I ESA is to identify RECs, as well as historical recognized environmental conditions ("HRECs") and controlled recognized environmental conditions ("CRECs"), that may exist at a property. The term "recognized environmental conditions" is defined as:

1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment;

2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or

3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment.

ASTM defines a "HREC" as a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority and meets current unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., activity and use limitations or other property use limitations). A HREC is not considered a REC.

ASTM defines a "CREC" as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (*e.g.*, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), but with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (*e.g.*, activity and use limitations, institutional controls, or engineering controls).

As defined by ASTM, RECs can include hazardous substances or petroleum products present under conditions in compliance with laws if that presence represents a material threat of future release. The release of hazardous substances or petroleum products is, however, not a REC if that presence is a *de minimis* condition. *De minimis* conditions are minor releases that generally do not present a material risk

to human health and would not likely be subject to enforcement action if brought to the attention of governmental agencies. ASTM also considers the potential for a business environmental risk (BER), defined as a risk which can have a material environmental or environmentally driven impact on the business associated with the current or planned use of the Subject Property, not necessarily limited to those environmental issues required to be investigated by the ASTM standard. Consideration of BERs may involve addressing one or more ASTM non-scope considerations.

This Phase I ESA was conducted in accordance with the MSA, based on the scope of work set forth in the proposal provided to Client. The scope of work conducted during this Phase I ESA consisted of a visual reconnaissance of the Subject Property, interviews with key individuals, and review of reasonably ascertainable documents. The scope of work did not include an assessment for environmental regulatory compliance of any facility ever operated at the Subject Property (past or present), or sampling and analyzing of environmental media. Stantec was not contracted to perform an independent evaluation of the purchase or lease price of the Subject Property and its relationship to current fair market value. The conclusions presented in this Phase I ESA report are professional opinions based on data described herein. The opinions are subject to the limitations described in Section 2.3.

ASTM E1527-21 notes that the availability of record information varies from source to source. The User or Environmental Professional (EP) is not obligated to identify, obtain, or review every possible source that might exist with respect to a property. Instead, ASTM identifies record information that is reasonably ascertainable from standard sources. “Reasonably ascertainable” means:

1. Information that is publicly available;
2. Information that is obtainable from its source within reasonable time and cost constraints; and
3. Information that is practicably reviewable.

2.1 SUBJECT PROPERTY DESCRIPTION

The Subject Property consists of approximately 20.96 acres of land, and is associated with Assessor’s Parcel Number (APN) 381-051-18-00. Adjoining properties, as well as the nearby area, are commercial, residential, and open space. A Subject Property Location Map is provided as Figure 1. A Subject Property Vicinity Map illustrating the main features of the Subject Property and vicinity is provided as Figure 2. Photographs taken during the site reconnaissance visit are provided in Appendix A.

2.2 SPECIAL TERMS, CONDITIONS, AND ADDITIONAL ASSUMPTIONS

There were no special terms, conditions, or additional assumptions associated with this Phase I ESA.

2.3 EXCEPTIONS AND LIMITING CONDITIONS

This report documents work that was performed in accordance with the MSA. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report.

This report provides an evaluation of specified environmental conditions associated with the identified property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. 40 CFR 312.20(f)(2) requires that the Environmental Professional evaluate the thoroughness and reliability of provided information. Stantec can neither warrant nor guarantee such thoroughness or reliability, however.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the preparation of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition.

Project Specific limiting conditions are provided in Section 2.2.

The conclusions are based on the site conditions encountered by Stantec at the time of the work. Accordingly, additional studies and actions may be required. The identification of non-environmental risks to structures or people on the Property is beyond the scope of this assessment.

Stantec specifically disclaims any responsibility to update the conclusions in this report if new or different information later becomes available or if the conditions or activities on the property subsequently change.

2.4 PERSONNEL QUALIFICATIONS

This Phase I ESA was conducted by, or under the supervision of, an individual that meets the ASTM definition of an EP. The credentials of the EP and other key Stantec personnel involved in conducting this Phase I ESA are provided in Appendix B.

3.0 USER-PROVIDED INFORMATION

ASTM E1527-21 describe responsibilities of the User to complete certain tasks in connection with the performance of "All Appropriate Inquiries" into the Subject Property. The ASTM standard requires that the EP request information from the User on the results of those tasks because that information can assist in the identification of RECs, CRECs, HRECs, or *de minimis* conditions in connection with the Subject Property. Towards that end, Stantec requested that the User provide the following documents and information:

Description of Information	Provided (Yes / No)	Description and/or Key Findings
User Questionnaire and/or Interview	Yes	The User is not aware of any environmental cleanup liens and/or activity and land use limitations associated with the Subject Property. The User is not aware of any past use or chemical/petroleum storage on the Subject Property.
Environmental Liens or Activity and Use Limitations (AUL)	N/A	No environmental liens and/or activity and use limitations were identified in the Amended Preliminary Title Report prepared by Fidelity National Title dated November 10, 2023. Stantec also notes that no environmental liens or activity and use limitations were identified in Stantec's review of the governmental databases.
Previous Environmental Permits or Reports Provided by User	Yes	Stantec completed a Phase I and II Environmental Site Assessment, dated November 16, 2017, for the Subject Property. The findings of this report are summarized in Section 4.4.6.
Purpose of the Phase I ESA	Yes	The intended use of the Phase I ESA is for contemplated redevelopment of the Subject Property.

User-provided documents are provided in Appendix C.

4.0 RECORDS REVIEW

The objective of consulting historical sources of information is to develop the history of the Subject Property and surrounding area and evaluate if past uses may have resulted in RECs. Physical setting records are evaluated to determine if the physical setting may have contributed to adverse environmental conditions in connection with the Subject Property. During the review of historical records, Stantec attempted to identify uses of the Subject Property from the present to the first developed use of the Subject Property. Stantec's research included the reasonably ascertainable and useful records described in this section.

4.1 PHYSICAL SETTING

A summary of the physical setting of the Subject Property is provided in the table below with additional details in the following subsections:

Topography:	According to the United States Geologic Survey (USGS) El Cajon topographic map provided in the Environmental Data Resources Inc. (EDR) Physical Setting Source Addendum (Appendix D), the topographic gradient in the vicinity of the Subject Property is to the south southwest and the Subject Property is located at approximately 343 feet above mean sea level (ft. amsl).
Soil/Bedrock Data:	The United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS), Web Soil Survey identifies the soils beneath the Subject Property as somewhat excessively drained Tujunga sand. A typical soil profile is comprised of sand (0-14 inches), loamy sand (14-33 inches), and stratified gravelly sand to gravelly loamy sand (33-59 inches).
Estimated Depth to Groundwater/ Estimated Direction of Gradient:	Site specific groundwater investigations were not conducted during this ESA; however, according to a 2013 groundwater monitoring report for a nearby site located approximately 500 feet to the east of the Subject Property, groundwater in the vicinity is approximately 14.16-14.90 feet below top of well casing (btoc) with an estimated flow direction generally to the west southwest at a gradient of 0.001 feet/foot.
NOTE: Site-specific groundwater flow direction and depth can only be determined by conducting site-specific testing, which Stantec has not conducted.	

4.1.1 Subject Property Topography and Surface Water Flow

The Subject Property is located at an elevation of approximately 343 ft amsl. Based on the topography and existing surface conditions, general surface water flow is to the southwest.

4.1.2 Regional and Subject Property Geology

The Subject Property is located within the San Diego River Valley Groundwater Basin (9-015). The basin comprised of alluvium deposited by San Diego River and associated tributaries. The basin is surrounded by Eocene Poway Group semi-permeable rock, impermeable Cretaceous crystalline rock, and impermeable Jurassic and Cretaceous Santiago Peak volcanic rock. (DWR, 2003).

According to California DOC Earthquake Zone Map (Department of Conservation Map Server (ca.gov)), the Subject Property is not located within an Alquist-Priolo (AP) Earthquake Fault Zone boundary. The closest fault zone is located approximately 12 miles to the west of the Subject Property.

4.1.3 Regional and Subject Property Hydrogeology

The Subject Property is located with the San Diego River Valley Groundwater Basin (9-015). The main water-bearing formations are Quaternary alluvial deposits, which are comprised of well-sorted sands buried in river channels, with a coarse layer of gravel towards the aquifer base. Towards the city of Santee, the alluvium becomes more silty and clayey. Alluvium reaches thicknesses between 70 and 200 feet within the basin. Bedrock restricts groundwater flow at the San Diego River discharge at Mission Gorge. Current recharge includes dam releases, underflow past dams, flow from Forester Creek and other creeks, precipitation, and municipal discharge from wastewater treatment plants (DWR, 2003).

Site specific groundwater investigations were not conducted during this ESA; however, according to a 2013 groundwater monitoring report for a nearby site located approximately 500 feet to the east of the Subject Property, groundwater in the vicinity is approximately 14.16-14.90 feet below top of well casing (btoc) with an estimated flow direction generally to the west southwest at a gradient of 0.001 feet/foot.

According the EDR report, the southwestern portion of the Subject Property lies within a 0.2% Annual Chance Flood Hazard Zone. Additionally, the southern border of the Subject Property falls within the National Wetland Inventory.

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report was obtained from EDR, a third-party environmental database search firm. A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix D.

Stantec evaluated the information listed within the database relative to potential impact to the Subject Property, assessing the potential for impacts based in part on the physical setting. As part of this process, inferences have been made regarding the likely groundwater flow direction at or near the Subject Property. As described in 4.1.3, the inferred shallow groundwater flow direction is likely to be in the west southwest. Observations about the Subject Property and adjoining properties made during the Subject Property reconnaissance are provided in more detail in Section 5.

4.2.1 Listings for Subject Property

The Subject Property was not identified in the environmental database report.

4.2.2 Listings for Adjoining and Nearby Sites with Potential to Impact Subject Property

Stantec assessed data presented in the environmental agency database search report to evaluate the potential for conditions on adjoining and nearby sites to pose a REC, CREC, or HREC for the Subject Property. The evaluation included an opinion of the potential for contamination by hazardous substances or petroleum products to migrate to the Subject Property from an adjoining or nearby site, including by vapor migration or encroachment (i.e., potential for a vapor encroachment condition [VEC]. ASTM E2600-22 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions (ASTM, 2022) was used as the basis for a Tier I Vapor Encroachment Screen (VES) for the Subject Property. This included evaluation of release sites within 1/10 mile for Petroleum Hydrocarbon releases, and 1/3 mile for volatile and semi-volatile organic compound (VOC, SVOC), plus other potential vapor phase contaminants (such as mercury).

Listed Facility Name/Address	Database Listing	Distance/Direction from Property	REC? (YES / NO)
RCP Block and Brick/RCP Company Inc. 0 Cottonwood Ave/9631 Magnolia Ave. Santee, CA	CPS-SLIC, CERS, LUST, CHMIRS, EMI, SAN DIEGO CO. SAM, SAN DIEGO CO. HMMD HIST UST, CORTESE, HWTS, NPDES, SAN DIEGO CO LOP, CIWQS	0.096-0.255 mile/506-1,349 feet adjoining east/northeast at higher elevation	No
The former brick manufacturing site is listed in the SWRCB's GeoTracker database as a release case with closure received 11/29/2016. Hydraulic oil impacts to soil are reported at the site associated with former brick press, brick press sump, and site building. Approximately 286 tons of impacted soil were excavated from the site in 2016. Groundwater sampling indicated that constituents in soil did not reach groundwater. The case received closure in 2016. The site is listed again the GeoTracker database as a release case with closure received 8/19/2015. In 2004, three USTs containing gasoline and diesel, ranging from 8,000-12,000 gallons, were removed from the site. 50 cubic yards were also excavated from the site at this time. Given limited subsurface impacts reported and lack of impact to groundwater, it was concluded that natural attenuation would achieve remediation goals. The case received closure in 2015.			

Listed Facility Name/Address	Database Listing	Distance/Direction from Property	REC? (YES / NO)
Based on soil excavation and LUST removal activities, and no impacts to groundwater reported, the site is not considered a REC for the Subject Property.			
RCP Pit and Mill Santee, CA	MINES MRDS	0.118 mile/621 feet east southeast at higher elevation	No
The site is listed as a former sand and gravel mining operation. No additional details are provided. Based on review of historical aerial photographs, the mine appears to have been in operation between the 1960s and early 2000s. The former mining area to the east has been subsequently developed. The former mining area to the south appears to be ponded water within San Diego River. Given there are no reported violations or releases, and the site has been redeveloped, this does not represent a REC for the Subject Property.			

The remaining listings in the database search report, including listings of Orphan Sites provided in Appendix D do not constitute a potential REC for the Subject Property.

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS

Stantec checked the following sources to obtain information pertaining to Subject Property use and/or indications of RECs in connection with the Subject Property:

4.3.1 Environmental Health Department

Agency Name Contact Information	Finding
Custodian of Records San Diego County Environmental Health and Quality Via email: deh.publicrecords@sdcounty.ca.gov Submitted on November 17, 2023	On November 17, 2023, the agency responded with no records for the Subject Property.

4.3.2 Fire Department

Agency Name Contact Information	Findings
San Diego County Fire Authority/Fire Protection District Via email: Fire@sdcounty.ca.gov	On November 20, 2023, the agency responded with no records for the Subject Property.

Agency Name Contact Information	Findings
Date Submitted: November 17, 2023	

4.3.3 City and County Department Records

Agency Name Contact Information	Findings
County of San Diego Planning and Development Services Via online: PDS Public Records Request (sandiegocounty.gov) Date Submitted: November 17, 2023	As of the writing of this report, a complete response has not been received from the agency. Should any pertinent information become available and addendum to the report will be issued. However, given there is no history of development on the Subject Property the lack of a response is not considered a significant data gap and is unlikely to impact the findings of this report.

4.3.4 State Department Records

Agency Name Contact Information	Finding
Custodian of Records San Diego Regional Water Quality Control Board (SDRWQCB) Online database: GeoTracker (ca.gov) Via email: rb9_records@waterboards.ca.gov Submitted and accessed on November 17, 2023	Stantec researched Geotracker, the California Regional Water Quality Control Board public database, to evaluate if there are any reported releases at the Subject Property or on adjoining properties. There were no release sites listed for the Subject Property. Releases for adjoining properties are described in detail in Section 4.2.2. Additionally, the SDRWQCB responded on November 17, 2023, that they do not have current or historical records for the Subject Property.
Department of Toxic Substances Control (DTSC), Envirostor database San Diego Regional Office Online database: https://www.envirostor.dtsc.ca.gov/public/ Via email: SanDiegoFileRoom@dtsc.ca.gov	Stantec researched Envirostor, the DTSC public database, to evaluate if there are any reported releases at the Subject Property or on adjoining properties. There were no release sites listed for the Subject Property or the adjoining properties within a 1/8-mile radius. Additionally, the DTSC responded on November 17, 2023, that they do not have current or historical records for the Subject Property.

Submitted and accessed on November 17, 2023	
California Geologic Energy Management (CalGEM) Online database: https://maps.conservation.ca.gov/doggr/wellfinder Accessed: November 17, 2023	The California Department of Conservation Geologic Energy Management Division (CalGEM) database was searched to identify the potential existence of oil and gas production wells within the vicinity of the Subject Property. No oil or gas wells were located within the Subject Property boundaries or vicinity. The closest well is located approximately four miles northeast and is listed as idle (API 0407300007). No releases are reported for this well. Therefore, this well is not considered a REC for the Subject Property.

4.4 HISTORICAL RECORDS REVIEW

4.4.1 Land Title Records/Deeds

No environmental liens and/or activity and use limitations were identified in the Amended Preliminary Title Report prepared by Fidelity National Title dated November 10, 2023. No other land title records, deeds, environmental liens, and activity and use limitation documentation were provided by the User, and public records were not searched by Stantec.

4.4.2 Aerial Photographs

Stantec reviewed historical aerial photographs provided by EDR. The general type of activity on a property and land use changes can often be discerned from the type and layout of structures visible in the photographs. However, specific elements of a facility's operation usually cannot be discerned from aerial photographs alone. The following table summarizes Stantec's observations of the reviewed historical aerial photographs. Copies of the historical aerial photographs are provided in Appendix E.

Year	Scale	Observations of Subject Property and Adjoining/Nearby Properties
1949	1"=500'	The Subject Property appears primarily vacant land and bound to the east by a road and to the south by a stream. The eastern portion of the Subject Property appears to possibly be utilized for agricultural purposes. An unimproved path is depicted in the center of the Subject Property. Adjoining to the west, east, and south appear vacant. Adjoining to the north appears vacant and agriculturally developed.
1953 1964 1966 1970	1"=500'	The Subject Property appears vacant and bound to the east by a road and to the south by a stream. An unimproved path is depicted in the center of the Subject Property. Adjoining to the west, and east appear vacant. Adjoining to the north appears vacant and agriculturally developed. Adjoining to the south within the stream appears several ponded areas with land that appears to have been worked and/or excavated. By 1964, adjoining east appears

Year	Scale	Observations of Subject Property and Adjoining/Nearby Properties
		partially industrially developed and the excavated land to the south appears to have increased. By 1970, the pit is shown to be largely ponded.
1979 1985 1989 1994 1996	1"=500'	The Subject Property appears vacant with multiple unimproved paths and is bound to the east by a road and to the south by a large, excavated pit partially filled with water (potential mining operation). The pit appears to lie within the route of the stream. Adjoining sites to the north and west appear vacant. Adjoining east are residences, industrial development, and additional open pits, many which appear to be filled with water.
2002 2005 2009	1"=500'	The Subject Property appears to be partially developed with a storage area and is depicted with multiple containers and/or vehicles. Adjoining properties appear similar to the 1996 photo. Several baseball fields are shown adjacent to the northwest. Dense urban development is depicted ¼ mile out within the vicinity. By 2009, commercial development and graded land are depicted adjoining north.
2012 2016 2020	1"=500'	The storage area on the Subject Property appears largely vacant with the exception of several vehicles. Adjoining north is vacant and commercially developed land. Adjoining south is a large pond and vacant land. Adjoining west are vacant and sports fields. Adjoining east are residences, and industrial development with open pits. By 2016, the Subject Property appears vacant, and the industrial adjoining land appears partly demolished. By 2020, the east adjoining land appears fully demolished and graded. An area of potential fill/reworked soil is observed on the Subject Property in the northwest portion.

Aerial photographs source: The EDR Aerial Photo Decade Package

4.4.3 City Directories

Stantec retained a third party to research available city directories for the Subject Property and adjoining and nearby properties, in approximately five-year intervals. Copies of the city directory listings are provided in Appendix E.

Stantec retained a third party to research available city directories for the Subject Property and adjoining and nearby properties, in approximately five-year intervals. The Subject Property is not listed in the city directory. Adjoining properties are generally commercial and residential listings.

4.4.4 Historical Fire Insurance Maps

Fire insurance maps were developed for use by insurance companies to depict facilities, properties, and their uses for many locations throughout the United States. These maps provide information on the history of prior land use and are useful in assessing whether there may be potential environmental contamination on or near the Subject Property. These maps, which have been periodically updated since the late 19th century, often provide valuable insight into historical Subject Property and adjoining and nearby property uses.

Stantec requested fire insurance maps from EDR; no coverage exists for the Subject Property. The Sanborn® Map Search Report indicating "No Coverage" is presented in Appendix E.

4.4.5 Historical Topographic Maps

Stantec reviewed historical USGS 7.5-minute Topographic Maps of the El Cajon and La Mesa, California Quadrangles (scale 1:24,000), and the historical USGS 15-minute Topographic Maps of the El Cajon and La Jolla, California Quadrangles (scale 1:50,000 and 1:62,500) to help identify past Subject Property and adjoining and nearby property usage and areas of potential environmental concern. Copies of the historical maps are provided in Appendix E.

The following table summarizes the maps reviewed and our observations.

Year	Scale	Observations of Subject Property and Adjoining/Nearby Properties
1893 1901 1903	1:62,500 1:62,500 1:62,500	The Subject Property and adjoining properties are depicted as vacant. The vicinity shows a stream ¼ mile to the south.
1939 1942 1947 1948 1955 1967 1975 1996	1:62,500 1:62,500 1:62,500 1:50,000 1:24,000 1:24,000 1:24,000 1:24,000	The Subject Property is depicted as vacant and bound to the east by a road and to the south by a streambed. Adjoining properties appear vacant. The vicinity is partially developed ½ mile south in Santee. By 1967, a sandpit operation is depicted adjoining to the south and east.
2012 2015 2018	1:24,000 1:24,000 1:24,000	Structures are not depicted on the map.

Historical topographic maps source: The EDR Historical Topographic Map Report

Features identified in the historical topographic maps do not represent a REC to the Subject Property.

4.4.6 Other Historical Sources

Stantec completed a Phase I and II ESA with the report dated November 16, 2017 for the Subject Property. The Phase II ESA included shallow soil sampling to evaluate for potential presence of organochlorine pesticides (OCPs) and the metals lead and arsenic associated with herbicides from potential historical agricultural use on the Subject Property. The Phase II ESA included the collection of twenty-one (21) soil samples from one-foot below ground surface (bgs) across the Subject Property. Each of these soil samples were analyzed for OCPs, lead, and arsenic. There were no detections of OCPs above reporting levels (i.e. non-detect) in all of the soil samples analyzed. Arsenic was only reported above reporting levels at one

location, HA-4 at 5.6 milligrams per kilogram (mg/kg) which is within the expected background concentrations and below the anticipated regulatory cleanup levels for arsenic of 12 mg/kg. Lead was detected 19 of 21 soil samples at concentrations ranging between 1.1 and 34 mg/kg. All detections of lead were below the residential U.S. EPA regional screening level (RSL) and the Department of Toxic Substances Control (DTSC) HERO note 3 residential screening level of 80 mg/kg for residential use and within expected background concentrations. Based on these results, historical agricultural use was determined not to be a recognized environmental condition and no further assessment was warranted in the 2017 Phase II ESA. Stantec continues to support that conclusion.

5.0 SITE RECONNAISSANCE

A visit to the Subject Property and its vicinity was conducted by Alex Sobolew, Geologic Staff with Stantec, on November 13, 2023. Stantec was unaccompanied during the Subject Property visit. Figure 2 provides information about the Subject Property and adjoining sites and the location of potential areas of environmental concern. Detailed Subject Property features are shown on Figure 2. Photographs collected during the site reconnaissance are included in Appendix A.

5.1 SITE RECONNAISSANCE METHODOLOGY

The site reconnaissance focused on observation of current conditions and observable indications of past uses and conditions of the Subject Property that may indicate the presence of RECs. The reconnaissance of the Property was conducted on foot and Stantec utilized the following methodology to observe the Property:

- Traverse the outer Subject Property boundary
- Traverse transects across the Subject Property

Weather conditions during the visit to the Subject Property were clear and sunny. There were no weather-related Subject Property access restrictions encountered during the reconnaissance visit.

5.2 GENERAL DESCRIPTION

Subject Property and Area Description:	The Subject Property is vacant and located east of Cottonwood Avenue, in the City of Santee, San Diego County, California. The surrounding area is a mix of residential properties, vacant land, and a park.
Subject Property Operations:	The Subject Property is currently vacant.
Structures, Roads, Other Improvements:	The Subject Property features unpaved dirt roads.
Subject Property Size (acres):	20.96 acres
Estimated % of Subject Property Covered by Buildings and/or Pavement:	0%
Observed Current Subject Property Use/Operations:	None observed.
Observed Evidence of Past Subject Property Use(s):	None observed.

Sewage Disposal Method (and age):	Padre Dam Municipal Water District.
Potable Water Source:	Padre Dam Municipal Water District.
Electric and Natural Gas Utilities:	Santee Electric Cooperative.

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

The following table summarizes Stantec's observations during the Subject Property reconnaissance.

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14) with identified uses:	None observed.
Drums/Totes/Intermediate Bulk Containers (≥ 5 gallons):	None observed.
Strong, Pungent, or Noxious Odors:	None observed.
Pools of Liquid:	None observed.
Unidentified Substance Containers:	None observed.
Polychlorinated biphenyl (PCB)-Containing Equipment:	None observed.
Other Observed Evidence of Hazardous Substances or Petroleum Products:	None observed.

5.4 INTERIOR OBSERVATIONS

Given there were no structures on the Subject Property, this section of the report is not applicable.

5.5 EXTERIOR OBSERVATIONS

Stantec made the following observations during the site reconnaissance of exterior areas of the Subject Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
On-site Pits, Ponds, or Lagoons:	None observed.
Stained Soil or Pavement:	None observed.

Observations	Description
Stressed Vegetation:	None observed.
Waste Streams and Waste Collection Areas:	None observed.
Solid Waste Disposal:	None observed.
Potential Areas of Fill Placement:	No mounds, piles, or depressions suggesting the placement of fill material were observed on the Subject Property.
Wastewater:	No exterior wastewater discharge was observed.
Stormwater:	Stormwater is expected to infiltrate the soil.
Wells:	No wells were observed.
Septic Systems:	No visible evidence of the existence of a septic system was observed.
Other Exterior Observations:	Solar panel equipment was observed in the eastern portion of the Subject Property.

5.6 UNDERGROUND STORAGE TANKS/STRUCTURES

Existing USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), which would indicate the presence of USTs, was discovered during the site reconnaissance.
Former USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), reports, or other evidence of the former presence of USTs was discovered during this Phase I ESA.
Other Underground Structures:	None observed

5.7 ABOVEGROUND STORAGE TANKS

Existing ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), which would indicate the presence of ASTs, was discovered during the site reconnaissance.
Former ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), reports, or other evidence of the former presence of ASTs was discovered during this Phase I ESA.

5.8 ADJOINING PROPERTIES

5.8.1 Current Uses of Adjoining Properties

As viewed from the Subject Property and/or from public rights-of-way, Stantec made the following observations about use and activities on adjoining sites:

NORTH	Community Park and undeveloped land.
EAST	Residential properties.
SOUTH	Undeveloped land/creek.
WEST	Undeveloped land.

Refer to Figure 2.

5.8.2 Observed Evidence of Past Uses of Adjoining Properties

Observations of adjoining sites providing indications of past use and activities, if any, are described below.

NORTH	None observed.
EAST	None observed.
SOUTH	None observed.
WEST	None observed.

5.8.3 Pits, Ponds, or Lagoons on Adjoining Properties

As viewed from the Subject Property and/or from public rights-of-way, Stantec made the following observations about the presence of pits, ponds, and lagoons on adjoining sites:

NORTH	None observed.
EAST	None observed.
SOUTH	A creek and ponded area were observed.
WEST	None observed.

5.9 OBSERVED PHYSICAL SETTING

Topography of the Subject Property and Surrounding Area:	The Subject Property is located at an approximate elevation of 343 feet amsl, is relatively flat, with a general topographic gradient is to the southwest.

6.0 INTERVIEWS

No interviews were performed as part of this assessment.

7.0 EVALUATION

This section provides a summary overview of or Findings, Opinions, and Conclusions.

7.1 FINDINGS AND OPINIONS

Information gathered from interviews, reviews of existing data, and an inspection was evaluated to determine if RECs are present in connection with the Subject Property. Based on this information, Stantec made the following findings and developed the following opinions.

- Historical records indicate the Subject Property was primarily vacant land between the early 1900s to early 2000s, partially developed in the southeast corner with a potential storage yard in the early to mid-2000s, and vacant land again by the late 2000s to present day. The eastern portion of the Subject Property appears to have been cleared and possibly utilized for agricultural purposes in the 1949 photograph. This possible historical agricultural use was identified as a recognized environmental condition (REC) to the Subject Property in a Phase I ESA completed by Stantec in November of 2017.

  To assess this REC as identified in the 2017 Phase I ESA, Stantec completed a Phase II ESA on November 16, 2017 for the Subject Property. That Phase II ESA included shallow soil sampling to evaluate the potential presence of organochlorine pesticides (OCPs) and the metals lead and arsenic, often associated with herbicide application, in relation to the potential historical agricultural use. A total of twenty-one (21) soil samples were collected from one-foot below ground surface (bgs) across the Subject Property. Each soil sample was analyzed for OCPs, lead, and arsenic. There were no detections of OCPs above reporting levels in any of the soil samples analyzed (*i.e.,* the results were "non-detect"). Arsenic was only reported at one location, HA-4, at 5.6 milligrams per kilogram (mg/kg), which is well within the expected naturally-occurring background concentrations and below anticipated regulatory cleanup levels for arsenic. Lead was detected 19 of 21 soil samples at concentrations ranging between 1.1 and 34 mg/kg. All detections of lead were well below the residential U.S. EPA regional screening level (RSL) and the Department of Toxic Substances Control (DTSC) HERO Note 3 residential screening level of 80 mg/kg, and within expected naturally-occurring background concentrations.

  Based on these results, the historical agricultural use of the Subject Property was determined not to be a recognized environmental condition, and no further assessment was warranted in the 2017 Phase II ESA. Stantec continues to support that conclusion.

- According the EDR report, the southwestern portion of the Subject Property lies within a 0.2% Annual Chance Flood Hazard Zone. Additionally, the southern border of the Subject Property falls within the National Wetland Inventory, and adjoins the San Diego River to the south.

  It is recommended that a wetland delineation be conducted on the Subject Property prior to redevelopment in accordance with applicable state and federal regulations. If wetlands are identified,

development of the Subject Property should proceed in accordance with the wetlands-related requirements of the state and local authorities.

- Historical records indicate the Subject Property was partially developed in the southeast corner with a storage yard comprised of multiple potential containers and/or vehicles in the early to mid-2000s.

  No records of spills or releases are listed, and no evidence of spills and/or releases were observed during the site reconnaissance; therefore, this is not considered a REC but is an item of note.

- An environmental records search was performed and identified sites within their respective ASTM E1527-21 search radii of the Subject Property that may represent RECs, CRECs, HRECs, or de minimis conditions.

  Based on one or more of the following reasons: distance from the Subject Property, position of sites with respect to assumed groundwater flow direction, the type of native soils, and regulatory status, none of the sites identified in the environmental records search report are expected to impact soil or groundwater quality at the Subject Property. The environmental records search identified no RECs, CRECs, HRECs or *de minimis* conditions at or near the Subject Property.

7.2 DATA GAPS

The federal AAI final rule [40 CFR 312.10(a)] and ASTM E1527-21 identify a “data gap” as the lack or inability to obtain information required by the standards and practices of the rule despite good faith efforts by the EP or the User.

Any data gaps resulting from the Phase I ESA described in this report are listed and discussed below.

Gap	Discussion
Deletions or Exceptions from Scope of Work Referenced in Section 1.4:	None.
Weather-Related Restrictions to Site Reconnaissance:	None.
Facility Access Restrictions to Site Reconnaissance:	None.
Other Site Reconnaissance Restrictions:	None.
Data Gaps from Environmental Records Review:	None.
Data Gaps from Historical Records Review:	Historical records for the Subject Property were not available in five-year increments. These are considered to be data gaps; however, based on available historical records and consistent land use, they do not appear to change the conclusions of this report.

Gap	Discussion
Data Gaps from Interviews:	The Subject Property consists of vacant land; therefore, no on-site interview was conducted. Given there is no history of development, the lack of an on-site interview is not considered a significant data gap and is unlikely to impact the findings of this report.
Other Data Gaps:	None.

7.3 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property. Any exceptions to, or deletions from, this practice are described Section 2.3 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs), Historical REC (HREC), Controlled RECs (CRECs), and/or significant data gaps in connection with the Subject Property.

This assessment has revealed the following items of note in connection with the Subject Property:

- Historical records indicate the Subject Property was partially developed in the southeast corner with a storage yard comprised of multiple potential containers and/or vehicles in the early to mid-2000s. No records of spills or releases are listed, and no evidence of spills and/or releases were observed during the site reconnaissance; therefore, this is not considered a REC.

- According the EDR report, the southwestern portion of the Subject Property lies within a 0.2% Annual Chance Flood Hazard Zone. Additionally, the southern border of the Subject Property falls within the National Wetland Inventory, and adjoins the San Diego River to the south. It is recommended that a wetland delineation be conducted on the Subject Property prior to redevelopment in accordance with applicable state and federal regulations. If wetlands are identified, development of the Subject Property should proceed in accordance with the wetlands-related requirements of the state and local authorities.

8.0 NON-SCOPE CONSIDERATIONS

The following ASTM E1527-21 Non-Scope Considerations were performed as part of this Phase I ESA:

8.1 LEAD-BASED PAINT

Concern for lead-based paint (LBP) is primarily related to residential structures. The EPA's Final Rule on Disclosure of Lead-Based Paint in Housing (40 CFR Part 745) defines LBP as paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

The risk of lead toxicity in LBP varies based upon the condition of the paint and the year of its application. The U.S. Department of Housing and Urban Development (HUD) has identified the following risk factors:

The age of the dwelling as follows: maximum risk is from paint applied before 1950.
There is severe risk from paint applied before 1960.
There is moderate risk from deteriorated paint applied before 1970.
There is slight risk from the paint that is intact but applied before 1977.
The condition of the painted surfaces.
The presence of children and certain types of households in the building.
Previously reported cases of lead poisoning in the building or area.

Given there are no structures on the Subject Property, LBP are not considered an environmental concern.

8.2 ASBESTOS

Asbestos can be found in many applications, including sprayed-on or blanket-type insulation, pipe wraps, mastics, floor and ceiling tiles, wallboard, mortar, roofing materials, and a variety of other materials commonly used in construction. The greatest asbestos-related human health risks are associated with friable asbestos, which is ACM that can be reduced to powder by hand pressure. Friable asbestos can become airborne and inhaled, which has been associated with specific types of respiratory disease. The manufacturing and use of asbestos in most building products was curtailed during the late 1970s.

Stantec makes no warranty as to the possible existence or absence of inaccessible materials or to their evaluation with respect to asbestos content. Samples of suspect ACM should be collected for laboratory analysis of asbestos prior to any renovation or building demolition to be compliant with, EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

Given there are no structures on the Subject Property, ACMs are not considered an environmental concern.

8.3 RADON

Radon is a colorless, tasteless radioactive gas with an EPA-specified action level of 4.0 PicoCuries per liter of air (pCi/L) for residential properties. Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is primarily associated with its rate of accumulation within confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure. The radon concentrations in buildings and homes depend on many factors, including soil types, temperature, barometric pressure, and building construction (EPA, 1993).

Stantec reviewed regional data published by the EPA on average indoor radon concentrations in the vicinity of the Subject Property (http://www.epa.gov/radon/zonemap.html).

EPA Radon Zones (w/Average Measured Indoor Radon concentrations)		
Zone 1 – High (>4.0 pCi/L)	Zone 2 – Moderate (2 to 4 pCi/L)	Zone 3 – Low (<2 pCi/L)
		X
Normally-occupied sub grade areas present? (i.e., basement apartments, offices, stores, etc.)		
None		

The Subject Property is located in Zone 3 and is considered to have low potential for radon. To determine Subject Property-specific radon levels, a radon survey would have to be conducted. However, because there are no occupied subgrade areas, and it's Stantec's understanding that the contemplated residential redevelopment will include no subgrade areas, further investigation of indoor radon issues does not appear to be warranted.

8.4 FLOOD ZONES

According the EDR report, the southwestern portion of the Subject Property lies within a 0.2% Annual Chance Flood Hazard Zone. Additionally, the southern border of the Subject Property falls within the National Wetland Inventory, and adjoins the San Diego River to the south. It is recommended that a wetland delineation be conducted on the Subject Property prior to redevelopment in accordance with applicable state and federal regulations. If wetlands are identified, development of the Subject Property should proceed in accordance with the wetlands-related requirements of the state and local authorities.

9.0 REFERENCES

ASTM International, 2021, Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process, Designation: E 1527-21.

ASTM International, 2022, Standard Guide for Vapor Encroachment Screening on Subject Property Involved in Real Estate Transactions, Designation E 2600-22.

California Department of Toxic Substances Control, 2023, EnviroStor.

California Department of Water Resources (DWR), 2003. California's Groundwater Bulletin 118: San Diego River Valley Groundwater Basin.

California State Department of Water Resources Control Board, 2023, GeoTracker.

California State Department of Water Resources SGMA Portal (SGMA), 2023, GeoTracker.

Environmental Data Resources, Inc. (EDR), 2023. EDR Radius Map with Geocheck, Inquiry Number 7493604.2s, dated November 9, 2023.

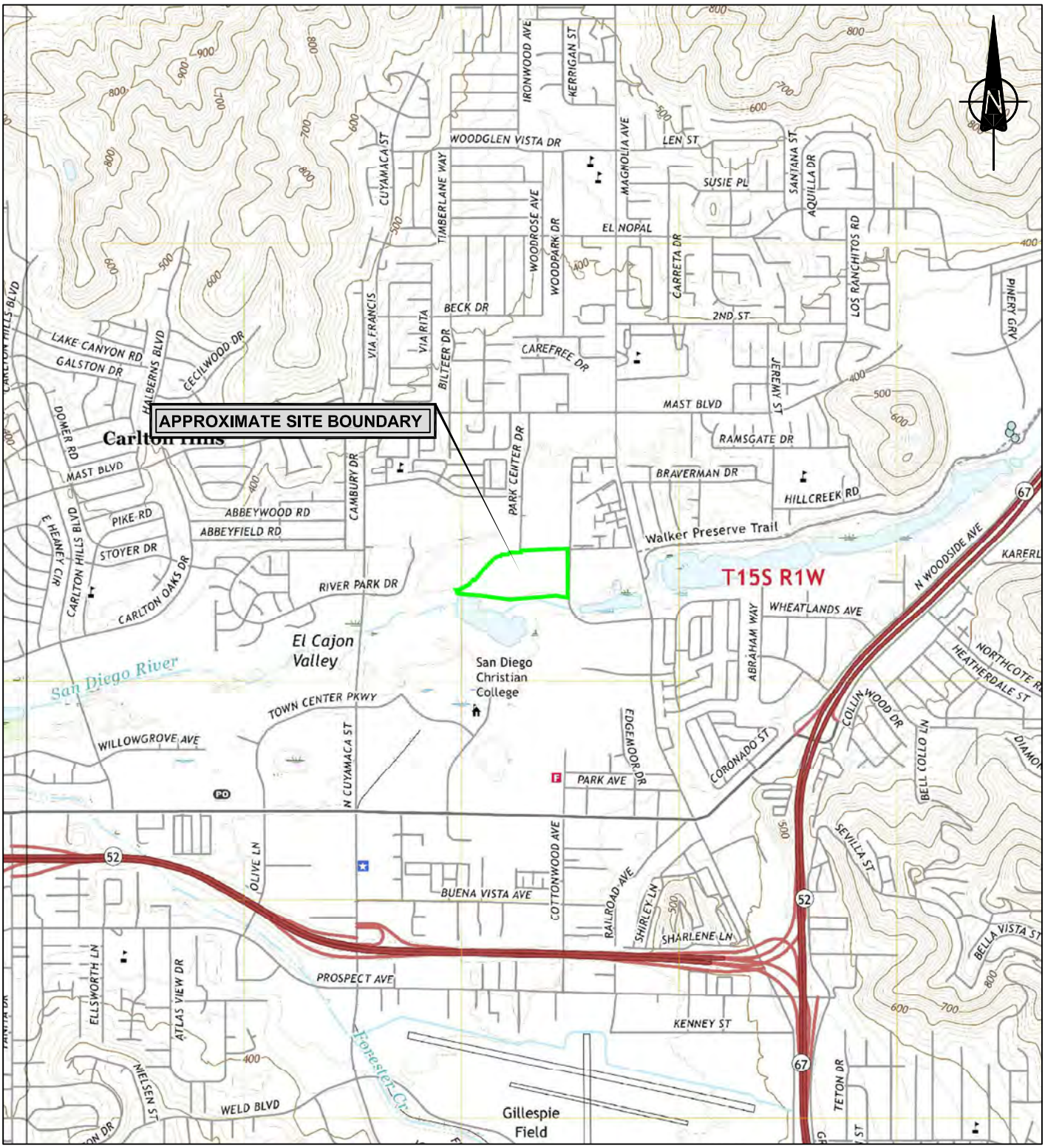
_____, Certified Sanborn Map Report, Inquiry Number 7493604.3, dated November 9, 2023.

_____, Historical Topographic Map Report, Inquiry Number 7493604.4, dated November 9, 2023.

_____, Aerial Photo Decade Package, Inquiry Number 7493604.8, dated November 9, 2023.

_____, City Directory Abstract, Inquiry Number 7493604.5 dated November 9, 2023.

FIGURES



0 2500 5000 7500 ft

SCALE : AS SHOWN

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC SERVICES INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SUBJECT PROPERTY LOCATION MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT

APN 381-051-18, SANTEE, CA 92071

Client:	CITY VENTURES

Project No.:	185806313
Scale:	AS SHOWN
Date:	23/11/18
Dwn. By:	CD OK SC2023110011
App'd By:	KE

Fig. No.: 1

Stantec

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Stantec Consulting Ltd. © 2023

N

LEGEND

SUBJECT PROPERTY

0 100 200 300 400FT

SCALE : AS SHOWN

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SUBJECT PROPERTY DETAILS

PHASE I ENVIRONMENTAL SITE ASSESSMENT

APN 381-051-18, SANTEE, CA 92071

Client:	CITY VENTURES
Project No.:	185806313
Scale:	AS SHOWN
Date:	23/11/18
Dwn. By:	CD
OK	SC2023110012
App'd By:	KE
Fig. No.:	2

Stantec

APPENDICES

APPENDIX A
PHOTOGRAPHS OF THE PROPERTY AND VICINITY

Photo #1 View of Subject Property from Cottonwood Avenue.

Photo #2 View of solar panel equipment in western portion of Subject Property.

Photo #3 View of central portion of Subject Property.

Photo #4 View of eastern portion of Subject Property.

Photo #5 View of western portion of the Subject Property.

Photo #6 View of debris in western portion of the Subject Property.

Photo #7 View of Creek south of Subject Property.

Photo #8 View of pond southwest of Subject Property.

Photo #9 View of vacant land west of Subject Property.

Photo #10 View of parking lot northwest of Subject Property.

Photo #11 View of parking lot north of Subject Property.

Photo #12 View of Park Center Drive north of Subject Property.

Photo #13 View of vacant land northeast of Subject Property.

Photo #14 View of residential housing northeast of Subject Property.

Photo #15 View of residential housing under construction southeast of Subject Property.

APPENDIX B
STANTEC RESUMES

Alicia Jansen CAC, LRCIA

Senior Scientist
21 years of experience

Alicia is a Senior Scientist with over twenty years of experience in Phase I and II Environmental Assessments, with strong emphasis in water quality and environmental research. Alicia has managed the preparation of environmental documents, training programs, and environmental compliance during large scale environmental monitoring projects. Alicia's environmental consulting experience includes performing asbestos and lead-based paint surveys, oversight of contractors during asbestos abatement, hazardous materials surveys, and Phase I Environmental Site Assessments (ESAs) in accordance with the practices identified in the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Designation E 1527-21 and the Standard Practice for Environmental Site Assessments for Forestland or Rural Property, ASTM Designation E 2247-16.

EDUCATION

BA, Environmental Studies, San Jose State University, San Jose, California, 2004

CERTIFICATIONS & TRAINING

Residential Measurement Provider, 108212, National Radon Proficiency Program, Anaheim, California, 2015

REGISTRATIONS

Certified Asbestos Consultant #CAC #15-5379, State of California Division of Occupational Safety and Health

Lead Inspector/Risk Assessor #LRC-00005363, California Department of Public Health

MEMBERSHIPS

Member, Groundwater Resources Association of California

PROJECT EXPERIENCE

HEALTH, SAFETY & INDUSTRIAL HYGIENE

Cochise County, Asbestos, Lead-Based Paint, and Hazardous Materials Survey | Arizona | Field Lead and Certified Asbestos Consultant

Alicia conducted with site inspections for asbestos, lead-based paint, and hazardous materials at multiple vacant structures including schools, multi-tenant apartment buildings, and commercial structures. The scope of work involved sample collection for asbestos and lead-based paint in addition to the quantification of universal wastes (PCBs, mercury containing equipment, refrigerants, etc.) that would require special handling and disposal. She assisted with the preparation of reports summarizing findings. Role: Field Lead | Dates involved: 2020-2022

Confidential Health Care Company, Asbestos, Lead-Based Paint, and Hazardous Materials Survey | Northern California | Staff

Alicia assisted with site inspections for asbestos, lead-based paint, and hazardous materials at multiple occupied hospitals and office spaces. The scope of work involved sample collection for asbestos and lead-based paint in addition to the quantification of universal wastes (PCBs, mercury containing equipment, refrigerants, etc.) that would require special handling and disposal. She assisted with the preparation of reports summarizing findings. Role: Field Lead | Dates involved: 2013-2020

State of California General Services, Asbestos, Lead-Based Paint, and Hazardous Materials Survey | Northern California | 2009 | Technical Support

Alicia assisted with site inspections for asbestos, lead-based paint, and hazardous materials at multiple communication towers in remote areas. The scope of work involved sample collection for asbestos and lead-based paint in addition to the quantification of universal wastes (PCBs, mercury containing equipment, refrigerants, etc.) that would require special handling and disposal. She assisted with the preparation of reports summarizing findings. Role: Technical Support | Cost: Unknown | Dates involved: 10/2009-10/2009

Indoor Air Quality Assessments* | San Jose, California | 2002-2005 | Staff

Alicia performed site inspections, interviews, and collected air samples to be analyzed for various air pollutants and molds including formaldehyde, penicillium, aspergillus, cladosporium, and stachybotry. She prepared reports summarizing findings and made recommendations.

Veteran's Administration of Puget Sound, Asbestos and Lead-Based Paint Survey | Seattle, Washington | 2009 | Project Scientist

Alicia served as the Project Scientist responsible for hazardous building material assessments, specifically asbestos and lead-based paint. These services were required as part of the pre-design tasks for this project. Over 300 samples were collected over the span of four days culminating in a final hazardous building materials report to be incorporated into the facility design as well as demolition activities once the construction phase of the

project commences.

Interim Remedial Action, Indoor Air Sampling, and Sub-Slab Soil Gas Sampling | Sunnyvale, California | 2004–2014 | Task Manager and Field Support

Alicia conducted an indoor air sampling survey using air sampling pumps, dosimeter badges, and flame ionization detector (FID) during a sump excavation. She performs semi-annual sub-slab soil vapor sampling and indoor air quality surveys using summa canisters. She assists with the preparation and submittal of reports summarizing the findings and provides recommendations to the local regulatory agency. Role: Indoor Air Sampling Survey | Cost: Unknown | Dates involved: 09/2004-09/2014

Lead Dust Assessment and Abatement Oversight | Fremont, California | 2009 | Technical Support

Alicia assisted with the evaluation of lead dust in an industrial facility. A total of 307 dust wipe samples were collected in order to evaluate the potential presence of lead dust throughout the two-story, 500,000 square foot manufacturing building. Role: Technical Support | Cost: Unknown | Dates involved: 01/2009-03/2009

Former Tesoro Coke Facility, Asbestos, Lead-Based Paint Survey | Pittsburg, California | Technical Support

Alicia assisted with an asbestos and lead paint survey of 20 structures at the facility ultimately scheduled for demolition. More than 200 samples were collected over the span of two days. She prepared a report for demolition while also providing the information needed for worker safety during demolition activities at the facility. Role: Technical Support | Cost: Unknown | Dates involved: 04/2009-04/2009

State of California General Services, Asbestos and Lead-Based Paint Survey | Southern California | 2014-2019 | Certified Asbestos Consultant

Alicia conducted with site inspections for asbestos and lead-based paint at multiple bridges, maintenance stations, and roadways throughout Southern California. The scope of work involved sample collection for asbestos and lead-based paint that would require special handling and disposal. She assisted with the review and approval of reports summarizing findings. Role: Certified Asbestos Consultant | Cost: Unknown | Dates involved: 9/2014-10/2019

Confidential Client, Asbestos and Lead-Based Paint Survey | Multiple Sites, California | Task Manager and Certified Asbestos Consultant

Alicia conducts pre-demolition asbestos and lead paint surveys of structures ultimately scheduled for demolition. She prepared a report for demolition while also providing the information needed for worker safety during demolition activities at the facility. Role: Task Manager and Certified Asbestos Consultant| Dates involved: 2006 - present

PERMITTING, COMPLIANCE, AUDITING

Tesoro Refinery, Initial Study* | Benicia, California | 2005 | Staff

Alicia assisted with the background research and preparation of applicant-prepared initial study for the upgrade of a refinery.

Transmission Line Upgrade* | San Mateo to San Francisco, California | 2005 | Environmental Research and Compliance Staff

Alicia supported the environmental compliance program for the construction of a 27-mile 230 kV underground and overhead transmission line. She assisted with the preparation and submittal of variance requests, extra work space requests, and daily and weekly reports for submittal to the California Public Utilities Commission. She also conducted research and assisted with training and report preparation.

REMEDIAL INVESTIGATIONS & ASSESSMENTS

California Department of Transportation Portfolio | Multiple Sites, Northern California and Southern California, California | 2008-2019 | Task Lead Manager

Alicia prepared quarterly groundwater monitoring reports, subsurface investigation reports, sensitive receptor surveys, and preferential pathway studies for various California Department of Transportation locations throughout Northern California. She assisted with the utility locating, work plan preparation, field coordination, archived data onto the State Water Resource Control Board's (RWQCB) Geotracker electronic filing system. Alicia currently conducts site inspections for asbestos, lead-based paint, and hazardous materials for bridges, salt barns, and maintenance buildings associated with California Department of Transportation locations throughout Southern California. The scope of work involves sample collection for asbestos and lead-based paint that would require special handling and disposal. She assists with the preparation of reports summarizing findings. Role: Task Lead Manager | Cost: Unknown | Dates involved: 06/2008-02/2019

Soil Gas Sampling and Human Health Risk Assessment | San Jose, California | 2014 | Project Lead

Alicia performed a soil vapor survey in conformance with the DTSC Advisory Active Soil Gas Investigations, using soil vapor sampling devices and a mobile laboratory for onsite chemical analysis. She also assisted with the report preparation summarizing the findings and providing recommendations for further assessment. Role: Task Lead Manager | Cost: Unknown | Dates involved: 2014

Confidential Clients, Phase I Environmental Site Assessments | Multiple Sites, California, Arizona, New Mexico, Texas, Virginia | Task Manager

Alicia performs Phase I Environmental Site Assessments for multiple confidential clients in accordance with the practices identified in the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Designation E 1527-13; ASTM E 1527-21; and Standard Practice for Environmental Site Assessments for Forestland or Rural Property, ASTM Designation E 2247-16 to achieve compliance with requirements of the "All Appropriate Inquiries" rule required to obtain protection from liability under the federal Comprehensive Environmental Response, Cleanup and Liability Act (CERCLA). Previous sites include large industrial warehouses, multi-tenant

commercial buildings, large lots of vacant land, and residential properties. She reviews topographic maps, Sanborn Fire Insurance Maps, and files at local regulatory agencies. She interviews present and former property owners and performed site and adjacent property reconnaissance. She prepares reports summarizing the findings and provides recommendations for further assessment if applicable. Role: Task Lead Manager | Cost: $3,000-8,000 per report. | Dates involved: 2006-present

Goodyear Portfolio | California and Hawaii | 2005–2020 | Project Lead

Alicia performed Phase I Environmental Site Assessments (ESA) and Phase II Site Assessments for various Goodyear Tire & Rubber Company locations throughout California and Hawaii. She assisted with the installation of monitoring wells and exploratory borings; underground storage tank removals; site restoration; product removal with passive recovery system; archived data onto the State Water Resource Control Board's Geotracker electronic filing system; and assisted with the preparation of quarterly groundwater monitoring reports, sensitive receptor surveys, site conceptual models, and subsurface investigation reports. Approximately 250 Sites • Cost: $8,000 per site.

Jenny Alvarado

Project Biologist
9 years of experience

A wildlife biologist who specializes in the avian and botanical fields, Jenny performs threatened and endangered species surveys, protocol nesting bird surveys, biological resource assessments, habitat characterization surveys, and restoration monitoring across Southern California. Jenny has prepared permit applications for CDFG Streambed Alteration Agreements (CDFG Section 1600), Regional Water Quality Control Board Water Quality Certifications (Clean Water Act Section 401), and U.S. Army Corps of Engineers Permits (Clean Water Act Section 404). Jenny is also experienced with California Environmental Quality Act and National Environmental Policy Act compliance. Although her background is mainly avian biology, she has experience identifying mammals, reptiles, and aquatic species. She performs compliance monitoring for a wide array of clients, including Southern California Gas Company, Plains All American Pipeline, and Caltrans. She assists in preparing Initial Studies, Mitigated Negative Declarations, Environmental Assessments, and Environmental Impact Reports for a variety of land uses. Additionally, she has experience assisting with asbestos and lead building surveys in California and Hawaii.

EDUCATION

Ecology, Zoology, Ornithology, Santa Barbra City College, Santa Barbara, California, 2011

BA, Physical Anthropology, University of California, Santa Barbra, Santa Barbara, California, 2008

AA, Liberal Arts, Ventura College, Ventura, California, 2005

CERTIFICATIONS & TRAINING

Asbestos Building Inspector Initial, Natec International, Inc., Thousand Oaks, California, 2016

Asbestos 40-Hr Contractor/Supervisor, Natec International, Inc., Thousand Oaks, California, 2016

CPR and First Aid Certification, American Red Cross, Port Hueneme, California, 2015

California Plant Family Identification Workshop, California Native Plant Society, Ojai, California, 2015

40-Hr HAZWOPER, OSHA, Temecula, California, 2015

Desert Tortoise Field Techniques Workshop, Desert Tortoise Council, Ridgecrest, California, 2014

Metrolink Contractor Safety Railroad Training, Metrolink, Pico Rivera, California, 2014

10-Hr Industrial Safety Training, OSHA, Ventura, California, 2014

REGISTRATIONS

Certified Erosion, Sediment and Storm Water Inspector #1586, Certified Inspector of Sediment and Erosion Control

Certified Erosion, Sediment and Storm Water Inspector #1586, CISEC, Inc., 6/30/2018

PROJECT EXPERIENCE

WILDLIFE BIOLOGY

Los Angeles County Beaches and Harbors Beach Berm Construction* | Los Angeles County, California | Snowy Plover Monitor

Jenny conducted snowy plover monitoring on five Los Angeles County beaches during berm construction and deconstruction. Daily monitoring reports were submitted to the County.

United Water District, Least Tern Surveys* | United Water Conservation District | Saticoy, California | Biologist

Jenny conducted weekly least tern surveys over two nesting seasons at the United Water facility. She drafted the final results report for the District.

McGrath State Beach Tidewater Goby and Water Quality Monitoring* | California Department of Fish and Wildlife | Ventura, California | Biologist

Jenny conducted daily tidewater goby sein netting surveys and relocation for an emergency construction project in the Santa Clara River estuary. She also performed daily water quality sampling and invasive species removal.

Ormond Beach Snowy Plover and Least Tern Surveys* | California Department of Fish and Wildlife | Ventura, California | Biologist

Jenny conducted protocol nesting bird surveys for the snowy plover and least tern within protected enclosures. Nesting behaviors, nest location, and young were tracked, documented and monitored throughout the nesting season.

California State University Channel Islands, Least Bell's Vireo Surveys* | California State University Channel Islands | Camarillo, California | Biologist

Jenny conducted least Bell's vireo surveys on the CSUCI campus for one nesting season, and assisted in preparation of final reporting.

** denotes projects completed with other firms*

Special-Status Species Surveys* | Recurrent Energy | Kern County, California | Biologist

Jenny conducted desert tortoise, burrowing owl and kit fox surveys for several solar projects across Kern County.

Stantec Architecture, FedEx Construction Site Burrowing Owl Survey | Bloomington, California | Biologist

Jenny performed a pre-construction special status species survey as well as burrowing owl presence/absence surveys in support of a proposed expansion project at a FedEx Ground facility. While conducting the survey, Jenny observed one burrowing owl within the proposed project area and helped coordinate additional protocol surveys in accordance with the project's mitigation requirements.

Luis Oasis Senior Center, Biological Constraints Analysis | Orcutt, California | Biologist

Jenny performed a field reconnaissance survey to document existing site conditions, the potential for sensitive biological resources, and took an inventory of protected native trees. Jenny also drafted the Biological Constraints Analysis Report for the project.

Town Building and Development, ISBA | Ventura County, California | Biologist

Jenny performed a field reconnaissance survey and prepared an ISBA to document existing habitat conditions and the potential for sensitive biological resources in accordance with County of Ventura ISBA requirements.

Algonquin Power, SKIC 10 Solar Project San Joaquin Kit Fox, Burrowing Owl, Nesting Bird and Wildlife Clearance Surveys | Bakersfield, California | Biologist

Jenny performed San Joaquin kit fox, burrowing owl, nesting bird, and wildlife clearance surveys prior to project construction.

Comstock Homes, Burrowing Owl Surveys | Camarillo, California | Biologist

Jenny prepared a proposal and conducted burrowing owl presence/absence surveys for a residential development project in Camarillo. She also concurrently performed a nesting bird survey of the project area and prepared a report of the results.

ENVIRONMENTAL MONITORING

Pipeline Safety Enhancement Plan* | Southern California Gas Company | Ventura and Los Angeles Counties, California | Lead Environmental Monitor

Jenny conducted environmental monitoring for several gas pipeline replacement projects. She monitored biological resources, storm water and air quality, hazardous waste control, and cultural and archaeological resources, as well as performing water and polychlorinated biphenyl sampling. She also conducted pre-construction surveys, prepared project reports, and compliance monitoring documents.

Caltrans Bridge Replacement Project* | Santa Barbara, California | Biologist

Jenny conducted the biological monitoring for two bridge replacements that required monitoring stream diversion installation and removal. She performed aquatic species surveys, nesting bird surveys, and water diversion as well as general construction compliance monitoring.

Biological Monitoring, Line 63 Pipeline Replacement Project | Plains All American Pipeline Company | Castaic, California | Biologist

Jenny conducted biological and restoration monitoring of a petroleum pipeline replacement within the Angeles National Forest. She conducted sensitive species clearance surveys prior to daily construction activities and monitored habitat restoration and Best Management Practices (BMP) installation.

Plains All American Pipeline Drilling Project | Posey Canyon, Angeles National Forest, California | Biologist

Jenny provided biological resource monitoring, and nesting bird and wildlife surveys for a drilling project in the Angeles National Forest.

Riparian Habitat Assessment, Line 63 Replacement Project | Plains All American Pipeline Company (PAALP) | Santa Clara River, Los Angeles County, California | Biologist

Jenny was approved by CDFW as a qualified biological monitor and conducted environmental compliance monitoring for installation of a pipeline through the Santa Clara River via Horizontal Directional Drilling (HDD). During monitoring of construction activities Jenny also surveyed for potential frac- out during HDD operations.

Carpinteria Sanitary District, Carpinteria Creek Aquatic Species Surveys and Horizontal Direction Drilling (HDD) Monitoring | Carpinteria, California | Biologist

Jenny conducted pre-construction aquatic surveys within Carpinteria Creek for red-legged frog, southwestern pond turtle, tidewater goby, and two-striped garter snake. She also provided biological construction monitoring during HDD construction activities within the creek. Jenny detected a frac-out and was able to prevent any frac-out material from entering Carpinteria Creek by promptly alerting project personnel.

Phillips 66 Pipeline Biological Monitoring Project | Phillip 66 Pipeline LLC | Arroyo Grande, California | Biologist

Jenny conducted environmental compliance monitoring for a 5.6 mile pipeline project that crossed the Arroyo Grande Creek and an additional tributary. The project entailed dewatering a 70- foot section of creek and replacing a portion of pipeline underneath. Jenny also conducted SWPPP inspections for the entire project.

** denotes projects completed with other firms*

STREAM/RIVER RESTORATION

California State University Channel Islands, Restoration Monitoring* | Camarillo, California | Biologist

Jenny conducted quarterly and annual qualitative and quantitative monitoring for a creek restoration site on CSUCI campus. She also prepared quarterly status memos and annual restoration monitoring reports in accordance with agency requirements.

Restoration Monitoring* | City of Santa Barbara | Santa Barbara, California | Biologist

Jenny performed quarterly and annual qualitative and quantitative monitoring for two bridge projects over Mission Creek. She prepared annual restoration monitoring reports in accordance with agency requirements.

BOTANICAL SURVEYS

California State University Channel Islands, Vegetation Mapping* | California State University Channel Islands | Camarillo, California | Biologist

Jenny conducted vegetation habitat mapping on CSUCI campus and prepared survey results reports.

Oak Tree Inventory and Vegetation Mapping* | Confidential | Castaic, California | Biologist

Jenny conducted oak tree inventories for several hundred trees and prepared vegetation habitat maps for three adjacent parcels.

High Speed Rail Special-Status Floral Surveys* | Tehachapi, California | Biologist

Jenny conducted focused, rare plant surveys for a portion of a high-speed rail project through Tehachapi.

NATURAL RESOURCE DAMAGE ASSESSMENT AND OIL SPILL RESPONSE

Habitat Restoration Monitoring, Refugio Oil Spill | Plains All American Pipeline Company | Goleta, California | Biologist

Jenny conducted restoration monitoring and assisted with habitat assessments at multiple sites along the California coast following spill cleanup response efforts.

ASBESTOS, LEAD BASED PAINT, AND HAZARDOUS MATERIAL (MERCURY, PCB) ASSESSMENTS

Asbestos and Lead Surveys | Hawaii | Environmental Scientist

Jenny assisted with asbestos and lead surveys for several multi-story buildings for a confidential client. The surveys included exterior and interior sampling, mapping, and reporting. Additionally, inventories of hazardous materials were taken, including potential mercury and PCB-containing materials.

Asbestos and Lead Surveys | Westlake and Thousand Oaks, California | Environmental Scientist

Jenny assisted with asbestos and lead surveys for several shopping centers for a confidential client. The surveys included exterior and interior sampling, mapping, and reporting. Additionally, inventories of hazardous materials were taken, including potential mercury and PCB-containing materials.

PUBLICATIONS

A VanDwerwarker, J Alvarado, P Webb. *Analysis and Interpretation of Intrasite Variability in Paleoethnobotanical Remains: A Consideration and Application of Methods at the Ravensford Site, North Carolina. In: Method and Theory in Paleoethnobotany.*, 2014.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

Kyle has more than 28 years of professional experience—17 of those years with Stantec—providing geotechnical and environmental consulting. During the course of his experience, he has been involved with a wide variety of geological and engineering projects. He has been in direct charge of quality control/quality assurance (QA/QC) work for Stantec and previous firms for geological, engineering geological, and environmental services primarily in California. Additionally, Kyle has been a primary contact for Stantec with many different clients (including multi-party actions) and regulatory bodies involving contracting, workplan approvals, site assessments and closures, permitting, remedial action, and litigation support. With regard to litigation services, Kyle has extensive experience providing expert witness testimony, second-party review, and litigation support and analysis.

Kyle's extensive experience includes assessment and remediation of property-specific and regional issues involving soil and groundwater contaminated with petroleum hydrocarbons, chlorinated solvents, heavy metals, pesticides, and PCBs.

He currently serves as the managing principal geologist in Stantec's Redlands, California office.

EDUCATION

Engineering Geology/Hydrogeology, California State University, Los Angeles, California, 1984

AS, General Science, Crafton Hills College, Yucaipa, California, 1975

BS, Geological Sciences, California State University, Long Beach, California, 1982

REGISTRATIONS

Certified Engineering Geologist #1271, State of California Issued 1985, Expires 2011

Professional Geologist #4066, State of California Issued 1985, Expires 2011

PROJECT EXPERIENCE

Bioremediation

Excavation and Treatment of Petroleum-Contaminated Soil

Kyle designed the excavation and treatment of 45,000 cubic yards of petroleum-contaminated soil. Soil treatment included utilizing vapor extraction, combined with bioremediation.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

Chemicals & Polymers

Two Former Chemical Plants, Environmental Site Assessments and Remediation, Vernon, California

Mr. Emerson was part of the team for conducting Phase I and Phase II Environmental Site Assessments (ESA) and developing remedial action plans for two former chemical plant sites with 80-year industrial histories. Phase I ESAs used historical files, maps, aerial photographs, available documents, and data from public agencies and historical directories for identifying recognized environmental concerns. Extensive Phase II ESA survey activities aided in identifying below-grade structures such as vaults/USTs, as well as assessing the extent of influence and nature of the contamination. These investigations confirmed the presence of heavy metals, petroleum hydrocarbons, volatile organic compounds, polychlorinated biphenyls, radioactive materials, semi-volatile organic compounds, and polycyclic aromatic compounds in the soils for these sites. Specific areas of concern included former settling ponds, a bone yard, maintenance areas, transformer and substations, wastewater treatment facilities, and above-ground storage tank farms. A conceptual mode was developed for use in a health risk assessment and developed risk-based corrective actions to address potential health and environmental concerns. He assisted with the development and implementation of a remedial action plan, combined administrative controls, engineering controls, and active remediation; this resulted in the cost-effective return of one site to active use, and is reducing health risks to occupants and the public at the second site.

CONFIDENTIAL: Aerospace Adhesives and Coatings Plant, Glendale, California

Mr. Emerson was part of the team that conducted feasibility studies to evaluate remedial alternatives for remediation of chlorinated VOCs, 1,4 dioxane, and hexavalent chromium (CrVI) in soil, soil vapor, and groundwater. Feasibility studies included groundwater pump testing, benchscale column testing to evaluate in situ alternatives for reducing CrVI to the less mobile CrIII valence state, soil vapor extraction, capping, and excavation. Field pilot studies were performed to evaluate the efficiency of various CrVI reductants including the use of ferrous sulfate, calcium polysulfide, emulsified oil, and fructose. Extensive multi-depth soil vapor testing was conducted to evaluate the distribution of VOCs in the subsurface and to support vapor intrusion risk assessment. Feasibility studies were completed in 2008. Remedial actions are expected to be completed in 2011.

Condition Assessments

Assessment and Mitigation of Manufacturing Facility

Kyle managed the assessment and mitigation of an ammunition manufacturing facility covering 1,100 acres in a complex geologic environment. The contaminates involved red and white phosphorous, TNT, chlorinated solvents, solid wastes, and live ordinance.

Soil Contamination Assessment Supervision and Management

Kyle managed and supervised soil contamination assessment and in-situ remediation of heavy metals involving chromium, cadmium, nickel and zinc by chemical fixation to depths in excess of 40 feet below ground surface beneath existing structures within several manufacturing facilities.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

Litigation Support and Expert Testimony
Kyle provided litigation support and expert testimony on more than 20 separate projects involving service stations, chlorinated solvent cases, heavy metal, and semi-volatile releases.

Corporate / Office
Commercial Developer - Environmental Remediation of Former Dry Cleaners, El Centro, California
Mr. Emerson was responsible for assessments and remediation at this former dry cleaners which released the dry cleaning chemical tetrachloroethene (PCE) to the ground and underlying groundwater. The work included initial site assessment, agency interaction and negotiations with the California Regional Water Quality Control Board (CRWQCB), and Colorado Basin Region human health risk assessment (HHRA), design and implementation of remedial investigations, feasibility studies, remedial action plans, and implementation of remediation in mitigating chlorinated solvent contamination in vadose and saturated zones at concentrations indicative of DNAPL. The results of the completed remediation, as well as continued confirmation sampling and monitoring, allowed the CRWQCB to issue site closure in 2008. The site has since been redeveloped into a new commercial development.

Environmental Assessments
Siting Studies
Kyle performed initial siting studies for potential Class I, II, and III landfills. The project included detailed geologic mapping, hydrogeological studies, and permeability studies of caps and liners.

Environmental Site Remediation
Assessment and Remedial Design, California (Project Supervisor)
Kyle supervised the assessment and remedial design of a system to eliminate salt brine contamination in shallow perched water horizons in the Yucaipa, San Bernardino, and Riverside areas of southern California.

Design and Installation of Recovery Systems*
Kyle designed and installed numerous free-product recovery systems that successfully recovered product. One of the sites contained product up to 11-feet thick covering more than three city blocks. The dissolved phase had affected a multi-aquifer system and a public drinking water system.

Geophysical Characterizations*
Kyle performed and supervised numerous geophysical characterizations to determine the extent of old landfills. He provided classification studies, landfill gas monitoring, removal verification during grading, methane collection and mitigation plans, permitting, and closure plans.

Domestic Landfill Development*
Kyle designed and supervised the dynamic consolidation of a domestic landfill for development. He used this process to minimize expected settlement to overlying structures. Kyle designed commercial developments on closed landfills that involved complex methane collection and monitoring systems and building settlement controls.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

Clay Borrow Site Studies

Kyle performed more than 10 separate clay borrow site studies for determining sources of material to cap landfills; ranged from a 20-acre dry lakebed to a 450-acre parcel in complex folded marine sediments.

Assessment, Clean Up, and Regulatory Support Management, Santa, Monica (Project Manager)

Kyle managed the assessment, clean up, and complex regulatory support of a PRP site in an MTBE case (Charnock subbasin). His work involved more than 20 environmental professionals working full time for two years to complete the assessment and clean up mandated by the regulatory agencies.

Hazardous Waste

San Gabriel Valley Superfund Site, Remediation & Closure of Multiple Source Areas, Industry, California

Mr. Emerson performed feasibility studies to evaluate appropriate and relevant remedial alternatives to mitigate constituents of concern in five AOCs contaminated with chlorinated hydrocarbons, heavy metals, petroleum fuel, and cutting oils. Ultimately, a combination of remedial alternatives was implemented that included large-diameter auger excavation to 45 feet to minimize impacts on facility operations, vapor extraction, vapor intrusion risk assessment, deed restriction, and monitored natural attenuation. At the completion of remedial actions, confirmation soil, soil vapor, and groundwater sampling were conducted and followed with risk assessment to demonstrate that remedial objectives had been achieved. No further action was recently granted by the US EPA and Los Angeles Regional Water Quality Control Board.

Mixed-Use

Port of San Diego Rohr Facility, Chula Vista, California

Mr. Emerson assisted in a detailed subsurface assessment of the Rohr facility. The intent of the assessment was to evaluate the 40-acre former aircraft part manufacturing facility for acquisition by the Port of San Diego for redevelopment into a business park and entertainment complex. The assessment identified the presence of soil, soil vapor, and groundwater impacts by petroleum hydrocarbons, VOCs, heavy metals, PCBs, and semi-volatile organic compounds. He utilized many sampling techniques to assess the limits and concentrations of contaminants in the subsurface. Ultimately, the team was able to develop a cost estimate for potential remedial action cost associated to corrective action to allow redevelopment.

Master Planned Commercial/Residential Redevelopment Project, Whittier, California (Project Manager)

Kyle oversaw the assessment of 26 contiguous properties that are part of a 21-acre master planned commercial/residential redevelopment project. The properties included industrial facilities, platting lines, fuel USTs, and metal processing plants, among others. The estimated cleanup costs are approximately $2 million.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

Multi-Unit / Family Residential

Residential Development Assessment, Ventura, California (Project Director)

Kyle directed an assessment of a 40-acre former agricultural property proposed for residential development. Pesticides were identified above hazardous waste levels and preliminary remediation goals established by the U.S. Environmental Protection Agency. Through corrective grading methods and onsite placement of the pesticide impacted soils, all material were re-used on site without offsite disposal. The over all cost savings for the client was more than $1 million. Total cost was less than $250,000 for all necessary activities.

Oil & Gas

Oil Field Site Assessments*

Kyle performed site assessments at oil field leases involving refineries, bulk storage areas, piping systems and wellhead, and drilling mud pit contamination.

Environmental Protection Agency Superfund Action, Culver City, California (Project Manager)

Kyle served as the project manager representing a major oil company in the assessment, remedial action, and litigation support in a multi-party contamination case affecting a City water supply. The assessment involved more than 250 continuous core borings up to 100 feet, as well as extensive remedial actions. The total cost for all related activities was $22 million. The case is settled and the closure of the site is pending.

Project Management

Liability and Property Management Consulting Services

Kyle is providing liability and property management consulting services to more than 10 medium to large property development firms in the US. His work involves property transaction assessments, contract review, acquisition guideline development, liability management evaluation, insurance acquisition, and strategic planning.

Residential Development

Environmental Development Management and Review (Project Manager)

Kyle manages and reviews environmental development issues for a large residential developer specializing in development of contaminated industrial properties by providing innovative solutions in developing contaminated properties for residential use through risk assessment, engineering, and administrative and property development controls.

Site Management and Remediation

Design and Implementation of Biodegradation Programs*, California

Kyle designed and implemented one of the first in-situ biodegradation programs in California; it involved 50,000 cubic yards of diesel-contaminated soils, and groundwater to depths of 70 feet below ground surface.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

Soil and Groundwater Remediation Systems

Soil and Groundwater Contamination Assessments and Mitigation*, California (Project Manager)

Kyle managed numerous chlorinated solvent soil and groundwater contamination assessments and mitigation programs in southern California. The projects involved releases that impacted soil and groundwater to depth of groundwater more than 700 feet in multi-aquifer systems. One case involved with plume dimensions more than 1 mile from the source affecting residential properties.

Soil and Groundwater Assessment and Remediation Programs*

Implemented hundreds of soil and groundwater assessment and remediation programs at various service station facilities in Southern and Northern California, and Nevada. Work involved assessment, remedial design, installation, maintenance and monitoring. Closure has been received on a majority of these sites.

Assessment and Remediation Management*

Kyle managed the assessment and remediation of soil and groundwater manufacturing at dry cleaning facilities contaminated with chlorinated solvents.

Warehouse / Light Industrial

Glendale Redevelopment Project, Glendale, California (Project Manager)

Kyle managed the assessment and remedial actions during the redevelopment of and industrial property. The project involved the demolition of a historic manufacturing facility and a commercial dry cleaner. Each of these facilities were associated with releases of solvents and petroleum hydrocarbons. Remedial actions involved excavation by pattern drilling and off site disposal along with removal of former USTs. The total cost of remediation and assessment was $450,000.00.

Compton Redevelopment Project, Compton, California (Project Manager)

Kyle is serving as project manager for the assessment and remedial actions for a large redevelopment project. The project involves the redevelopment of a historic manufacturing facility and a former dry cleaner. Each of these facilities were associated with releases of solvents and petroleum hydrocarbons. The industrial facility was also associated with significant volumes of buried waste that required removal and disposal. These wastes also included the chemical referenced above, as well as PCBs and heavy metals. Remediation has included excavation, vapor extraction, and chemical fixation. The total cost of this project has been $2.8 million to date.

** denotes projects completed with other firms*

Kyle D. Emerson PG, CEG

Managing Principal Geologist

PUBLICATIONS

In-Situ Bioremediation of an Underground Diesel Fuel Spill: A Case Study. Environmental Management, 1989.

APPENDIX C
USER-PROVIDED RECORDS

PHASE I ESA USER'S QUESTIONNAIRE

In order to qualify for protection from land owner liability under CERCLA as an *innocent landowner, bona fide prospective purchaser,* or *contiguous property owner*, ASTM standard practice E1527-21 and the federal AAI rule (40 CFR 312) require that the User of the Phase I ESA report provide certain information (if available) to the Environmental Professional completing the assessment. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete. Information that is not or cannot be provided to the Environmental Professional may be identified as a "data gap" in the Phase I ESA report.

Please answer the following questions as completely as possible. Attach additional pages as needed. Return the completed questionnaire to Stantec along with the executed Authorization For services form.

1. Property Information

   Property Name: Cottonwood & Park – Santee

   Property Address(es): APN: 381-051-18

   City: _____State _____Zip _____

   Property Owner Name: Santee 3 Inv, LLC

   Property Owner Phone #: 949-258-7555

2. Contact For Site Access

   Name: Karen Alves

   Company/Organization/Title: City Ventures

   Phone # 949-258-7515 E-Mail Address: kalves@cityventures.com

3. Environmental Cleanup Liens. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

   _____ Yes _____X_____ No

   If yes, describe or attach details of the lien _____

   _____

4. Activity and Land Use Limitations. Are you aware of any activity and use limitations, such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded as applicable to the property as a result of environmental contamination, investigation, cleanup, or related matters?

   _____ Yes ___X_____ No

   If yes, describe or attach details of the limitations _____

   _____

5. Specialized Knowledge or Experience. As the User of this ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property, such that you would have specialized knowledge about chemicals and processes used by this type of business?

_____ Yes _____X_____ No

If yes, describe or attach details of your specialized knowledge or experience _____

_____

6. Relationship of Purchase Price to Fair Market Value of Property. Does the purchase price being paid for the property reasonably reflect the fair market value?

_____Yes _____No

X_____Not applicable. User is not involved in a purchase of the property.

If you conclude that there is a difference, do you have any reason to believe that the reduced purchase price may be related to contamination known or believed to be present at the property?

_____Yes, I have reason to believe that the purchase price for the property has been reduced in comparison with the fair market value due to contamination known or believed to be present at the property.

_____No, I have no reason to believe that the purchase price for the property has been reduced in comparison with the fair market value due to contamination known or believed to be present at the property.

7. Commonly Known or Reasonably Ascertainable Information. Are you aware of commonly known or reasonably ascertainable information about the property that would help the Environmental Professional to identify conditions indicative of releases or threatened releases of hazardous substances or petroleum products? For example:

Do you know the past uses of the property?

_____Yes (describe) _____

_____

_____

X_____No

Do you know of chemicals, hazardous substances or petroleum products that are present or once were present at the property?

_____Yes (describe) _____

_____

_____

X_____No

Do you know of spills or other releases of chemicals, hazardous substances or petroleum products that have taken place at the property?

_____Yes (describe) _____

_____

_____

X_____No

Do you know of any environmental cleanups that have taken place at the property?

_____Yes (describe) _____

_____

_____

X_____No

8. The Degree of Obviousness of Contamination. E1527-21 and the federal AAI rule (40 CFR 312.31) require that the Phase I ESA consider the degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation. Based on your knowledge and experience related to the property, are there any *obvious* indictors that point to the presence or likely presence of contamination at the property?

_____Yes (describe) _____

_____

_____

X_____No

9. Availability of Previous Environmental Reports. Are you aware of previous environmental site assessment reports, other environmental reports, documents, correspondence, etc. concerning the property and its environmental condition?

X_____Yes (describe) Phase I & II prepared by Stantec dated 11/16/2017

_____

_____

_____

_____No

Signature: _____

Name (printed): Karen Alves

Title: SVP of Development

Date: November 27, 2023

Fidelity National Title
BUILDER SERVICES

4210 Riverwalk Parkway, Suite 100
Riverside, CA 92505
Phone: (951) 710-5944
Fax: (951) 710-5955

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Andrew Margo (BS-RIV)
Escrow Officer: Builder Services OAC

Order No.: 989-**30029255**-B-BAM

TO:

City Ventures Homebuilding, LLC
3121 Michelson Drive, Suite 150
Irvine, CA 92612

ATTN: .**Karen Alves**
YOUR REFERENCE:

PROPERTY ADDRESS: CV-WFB-Santee 3, Santee, CA

AMENDED **PRELIMINARY REPORT**

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

Fidelity National Title
BUILDER SERVICES

4210 Riverwalk Parkway, Suite 100
Riverside, CA 92505
Phone: (951) 710-5944
Fax: (951) 710-5955

AMENDED **PRELIMINARY REPORT**

EFFECTIVE DATE: **November 2, 2023 at 7:30 a.m., Amended: November 10, 2023, Amendment No. B**

ORDER NO.: 989-30029255-B-BAM

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   Santee 3 Inv, LLC, a Delaware limited liability company

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF SANTEE IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

ALL THOSE PORTIONS OF BLOCKS 2 AND 3 OF THE SUBDIVISION OF LOTS "H" AND "O" OF THE RANCHO EL CAJON, IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP NO. 817, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY ON APRIL 02, 1896, DESCRIBED AS FOLLOWS:

THAT PARCEL COMMONLY KNOWN AS TAX PARCEL 381-051-18.

SAID PROPERTY IS BOUNDED ON THE EAST BY COTTONWOOD AVENUE.

SAID PROPERTY IS BOUNDED ON THE NORTH BY TAX PARCELS 381-051-14 AND 381-051-17.

SAID PROPERTY IS PARTIALLY BOUNDED ON THE NORTH BY COMMUNITY PARK SITE AS SET OUT IN DEED RECORDED JULY 19, 2013 AS INSTRUMENT NO. 2013-0451909 OF OFFICIAL RECORDS.

SAID PROPERTY IS BOUNDED ON THE SOUTH BY TAX PARCEL 381-050-77.

NOTE: THE FACT THAT THE LEGAL DESCRIPTION COVERED BY THIS REPORT IS PRELIMINARY AND UNINSURABLE IN ITS PRESENT FORM.

TO PREVENT ERRORS AND TO BE CERTAIN THAT THE PROPER PARCEL OF LAND WILL APPEAR ON THE DOCUMENTS AND ON THE POLICY OF TITLE INSURANCE, WE REQUIRE A NEW LEGAL DESCRIPTION BE SENT TO US, TO BE APPROVED BY OUR ENGINEER DEPARTMENT AND APPROVED BY THE SELLER AND BUYER.

APN: 381-051-18-00

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, including any personal property taxes and any assessments collected with 2023-2024 fiscal year taxes are as follows:

Tax Identification No.:	381-051-18-00
1st Installment:	$120,502.99, OPEN (Delinquent after 12-10-2023)
2nd Installment:	$120,502.99, OPEN (Delinquent after 04-10-2024)
Code Area:	16078

Supplemental taxes, including any personal property taxes and any assessments collected with taxes, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California, are as follows:

Tax Identification No.:	381-051-18-00
Fiscal Year:	2022
1st Installment:	$61,017.59, OPEN
Penalty:	$6,101.75
2nd Installment:	$61,017.59, OPEN
Penalty:	$6,111.75
Code Area:	16078
Supplemental Bill No.:	829-313-99-82
Affects:	Parcel 18

B. General and special city and/or county taxes, bonds, or assessments which may become due on said land, if and when title to said land is no longer vested in a governmental or quasigovernmental agency. Tax parcel for said land is currently shown as 381-051-18-00.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Rights of the public to any portion of the Land lying within the area commonly known as Cottonwood Avenue.

3. Rights and easements for navigation and fishery which may exist over that portion of said Land lying beneath the waters of San Diego River.

4. The fact that the deed from G. L. Strobeck and Emily Strobeck, husband and wife, to the County of San Diego, a public corporation, dated July 23, 1923, and recorded July 24, 1923 in Book 751, Page 319 of Deeds, conveying Blocks 3, 10, and 11 in the Subdivision Tracts “H” and “O” of the Rancho El Cajon, Map No. 817, filed April 02, 1896, including the vacated portion of Lakeside Avenue lying between said Block 3 on the one side and said Blocks 10 and 11 on the other side; with other property, contains the following recital:

   “This deed is made upon the understanding and agreement that no right to water or the delivery thereof, or the carrying thereof, which may be developed upon, or carried over, any other lands of the Grantors not hereinbefore described, are conveyed hereby as an appurtenance to the above described land, or otherwise.”

5. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

   Reserved by: G. L. Strobeck, et ux.

EXCEPTIONS
(Continued)

Purpose:	Pumping plat, wells, pipe lines, etc.
Recording Date:	August 21, 1925
Recording No:	Book 1114, Page 118 of Deeds
Affects:	The exact location and extent of said easement is not disclosed of record

6. Intentionally Deleted

7. Intentionally Deleted

8. The Land described herein is included within a project area of the Redevelopment Agency shown below, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the Redevelopment Plan) as disclosed by a document.

Redevelopment Agency:	Santee Redevelopment Agency
Recording Date:	August 6, 1982
Recording No:	82-242522 of Official Records
and Recording Date:	July 11, 2002
and Recording No.:	2002-0581986 of Official Records
and Recording Date:	September 18, 2007
and Recording No.:	2007-0611268 of Official Records

9. The fact that said land shown on Record of Survey Map No. 15561 recorded July 17, 1987.

10. The fact that the roads set out in the deed from County of San Diego, a political subdivision of the State of California, to the City of Santee, a municipal corporation, recorded April 18, 1997 as Instrument No. 1997-0180109 of Official Records, appear to form the Northerly boundary of a portion of the land covered by this report.

    Note: A similar document recorded February 01, 2002 as Instrument No. 2002-0089243 of Official Records.

    And recorded July 19, 2013 as Instrument No. 2013-0451909 of Official Records.

11. Note: The fact that the legal description covered by this report is preliminary and uninsurable in its present form.

    To prevent errors and to be certain that the proper parcel of land will appear on the documents and on the policy of title insurance, we require a new legal description to be sent to us, to be approved by our engineer department and approved by the seller and buyer.

12. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

13. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

EXCEPTIONS
(Continued)

14. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

15. A Deed of Trust to secure an indebtedness in the amount shown below,

Amount:	$19,603,959.40
Dated:	December 28, 2022
Trustor/Grantor:	Santee 3 Inv, LLC, a Delaware limited liability company
Trustee:	the County of San Diego
Beneficiary:	the County of San Diego
Recording Date:	December 20, 2022
Recording No:	2022-0483183

16. Matters contained in that certain document

Entitled:	Right of Termination and Reversion Agreement
Dated:	December 28, 2022
Executed by:	the County of San Diego and Santee 3 Inv, LLC
Recording Date:	December 30, 2022
Recording No:	2022-0483184

Reference is hereby made to said document for full particulars.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

REQUIREMENTS SECTION

1. This Company will require evidence of compliance with the statutory limitations incident to the governmental agency named below, with reference to any conveyance of an interest in the Land this Company will be asked to record and/or rely upon in the issuance of any form of title insurance.

   Governmental agency: The County of San Diego, a public corporation

2. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

INFORMATIONAL NOTES SECTION

1. None of the items shown in this report will cause the Company to decline to attach CLTA Endorsement Form 100 to an Extended Coverage Loan Policy, when issued.

2. The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

3. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

4. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

5. Due to the special requirements of SB 50 (California Public Resources Code Section 8560 et seq.), any transaction that includes the conveyance of title by an agency of the United States must be approved in advance by the Company's State Counsel, Regional Counsel, or one of their designees.

6. There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective January 1, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We do share Personal Information among affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback
By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the

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last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the field rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for each discount. These discounts only apply to transaction involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

FNF Underwritten Title Company
FNTC - Fidelity National Title Company
FNTCCA –Fidelity National Title Company of California

FNF Underwriter
FNTIC - Fidelity National Title Insurance Company

Available Discounts

CREDIT FOR PRELIMINARY REPORTS AND/OR COMMITMENTS ON SUBSEQUENT POLICIES (FNTIC)
Where no major change in the title has occurred since the issuance of the original report or commitment, the order may be reopened within 12 or 36 months and all or a portion of the charge previously paid for the report or commitment may be credited on a subsequent policy charge.

DISASTER LOANS (FNTIC)
The charge for a lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within 24 months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be 50% of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be 50% to 70% of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be 40% to 50% of the appropriate title insurance rate, depending on the type of coverage selected.

ATTACHMENT ONE

CALIFORNIA LAND TITLE ASSOCIATION

STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;

d. improvements on the Land;
e. land division; and
f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% % of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% % of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;

(b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
(c) resulting in no loss or damage to the Insured Claimant;
(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

(Except as provided in Schedule B - Part II,(t(or T)his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

(PART I

(The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:)

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
      (i) the occupancy, use, or enjoyment of the Land;
      (ii) the character, dimensions, or location of any improvement erected on the Land;
      (iii) the subdivision of land; or
      (iv) environmental protection;
      or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or

(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of: (The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. (Variable exceptions such as taxes, easements, CC&R's, etc. shown here.)

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

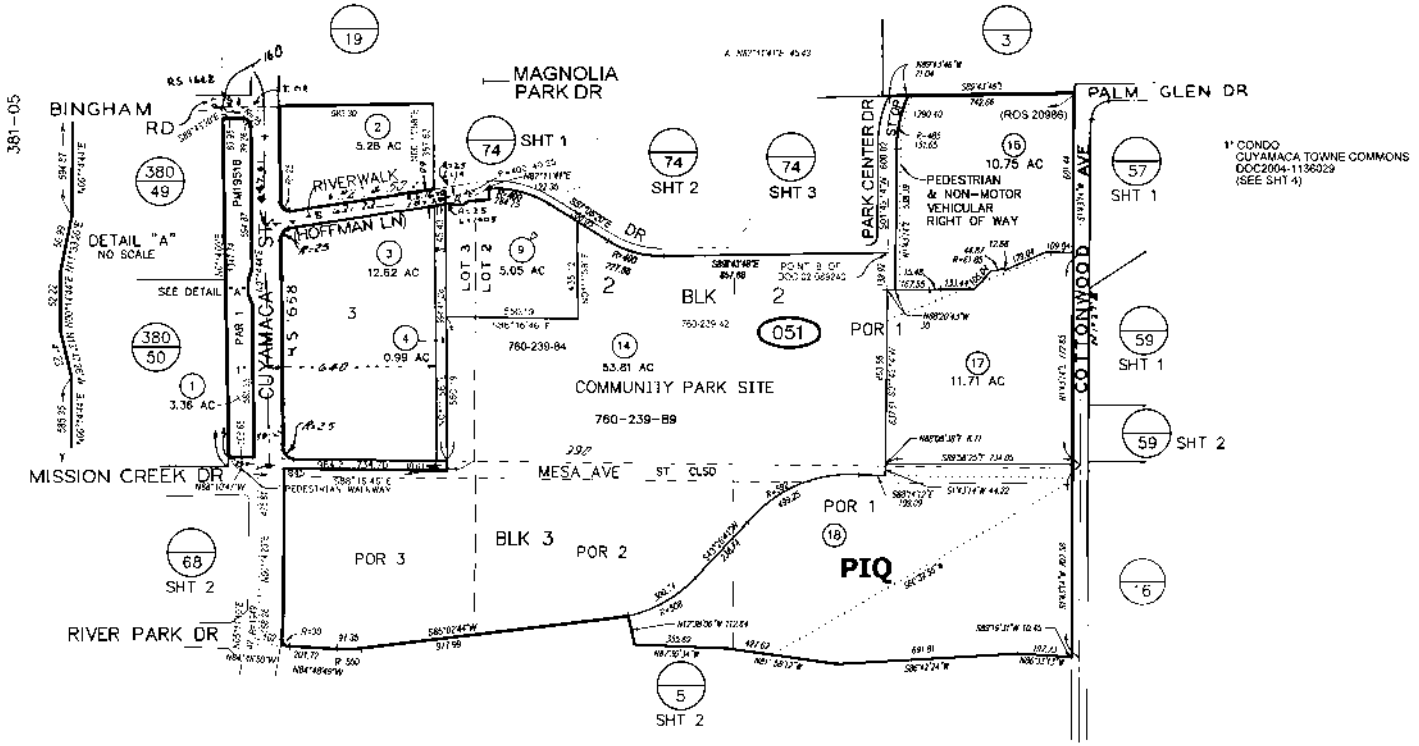
1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.

8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

16

381 - 05
SHT 1 OF 5

1"=400'



02/28/2018 DJS

CHANGES

BLK	OLD	NEW	YR	CUT	
051	-050-VAR	1-5	75	10002	
	5	ST DED 6&7	98	1207	
	6	8&9	03	1003	
	1	SUBD'N ST DED	05	4678	
	8	10&11	05	1088	
	10	12&13	05	1903	
	9-11,12 & 13	SUBD'N ACC DED	05	5856	
	76-050-52	14	05	2121	
	1	CONDO	06	501	CC
	11	33.3 PC TASHT 1-5	07	141	
	12&13	15&16	17	1019	
	050-24	17&18	17	1351	
	6	SUBD'N ACC DED	19	5603	
	6	SUBD'N ST DED	19	4628	

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

SAN DIEGO COUNTY
ASSESSOR'S MAP
BOOK 381 PG 05 SHT 1 OF 5

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES.

MAP 817 - RANCHO EL CAJON - POR LOTS H & O
ROS 647, 674, 833, 6232, 15561, 20986

OWNER'S DECLARATION

Escrow No.: 30029255-989-989-BAM
Property Address: CV-WFB-Santee 3
Santee, CA 92071

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)
   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at CV-WFB-Santee 3, Santee, CA 92071, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at CV-WFB-Santee 3, Santee, CA 92071, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
2. (Fill in the applicable paragraph and strike the other)
   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.
   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.
3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.
4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.
5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____
6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.
7. There are no outstanding options to purchase or rights of first refusal affecting the Land.
8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

APPENDIX D
ENVIRONMENTAL AGENCY DATABASE SEARCH REPORT

Not Reported
Not Reported
SANTEE, CA 92071

Inquiry Number: 7493604.2s
November 09, 2023

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NOT REPORTED
SANTEE, CA 92071

COORDINATES

Latitude (North):	32.8484460 - 32° 50' 54.40''
Longitude (West):	116.9756370 - 116° 58' 32.29''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	502279.8
UTM Y (Meters):	3634295.5
Elevation:	343 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	12008233 EL CAJON, CA
Version Date:	2018

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200425
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
NOT REPORTED
SANTEE, CA 92071

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	LAURI HANSLIK	9539 COTTONWOOD APT	RCRA NonGen / NLR	Higher	323, 0.061, NE
A2	RACHEL SAGEMAN	9539 COTTONWOOD AVE	RCRA NonGen / NLR	Higher	323, 0.061, NE
A3	DEAN MCQUILLEN	9549 COTTONWOOD AVE	RCRA NonGen / NLR	Higher	410, 0.078, NE
A4	AARON SWANN	9549 COTTONWOOD AVE	RCRA NonGen / NLR	Higher	410, 0.078, NE
5	RCP BLOCK AND BRICK	0 COTTONWOOD AVENUE	CPS-SLIC, CERS	Higher	506, 0.096, East
A6	GINA HORN	9559 COTTONWOOD AVE	RCRA NonGen / NLR	Higher	551, 0.104, NE
7	GROSSMONT UNION HS D	10435 CHUBB LANE	RCRA-SQG, FINDS, ECHO	Higher	566, 0.107, SE
B8	RCP PIT AND MILL		MINES MRDS	Higher	621, 0.118, ESE
B9	RCP PIT AND MILL		MINES MRDS	Higher	632, 0.120, ESE
10	SHAYNE COMEY	9563 COTTONWOOD AVE	RCRA NonGen / NLR	Higher	781, 0.148, NE
C11	YMCA OF SAN DIEGO CO	10123 RIVERWALK DR	RCRA NonGen / NLR	Higher	785, 0.149, NNW
C12	YMCA OF SAN DIEGO CO	10123 RIVERWALK DR	San Diego Co. HMMD, CERS HAZ WASTE, CERS	Higher	785, 0.149, NNW
13	R. C. P. PIT NO. 1		MINES MRDS	Higher	894, 0.169, East
14	SANTEE MATERIALS		MINES MRDS	Higher	907, 0.172, South
15	RCP BLOCK & BRICK IN		US MINES	Higher	1048, 0.198, East
D16	RCP BLOCK & BRICK	9631 MAGNOLIA AVE N	LUST, CHMIRS, EMI	Higher	1349, 0.255, NE
D17	R C P COMPANY INC	9631 N MAGNOLIA AVEN	LUST, SAN DIEGO CO. SAM, San Diego Co. HMMD, HIST...	Higher	1349, 0.255, NE
E18	MOBIL SERVICE STATIO	9750 MAGNOLIA AVE	LUST, SWEEPS UST	Higher	1675, 0.317, NE
E19	CIRCLE K STORE #2709	9750 MAGNOLIA AVE	LUST, SAN DIEGO CO. SAM, CPS-SLIC, San Diego Co....	Higher	1675, 0.317, NE
F20	CIRCLE K#2955	10219 MAST BL	SAN DIEGO CO. SAM, Cortese, CERS	Higher	1897, 0.359, North
F21	KAYO OIL CO	10219 MAST BLVD	RCRA-SQG, LUST, SWEEPS UST, HIST UST, FINDS, ECHO,...	Higher	1897, 0.359, North
F22	CRLLC #2702955	10219 MAST BLVD	LUST, San Diego Co. HMMD, CERS HAZ WASTE, CERS...	Higher	1897, 0.359, North
23	CARRIAGE CLEANERS	10251 MAST BLVD	RCRA-SQG, FINDS, ECHO, HIST CORTESE	Higher	1967, 0.373, NNE
G24	CNTY SD LAS COLINAS	9000 COTTONWOOD AVE	LUST	Higher	2060, 0.390, SSE
G25	SAN DIEGO COUNTY WOM	9000 COTTONWOOD AVEN	SAN DIEGO CO. SAM, LUST, CPS-SLIC, San Diego Co....	Higher	2060, 0.390, SSE
G26	EDGEMORE HOSPITAL		Notify 65	Higher	2114, 0.400, SSE
H27	EDGEMOOR GERIATRIC H	9065 EDGEMOOR DR	SAN DIEGO CO. SAM, LUST, CPS-SLIC, SWEEPS UST,...	Higher	2172, 0.411, SSE
H28	HEARTLAND- ADHC	9065 EDGEMOOR DR	LUST, San Diego Co. HMMD	Higher	2172, 0.411, SSE
H29	EDGEMOOR GERIATRIC H	9065 EDGEMOOR DR	Cortese, HWTS, HAZNET	Higher	2172, 0.411, SSE
30	DAISY CLEANER - SANT	9866 NORTH MAGNOLIA	CPS-SLIC, CERS	Higher	2509, 0.475, NNE
31	SANTANA HIGH SCHOOL	9915 MAGNOLIA AVENUE	ENVIROSTOR, SCH, CERS	Higher	3009, 0.570, NNE
I32	DAVE'S AUTO SERVICE	10438 MISSION GORGE	HIST Cal-Sites	Higher	3486, 0.660, SSE
I33	DAVE'S AUTO SERVICE	10438 MISSION GORGE	RESPONSE, ENVIROSTOR, LIENS	Higher	3486, 0.660, SSE
J34	ARMY CAMP (SANTEE)		FUDS	Higher	4222, 0.800, SE
J35	SANTEE ARMY CAMP		ENVIROSTOR	Higher	4232, 0.802, SE
36	KETEMA PROCESS EQUIP	9484 MISSION PARK PL	ENVIROSTOR	Higher	5007, 0.948, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROLS Institutional Controls Sites List

Federal ERNS list

ERNS Emergency Response Notification System

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF Solid Waste Information System

Lists of state and tribal leaking storage tanks

INDIAN LUST Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST Underground Storage Tank Listing
UST Active UST Facilities
AST Aboveground Petroleum Storage Tank Facilities
INDIAN UST Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

INDIAN VCP Voluntary Cleanup Priority Listing
VCP Voluntary Cleanup Program Properties

Lists of state and tribal brownfield sites

BROWNFIELDS Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT Waste Management Unit Database
SWRCY Recycler Database
HAULERS Registered Waste Tire Haulers Listing
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
ODI Open Dump Inventory
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register
SCH School Property Evaluation Program
CDL Clandestine Drug Labs
San Diego Co. HMMD Hazardous Materials Management Division Database
Toxic Pits Toxic Pits Cleanup Act Sites
US CDL National Clandestine Laboratory Register

EXECUTIVE SUMMARY

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System

UXO Unexploded Ordnance Sites
ECHO Enforcement & Compliance History Information
DOCKET HWC Hazardous Waste Compliance Docket Listing
FUELS PROGRAM EPA Fuels Program Registered Listing
PFAS NPL Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES Federal Sites PFAS Information
PFAS TSCA PFAS Manufacture and Imports Information
PFAS TRIS List of PFAS Added to the TRI
PFAS RCRA MANIFEST PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR PFAS Contamination Site Location Listing
PFAS WQP Ambient Environmental Sampling for PFAS
PFAS NPDES Clean Water Act Discharge Monitoring Information
PFAS ECHO Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC Aqueous Foam Related Incidents Listing
BIOSOLIDS ICIS-NPDES Biosolids Facility Data
PFAS PFAS Contamination Site Location Listing
AQUEOUS FOAM Former Fire Training Facility Assessments Listing
CA BOND EXP. PLAN Bond Expenditure Plan
CHROME PLATING Chrome Plating Facilities Listing
CUPA Listings CUPA Resources List
DRYCLEANERS Cleaner Facilities
EMI Emissions Inventory Data
ENF Enforcement Action Listing
Financial Assurance Financial Assurance Information Listing
ICE Inspection, Compliance and Enforcement
HWP EnviroStor Permitted Facilities Listing
HWT Registered Hazardous Waste Transporter Database
HWTS Hazardous Waste Tracking System
HAZNET Facility and Manifest Data
MINES Mines Site Location Listing
MWMP Medical Waste Management Program Listing
NPDES NPDES Permits Listing
PEST LIC Pesticide Regulation Licenses Listing
PROC Certified Processors Database
HAZMAT Hazardous Material Facilities
UIC UIC Listing
UIC GEO UIC GEO (GEOTRACKER)
WASTEWATER PITS Oil Wastewater Pits Listing
WDS Waste Discharge System
WIP Well Investigation Program Case List
MILITARY PRIV SITES MILITARY PRIV SITES (GEOTRACKER)
PROJECT PROJECT (GEOTRACKER)
WDR Waste Discharge Requirements Listing
SAN DIEGO CO LOP Local Oversight Program Listing
CIWQS California Integrated Water Quality System
CERS CERS
NON-CASE INFO NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto ---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA generators

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 07/24/2023 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GROSSMONT UNION HS D	***10435 CHUBB LANE***	***SE 0 - 1/8 (0.107 mi.)***	***7***	***22***
EPA ID:: CAD982030132				

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DAVE'S AUTO SERVICE	***10438 MISSION GORGE***	***SSE 1/2 - 1 (0.660 mi.)***	***I33***	***280***
Database: RESPONSE, Date of Government Version: 07/24/2023				

Status: Certified
Facility Id: 37750003

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/24/2023 has revealed that there are 4 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SANTANA HIGH SCHOOL Facility Id: 60000859 Status: Inactive - Withdrawn	***9915 MAGNOLIA AVENUE***	***NNE 1/2 - 1 (0.570 mi.)***	***31***	***271***
DAVE'S AUTO SERVICE Facility Id: 37750003 Status: Certified	***10438 MISSION GORGE***	***SSE 1/2 - 1 (0.660 mi.)***	***I33***	***280***
SANTEE ARMY CAMP Facility Id: 80000969 Status: Inactive - Needs Evaluation		SE 1/2 - 1 (0.802 mi.)	J35	287
KETEMA PROCESS EQUIP Facility Id: 71003382 Status: No Action Required	9484 MISSION PARK PL	E 1/2 - 1 (0.948 mi.)	36	288

Lists of state and tribal leaking storage tanks

SAN DIEGO CO. SAM: The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

A review of the SAN DIEGO CO. SAM list, as provided by EDR, and dated 03/23/2010 has revealed that there are 5 SAN DIEGO CO. SAM sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
R C P COMPANY INC Case Number: H08229-001 Facility Status: Remedial Investigation	***9631 N MAGNOLIA AVEN***	***NE 1/4 - 1/2 (0.255 mi.)***	***D17***	***63***
CIRCLE K STORE #2709	***9750 MAGNOLIA AVE***	***NE 1/4 - 1/2 (0.317 mi.)***	***E19***	***93***

Case Number: H20825-002
Case Number: H20825-001
Facility Status: Remedial Investigation
Facility Status: Closed Case

CIRCLE K#2955 ***10219 MAST BL*** ***N 1/4 - 1/2 (0.359 mi.)*** ***F20*** ***146***
Case Number: H20826-001
Facility Status: Remedial Investigation

SAN DIEGO COUNTY WOM ***9000 COTTONWOOD AVEN*** ***SSE 1/4 - 1/2 (0.390 mi.)*** ***G25*** ***213***
Case Number: H20813-001
Facility Status: Closed Case

EDGEMOOR GERIATRIC H ***9065 EDGEMOOR DR*** ***SSE 1/4 - 1/2 (0.411 mi.)*** ***H27*** ***256***
Case Number: H14318-001
Case Number: H14318-002
Facility Status: Closed Case

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 10 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RCP BLOCK & BRICK	***9631 MAGNOLIA AVE N***	***NE 1/4 - 1/2 (0.255 mi.)***	***D16***	***58***
Database: LUST REG 9, Date of Government Version: 03/01/2001 Status: Preliminary site assessment workplan submitted Case Number: 9UT4034				
R C P COMPANY INC	***9631 N MAGNOLIA AVEN***	***NE 1/4 - 1/2 (0.255 mi.)***	***D17***	***63***
Database: LUST, Date of Government Version: 06/05/2023 Status: Completed - Case Closed Global Id: T0607399232				
MOBIL SERVICE STATIO	***9750 MAGNOLIA AVE***	***NE 1/4 - 1/2 (0.317 mi.)***	***E18***	***91***
Database: LUST REG 9, Date of Government Version: 03/01/2001 Status: Preliminary site assessment underway Case Number: 9UT3512				
CIRCLE K STORE #2709	***9750 MAGNOLIA AVE***	***NE 1/4 - 1/2 (0.317 mi.)***	***E19***	***93***
Database: LUST, Date of Government Version: 06/05/2023 Status: Completed - Case Closed Global Id: T0607302280				
KAYO OIL CO	***10219 MAST BLVD***	***N 1/4 - 1/2 (0.359 mi.)***	***F21***	***147***
Database: LUST, Date of Government Version: 06/05/2023 Status: Completed - Case Closed Global Id: T0607302618				
CRLLC #2702955	***10219 MAST BLVD***	***N 1/4 - 1/2 (0.359 mi.)***	***F22***	***168***
Database: LUST REG 9, Date of Government Version: 03/01/2001 Status: Preliminary site assessment underway Case Number: 9UT3859				
CNTY SD LAS COLINAS	9000 COTTONWOOD AVE	SSE 1/4 - 1/2 (0.390 mi.)	G24	213
Database: LUST REG 9, Date of Government Version: 03/01/2001 Status: Preliminary site assessment underway				

Case Number: 9UT3982

SAN DIEGO COUNTY WOM ***9000 COTTONWOOD AVEN*** ***SSE 1/4 - 1/2 (0.390 mi.)*** ***G25*** ***213***
Database: LUST, Date of Government Version: 06/05/2023
Status: Completed - Case Closed
Global Id: T0607399053

EDGEMOOR GERIATRIC H ***9065 EDGEMOOR DR*** ***SSE 1/4 - 1/2 (0.411 mi.)*** ***H27*** ***256***
Database: LUST, Date of Government Version: 06/05/2023
Status: Completed - Case Closed
Status: Preliminary site assessment underway
Global Id: T0607302505
Case Number: 9UT3737

HEARTLAND- ADHC ***9065 EDGEMOOR DR*** ***SSE 1/4 - 1/2 (0.411 mi.)*** ***H28*** ***262***
Database: LUST REG 9, Date of Government Version: 03/01/2001

CPS-SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the CPS-SLIC list, as provided by EDR, has revealed that there are 5 CPS-SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RCP BLOCK AND BRICK	***0 COTTONWOOD AVENUE***	***E 0 - 1/8 (0.096 mi.)***	***5***	***18***
Database: CPS-SLIC, Date of Government Version: 06/05/2023 Facility Status: Completed - Case Closed Global Id: T10000009394				
CIRCLE K STORE #2709	***9750 MAGNOLIA AVE***	***NE 1/4 - 1/2 (0.317 mi.)***	***E19***	***93***
Database: CPS-SLIC, Date of Government Version: 06/05/2023 Facility Status: Completed - Case Closed Global Id: T0608112573				
SAN DIEGO COUNTY WOM	***9000 COTTONWOOD AVEN***	***SSE 1/4 - 1/2 (0.390 mi.)***	***G25***	***213***
Database: CPS-SLIC, Date of Government Version: 06/05/2023 Facility Status: Completed - Case Closed Global Id: T10000004142 Global Id: T10000006155				
EDGEMOOR GERIATRIC H	***9065 EDGEMOOR DR***	***SSE 1/4 - 1/2 (0.411 mi.)***	***H27***	***256***
Database: CPS-SLIC, Date of Government Version: 06/05/2023 Facility Status: Completed - Case Closed Global Id: T0608198078				
DAISY CLEANER - SANT	***9866 NORTH MAGNOLIA***	***NNE 1/4 - 1/2 (0.475 mi.)***	***30***	***269***
Database: CPS-SLIC, Date of Government Version: 06/05/2023 Facility Status: Completed - Case Closed Global Id: T10000008333				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DAVE'S AUTO SERVICE	10438 MISSION GORGE	SSE 1/2 - 1 (0.660 mi.)	I32	274

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 07/17/2023 has revealed that there is 1 CERS HAZ WASTE site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
YMCA OF SAN DIEGO CO	***10123 RIVERWALK DR***	***NNW 1/8 - 1/4 (0.149 mi.)***	***C12***	***31***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 07/24/2023 has revealed that there are 7 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LAURI HANSLIK EPA ID:: CAC003155879	9539 COTTONWOOD APT	NE 0 - 1/8 (0.061 mi.)	A1	9
RACHEL SAGEMAN EPA ID:: CAC003155739	9539 COTTONWOOD AVE	NE 0 - 1/8 (0.061 mi.)	A2	11
DEAN MCQUILLEN EPA ID:: CAC003136642	9549 COTTONWOOD AVE	NE 0 - 1/8 (0.078 mi.)	A3	13
AARON SWANN EPA ID:: CAC003135404	9549 COTTONWOOD AVE	NE 0 - 1/8 (0.078 mi.)	A4	15
GINA HORN EPA ID:: CAC003119904	9559 COTTONWOOD AVE	NE 0 - 1/8 (0.104 mi.)	A6	20
SHAYNE COMEY	9563 COTTONWOOD AVE	NE 1/8 - 1/4 (0.148 mi.)	10	27

EPA ID:: CAC003042570

YMCA OF SAN DIEGO CO	10123 RIVERWALK DR	NNW 1/8 - 1/4 (0.149 mi.)	C11	29
EPA ID:: CAL000434546				

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 08/07/2023 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARMY CAMP (SANTEE)		SE 1/2 - 1 (0.800 mi.)	J34	286

US MINES: Mines Master Index File. The source of this database is the Dept. of Labor, Mine Safety and Health Administration.

A review of the US MINES list, as provided by EDR, has revealed that there is 1 US MINES site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RCP BLOCK & BRICK IN		E 1/8 - 1/4 (0.198 mi.)	15	57
Database: US MINES, Date of Government Version: 08/01/2023				
Mine ID:: 0402077				

MINES MRDS: Mineral Resources Data System

A review of the MINES MRDS list, as provided by EDR, and dated 08/23/2022 has revealed that there are 4 MINES MRDS sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RCP PIT AND MILL		ESE 0 - 1/8 (0.118 mi.)	B8	25
RCP PIT AND MILL		ESE 0 - 1/8 (0.120 mi.)	B9	26
R. C. P. PIT NO. 1		E 1/8 - 1/4 (0.169 mi.)	13	55
SANTEE MATERIALS		S 1/8 - 1/4 (0.172 mi.)	14	56

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 06/14/2023 has revealed that there are 5 Cortese sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
R C P COMPANY INC	***9631 N MAGNOLIA AVEN***	***NE 1/4 - 1/2 (0.255 mi.)***	***D17***	***63***
Cleanup Status: COMPLETED - CASE CLOSED				
CIRCLE K STORE #2709	***9750 MAGNOLIA AVE***	***NE 1/4 - 1/2 (0.317 mi.)***	***E19***	***93***
Cleanup Status: COMPLETED - CASE CLOSED				
CIRCLE K#2955	***10219 MAST BL***	***N 1/4 - 1/2 (0.359 mi.)***	***F20***	***146***

Cleanup Status: COMPLETED - CASE CLOSED

SAN DIEGO COUNTY WOM	***9000 COTTONWOOD AVEN***	***SSE 1/4 - 1/2 (0.390 mi.)***	***G25***	***213***
Cleanup Status: COMPLETED - CASE CLOSED				
EDGEMOOR GERIATRIC H	***9065 EDGEMOOR DR***	***SSE 1/4 - 1/2 (0.411 mi.)***	***H29***	***263***
Cleanup Status: COMPLETED - CASE CLOSED				

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 3 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KAYO OIL CO	***10219 MAST BLVD***	***N 1/4 - 1/2 (0.359 mi.)***	***F21***	***147***
Reg Id: 9UT3859				
CARRIAGE CLEANERS	***10251 MAST BLVD***	***NNE 1/4 - 1/2 (0.373 mi.)***	***23***	***210***
Reg Id: 083003215T				
EDGEMOOR GERIATRIC H	***9065 EDGEMOOR DR***	***SSE 1/4 - 1/2 (0.411 mi.)***	***H27***	***256***
Reg Id: 9UT3737				

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 06/06/2023 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

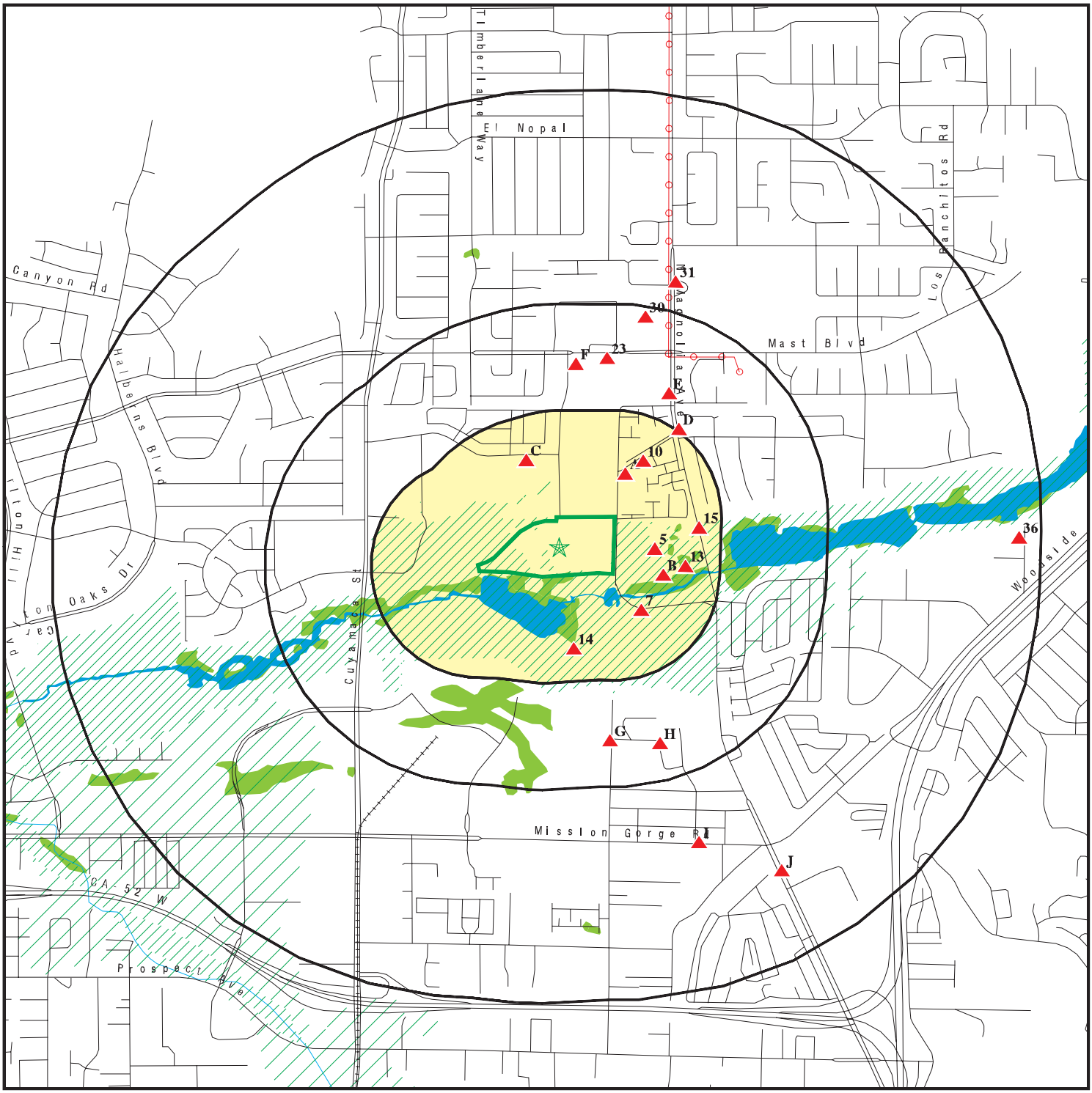
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EDGEMORE HOSPITAL		SSE 1/4 - 1/2 (0.400 mi.)	G26	255

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
KEPHART DUMP	SWF/LF

OVERVIEW MAP - 7493604.2S



0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Not Reported ADDRESS: Not Reported SANTEE CA 92071 LAT/LONG: 32.848446 / 116.975637	CLIENT: Stantec CONTACT: Alicia R Jansen INQUIRY #: 7493604.2s DATE: November 09, 2023 3:19 pm

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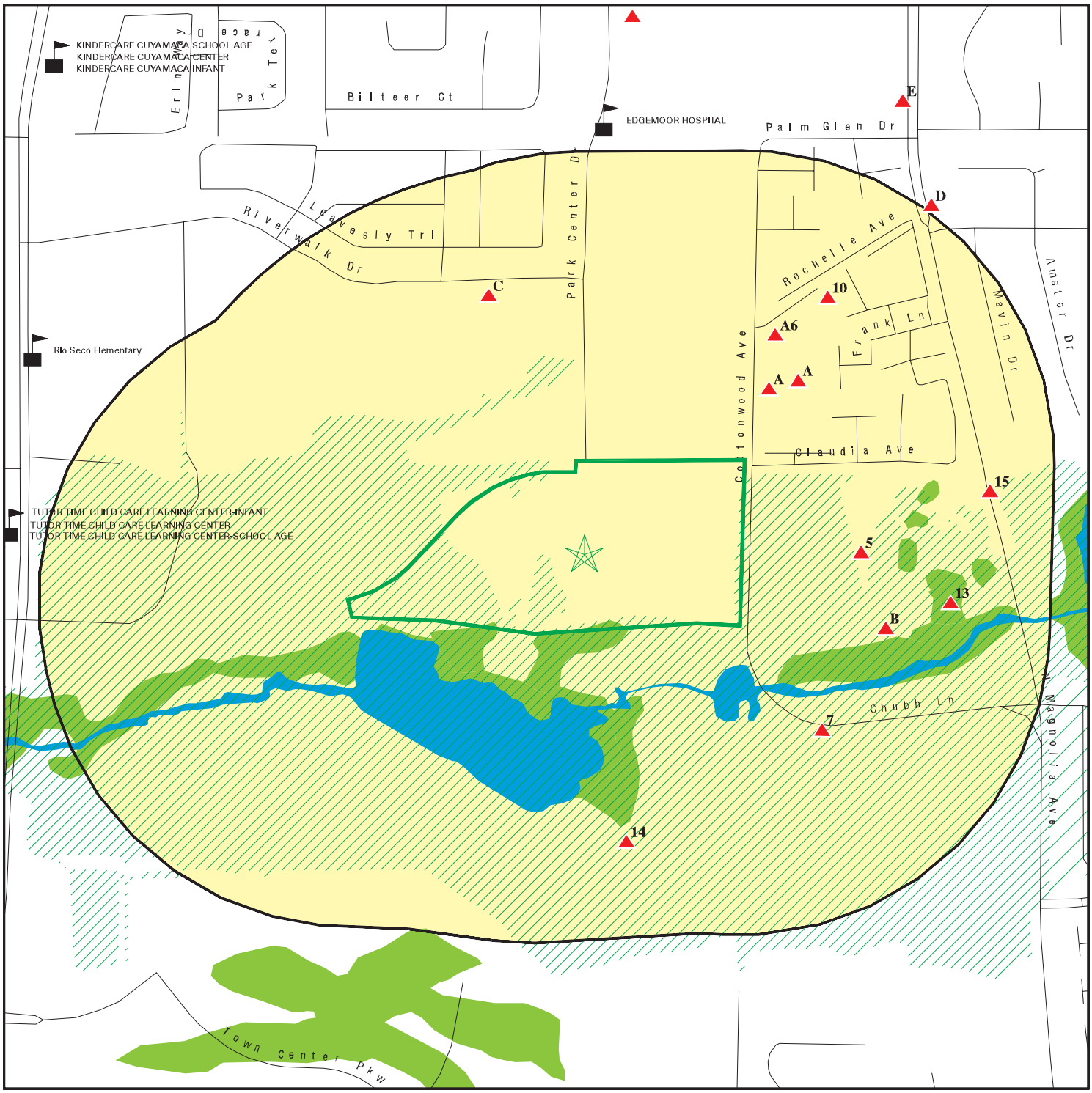
DETAIL MAP - 7493604.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Not Reported	CLIENT: Stantec
ADDRESS: Not Reported	CONTACT: Alicia R Jansen
SANTEE CA 92071	INQUIRY #: 7493604.2s
LAT/LONG: 32.848446 / 116.975637	DATE: November 09, 2023 3:20 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		1	0	NR	NR	NR	1
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	1	NR	1
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	4	NR	4
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
SAN DIEGO CO. SAM	0.500		0	0	5	NR	NR	5
LUST	0.500		0	0	10	NR	NR	10
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		1	0	4	NR	NR	5
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	1	NR	1
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
San Diego Co. HMMD	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	1	NR	NR	NR	1
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		5	2	NR	NR	NR	7
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	1	NR	NR	NR	1
MINES MRDS	0.250		2	2	NR	NR	NR	4
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	0	5	NR	NR	5
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	3	NR	NR	3
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	1	0	NR	1
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
SAN DIEGO CO LOP	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	9	6	28	7	0	50

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
NE
< 1/8
0.061 mi.
323 ft.

LAURI HANSLIK
9539 COTTONWOOD APT A
SANTEE, CA 92071

Site 1 of 5 in cluster A

RCRA NonGen / NLR

1027083703
CAC003155879

Relative:
Higher

Actual:
350 ft.

RCRA Listings:

Date Form Received by Agency:	20220107
Handler Name:	Lauri Hanslik
Handler Address:	9539 COTTONWOOD APT A
Handler City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAC003155879
Contact Name:	LAURI HANSLIK
Contact Address:	9539 COTTONWOOD APT A
Contact City,State,Zip:	SANTEE, CA 92071
Contact Telephone:	909-226-0342
Contact Fax:	Not reported
Contact Email:	ONESLIKMOM@GMAIL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	9539 COTTONWOOD APT A
Mailing City,State,Zip:	SANTEE, CA 92071
Owner Name:	Lauri Hanslik
Owner Type:	Other
Operator Name:	Lauri Hanslik
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

LAURI HANSLIK (Continued) **1027083703**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220110
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: LAURI HANSLIK	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9539 COTTONWOOD APT A
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	909-226-0342
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LAURI HANSLIK	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9539 COTTONWOOD APT A
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	909-226-0342
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20220107
Handler Name: LAURI HANSLIK	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

LAURI HANSLIK (Continued) **1027083703**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A2 **RACHEL SAGEMAN** **RCRA NonGen / NLR** **1027083570**
NE **9539 COTTONWOOD AVE UNIT B** **CAC003155739**
< 1/8 **SANTEE, CA 92071**
0.061 mi.
323 ft. **Site 2 of 5 in cluster A**

Relative: **Higher**
Actual: **350 ft.**

RCRA Listings:

Date Form Received by Agency:	20220106
Handler Name:	Rachel Sageman
Handler Address:	9539 COTTONWOOD AVE UNIT B
Handler City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAC003155739
Contact Name:	RACHEL SAGEMAN
Contact Address:	9539 COTTONWOOD AVE UNIT B
Contact City,State,Zip:	SANTEE, CA 92071
Contact Telephone:	619-788-1638
Contact Fax:	Not reported
Contact Email:	MINISTRY_93041@YAHOO.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	9539 COTTONWOOD AVE UNIT B
Mailing City,State,Zip:	SANTEE, CA 92071
Owner Name:	Rachel Sageman
Owner Type:	Other
Operator Name:	Rachel Sageman
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No

RACHEL SAGEMAN (Continued) **1027083570**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220106
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: RACHEL SAGEMAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9539 COTTONWOOD AVE UNIT B
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-788-1638
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: RACHEL SAGEMAN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9539 COTTONWOOD AVE UNIT B
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-788-1638
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

RACHEL SAGEMAN (Continued) **1027083570**

Historic Generators:
- Receive Date: 20220106
- Handler Name: RACHEL SAGEMAN
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: No
- Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

A3 **DEAN MCQUILLEN** **RCRA NonGen / NLR** **1026823636**
NE **9549 COTTONWOOD AVE UNIT A** **CAC003136642**
< 1/8 **SANTEE, CA 92071**
0.078 mi.
410 ft. **Site 3 of 5 in cluster A**

Relative: **Higher**
Actual: **350 ft.**

RCRA Listings:
- Date Form Received by Agency: 20210830
- Handler Name: Dean Mcquillen
- Handler Address: 9549 COTTONWOOD AVE UNIT A
- Handler City,State,Zip: SANTEE, CA 92071
- EPA ID: CAC003136642
- Contact Name: DEAN MCQUILLEN
- Contact Address: 9549 COTTONWOOD AVE UNIT A
- Contact City,State,Zip: SANTEE, CA 92071
- Contact Telephone: 619-302-9412
- Contact Fax: Not reported
- Contact Email: DEANO3369@HOTMAIL.COM
- Contact Title: Not reported
- EPA Region: 09
- Land Type: Not reported
- Federal Waste Generator Description: Not a generator, verified
- Non-Notifier: Not reported
- Biennial Report Cycle: Not reported
- Accessibility: Not reported
- Active Site Indicator: Not reported
- State District Owner: Not reported
- State District: Not reported
- Mailing Address: 9549 COTTONWOOD AVE UNIT A
- Mailing City,State,Zip: SANTEE, CA 92071
- Owner Name: Dean Mcquillen

DEAN MCQUILLEN (Continued) **1026823636**

Owner Type:	Other
Operator Name:	Dean Mcquillen
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210830
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: DEAN MCQUILLEN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9549 COTTONWOOD AVE UNIT A
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-302-9412
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

DEAN MCQUILLEN (Continued) **1026823636**

Owner/Operator Indicator:	Operator
Owner/Operator Name: DEAN MCQUILLEN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9549 COTTONWOOD AVE UNIT A
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-302-9412
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20210830
Handler Name: DEAN MCQUILLEN	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

A4 **AARON SWANN** **RCRA NonGen / NLR** **1026822440**
NE **9549 COTTONWOOD AVE UNIT B** **CAC003135404**
< 1/8 **SANTEE, CA 92071**
0.078 mi.
410 ft. **Site 4 of 5 in cluster A**

Relative:
Higher

Actual:
350 ft.

RCRA Listings:

Date Form Received by Agency:	20210820
Handler Name:	Aaron Swann
Handler Address:	9549 COTTONWOOD AVE UNIT B
Handler City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAC003135404
Contact Name:	AARON SWANN
Contact Address:	9549 COTTONWOOD AVE UNIT B
Contact City,State,Zip:	SANTEE, CA 92071
Contact Telephone:	619-933-5496
Contact Fax:	Not reported
Contact Email:	ASWANN69@GMAIL.COM
Contact Title:	Not reported

AARON SWANN (Continued) **1026822440**

EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	9549 COTTONWOOD AVE UNIT B
Mailing City,State,Zip:	SANTEE, CA 92071
Owner Name:	Aaron Swann
Owner Type:	Other
Operator Name:	Aaron Swann
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210820
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

AARON SWANN (Continued) **1026822440**

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: AARON SWANN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9549 COTTONWOOD AVE UNIT B
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-933-5496
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: AARON SWANN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9549 COTTONWOOD AVE UNIT B
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-933-5496
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20210820
Handler Name: AARON SWANN	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

5
East
< 1/8
0.096 mi.
506 ft.

RCP BLOCK AND BRICK
0 COTTONWOOD AVENUE
SANTEE, CA 92071

CPS-SLIC **S119007867**
CERS **N/A**

Relative:
Higher

Actual:
347 ft.

CPS-SLIC:

Name:	RCP BLOCK AND BRICK
Address:	0 COTTONWOOD AVENUE
City,State,Zip:	SANTEE, CA 92071
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	11/29/2016
Global Id:	T10000009394
Lead Agency:	SAN DIEGO COUNTY LOP
Lead Agency Case Number:	DEH2016-LSAM-000402
Latitude:	32.84845
Longitude:	-116.97179
Case Type:	Cleanup Program Site
Case Worker:	JC
Local Agency:	SAN DIEGO COUNTY LOP
RB Case Number:	Not reported
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
EPA Region:	9
Coordinate Source:	Not reported
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	09/20/2016
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	11/29/2016
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	Comments: The Site is located at 9631 North Magnolia Avenue, Santee, California. A concrete sump associated with a former hydraulic brick press was removed as part of ongoing excavation and reclamation activities at the Site. During implementation of a larger excavation of soils beneath the former RCP building, visual and olfactory indications of hydraulic oil impacts were observed in soil beneath the former brick press sump. Soil was initially excavated from the area surrounding the former sump location to a depth of approximately 12 feet below the pre-excavation grade and approximately three feet above the water table. Immediately to the west of the sump, the soil was excavated an additional four feet deep, to a depth of approximately one foot below the water table. The hydraulic oil impacted soil from the brick press sump area was separately

RCP BLOCK AND BRICK (Continued) **S119007867**

stockpiled for characterization and disposal at a future date. The Site was subsequently enrolled in the DEH Site Assessment and Mitigation (SAM) Voluntary Assistance Program (VAP), and VAP case DEH2016-LSAM-000406 was opened. A work plan for the evaluation of residual hydraulic oil impacts to soil and groundwater at the Site was submitted and approved by DEH. Soil samples were initially collected from six locations along the approximate extent of the excavation beneath the former sump location. Additional excavation was conducted within the areas in which laboratory analysis of soil samples indicated that TPH impacts were present above Environmental Screening Levels (ESLs). Soil was laterally excavated until there were no visual or olfactory indications of hydraulic oil impacts to remaining in-place soil. Within the area of secondary excavation, soil was removed to a depth of approximately six inches to one foot beneath the top of the groundwater table to remove the extent of immiscible hydraulic impacts within soil located directly above the water table. Approximately 30 additional yards of soil suspected to be impacted with hydraulic oil was removed and stockpiled for characterization and disposal. Confirmation soil samples were collected from the northern and southern extent of the additional excavation. The initial excavation beneath the former sump location extended to approximately three feet above the top of the groundwater table. The secondary excavation extended the excavation to a depth between approximately 15 to 16 feet below ground surface (bgs), approximately six inches below the groundwater table in the western portion of the excavation. Groundwater was sampled to evaluate if other analytes potentially associated with hydraulic oil impacts, including BTEXs and naphthalene, were present above ESLs. Concentrations of TPH, BTEXs, and naphthalene were not detected above laboratory reporting limits in samples collected from the ponded groundwater, indicating that constituents within the impacted soil are generally insoluble and did not result in groundwater impacts above screening levels. Based on the extent of initial and secondary excavation of soil impacted with hydraulic oil, and the laboratory analytical results of soil and groundwater sampling, soil impacted with hydraulic oil has been excavated to the extent practicable, and did not result in impacts to groundwater underlying the Site; therefore, the consultant requests that a no further action determination be granted for this case. DEH concurs with No Further Action for VAP Case DEH2016-LSAM-000402.

Click here to access the California GeoTracker records for this facility:

CERS:

Name:	RCP BLOCK AND BRICK
Address:	0 COTTONWOOD AVENUE
City,State,Zip:	SANTEE, CA 92071
Site ID:	679309
CERS ID:	T10000009394
CERS Description:	Cleanup Program Site

Affiliation:

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	JAMES CLAY - SAN DIEGO COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	P.O. Box 129261
Affiliation City:	San Diego

RCP BLOCK AND BRICK (Continued) **S119007867**

Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

A6 **GINA HORN** **RCRA NonGen / NLR** **1026807615**
NE **9559 COTTONWOOD AVE #A** **CAC003119904**
< 1/8 **SANTEE, CA 92111**
0.104 mi.
551 ft. **Site 5 of 5 in cluster A**

Relative: **Higher**
Actual: **350 ft.**

RCRA Listings:

Date Form Received by Agency:	20210517
Handler Name:	Gina Horn
Handler Address:	9559 COTTONWOOD AVE #A
Handler City,State,Zip:	SANTEE, CA 92111
EPA ID:	CAC003119904
Contact Name:	GINA HORN
Contact Address:	9559 COTTONWOOD AVE #A
Contact City,State,Zip:	SANTEE, CA 92111
Contact Telephone:	619-244-5837
Contact Fax:	Not reported
Contact Email:	AVILLAREAL@APEX411.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	9559 COTTONWOOD AVE #A
Mailing City,State,Zip:	SANTEE, CA 92111
Owner Name:	Gina Horn
Owner Type:	Other
Operator Name:	Gina Horn
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline

GINA HORN (Continued) **1026807615**

2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20210521
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: GINA HORN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9559 COTTONWOOD AVE #A
Owner/Operator City,State,Zip:	SANTEE, CA 92111
Owner/Operator Telephone:	619-244-5837
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: GINA HORN	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9559 COTTONWOOD AVE #A
Owner/Operator City,State,Zip:	SANTEE, CA 92111
Owner/Operator Telephone:	619-244-5837
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20210517
Handler Name: GINA HORN	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No

GINA HORN (Continued) **1026807615**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

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7 **GROSSMONT UNION HS DISTRICT HOMESTEAD** **RCRA-SQG** **1000386837**
SE **10435 CHUBB LANE** **FINDS** **CAD982030132**
< 1/8 **SANTEE, CA 92071** **ECHO**
0.107 mi.
566 ft.

Relative:
Higher

Actual:
344 ft.

RCRA Listings:
Date Form Received by Agency: 19960901
Handler Name: Grossmont Union Hs District Homestead
Handler Address: 10435 CHUBB LANE
Handler City,State,Zip: SANTEE, CA 92071
EPA ID: CAD982030132
Contact Name: Not reported
Contact Address: Not reported
Contact City,State,Zip: Not reported
Contact Telephone: Not reported
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Small Quantity Generator
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Ca
State District: 4
Mailing Address: PO BOX 1043
Mailing City,State,Zip: LA MESA, CA 92041
Owner Name: Not reported
Owner Type: Not reported
Operator Name: Not Required
Operator Type: District
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No

GROSSMONT UNION HS DISTRICT HOMESTEAD (Continued) **1000386837**

Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: NOT REQUIRED	
Legal Status:	District
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, ME 99999
Owner/Operator Telephone:	415-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: GROSSMONT UNION HIGH SCHOOL DISTRICT	
Legal Status:	District
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED

GROSSMONT UNION HS DISTRICT HOMESTEAD (Continued) **1000386837**

Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19960901
Handler Name: GROSSMONT UNION HS DISTRICT HOMESTEAD
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19870803
Handler Name: GROSSMONT UNION HS DISTRICT HOMESTEAD
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110002782445

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

GROSSMONT UNION HS DISTRICT HOMESTEAD (Continued) **1000386837**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000386837
Registry ID:	110002782445
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002782445
Name:	GROSSMONT UNION HS DISTRICT HOMESTEAD
Address:	10435 CHUBB LANE
City,State,Zip:	SANTEE, CA 92071

B8 **RCP PIT AND MILL** **MINES MRDS** **1025691709**
ESE **N/A**
< 1/8 **SAN DIEGO (County), CA**
0.118 mi.
621 ft. **Site 1 of 2 in cluster B**

Relative: **Higher**

Actual: **346 ft.**

MINES MRDS:

Name:	RCP PIT AND MILL
Address:	Not reported
Deposit identification Number:	10214061
City,State,Zip:	CALIFORNIA
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10214061
MRDS Identification Number:	W024893
MAS/MILS Identification Number:	0060730550
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Past Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Rumsey, Clayton M.
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported

RCP PIT AND MILL (Continued) **1025691709**

Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	32.84756
Longitude:	-116.97145

B9 **RCP PIT AND MILL** **MINES MRDS** **1025570181**
ESE **N/A**
< 1/8 **SAN DIEGO (County), CA**
0.120 mi.
632 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
346 ft.

MINES MRDS:

Name:	RCP PIT AND MILL
Address:	Not reported
Deposit identification Number:	10077332
City,State,Zip:	CALIFORNIA
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10077332
MRDS Identification Number:	W024893
MAS/MILS Identification Number:	Not reported
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Unknown
Deposit Type:	Sedimentary
Production Size:	S - Small amount of material produced (we do not know what criteria are used to make this determination)
Development Status:	Past Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Unknown
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	32.84756
Longitude:	-116.97141

10
NE
1/8-1/4
0.148 mi.
781 ft.

SHAYNE COMEY
9563 COTTONWOOD AVE
SANTEE, CA 92071

RCRA NonGen / NLR

1025861875
CAC003042570

Relative:
Higher

Actual:
350 ft.

RCRA Listings:

Date Form Received by Agency:	20191111
Handler Name:	Shayne Comey
Handler Address:	9563 COTTONWOOD AVE
Handler City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAC003042570
Contact Name:	SHAYNE COMEY
Contact Address:	9563 COTTONWOOD AVE
Contact City,State,Zip:	SANTEE, CA 92071
Contact Telephone:	619-822-4327
Contact Fax:	Not reported
Contact Email:	INFO@JJANDSCONSTRUCTION.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	9563 COTTONWOOD AVE
Mailing City,State,Zip:	SANTEE, CA 92071
Owner Name:	Shayne Comey
Owner Type:	Other
Operator Name:	Shayne Comey
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

SHAYNE COMEY (Continued) **1025861875**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20191122
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: SHAYNE COMEY	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9563 COTTONWOOD AVE
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-822-4327
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: SHAYNE COMEY	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9563 COTTONWOOD AVE
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-822-4327
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20191111
Handler Name: SHAYNE COMEY	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

SHAYNE COMEY (Continued) **1025861875**

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C11 **YMCA OF SAN DIEGO COUNTY** **RCRA NonGen / NLR** **1024865964**
NNW **10123 RIVERWALK DR** **CAL000434546**
1/8-1/4 **SANTEE, CA 92071**
0.149 mi.
785 ft. **Site 1 of 2 in cluster C**

Relative:
Higher

Actual:
353 ft.

RCRA Listings:

Date Form Received by Agency:	20180323
Handler Name:	Ymca Of San Diego County
Handler Address:	10123 RIVERWALK DR
Handler City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAL000434546
Contact Name:	JOSE LUGO
Contact Address:	3708 RUFFIN RD
Contact City,State,Zip:	SAN DIEGO, CA 92123
Contact Telephone:	858-292-9622
Contact Fax:	Not reported
Contact Email:	JLUGO@YMCA.ORG
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	10123 RIVERWALK DR
Mailing City,State,Zip:	SANTEE, CA 92071
Owner Name:	Ymca Of San Diego County
Owner Type:	Other
Operator Name:	Jose Lugo
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes

YMCA OF SAN DIEGO COUNTY (Continued) **1024865964**

Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180907
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: YMCA OF SAN DIEGO COUNTY	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	3708 RUFFIN ROAD
Owner/Operator City,State,Zip:	SAN DIEGO, CA 92123
Owner/Operator Telephone:	858-292-9622
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: JOSE LUGO	
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	3708 RUFFIN RD
Owner/Operator City,State,Zip:	SAN DIEGO, CA 92123
Owner/Operator Telephone:	858-292-9622
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

YMCA OF SAN DIEGO COUNTY (Continued) **1024865964**

Historic Generators:
Receive Date: 20180323
Handler Name: YMCA OF SAN DIEGO COUNTY
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 921150
NAICS Description: AMERICAN INDIAN AND ALASKA NATIVE TRIBAL GOVERNMENTS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C12 **YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY** **San Diego Co. HMMD** **S109278911**
NNW **10123 RIVERWALK DR** **CERS HAZ WASTE** **N/A**
1/8-1/4 **SANTEE, CA 92071** **CERS**
0.149 mi.
785 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
353 ft.

HMMD SAN DIEGO:
Name: YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY
Address: 10123 RIVERWALK DR
City,State,Zip: SANTEE, CA 92071
Permit Number: Not reported
Business Type: Not reported
EPA Id Number: CAL000434546
APN: Not reported
Last HMMD Inspection: Not reported
Facility Telephone: 619-449-9622
Permit Status: Permit Renewed
Permit Expiration: Not reported
Date Last Updated: 03/04/2023
Facility Owner: Not reported
Facility Mailing Address: 5505 Friars Rd, San Diego, CA 92110
Facility Mailing City: Not reported
Facility Mailing State: Not reported
Facility Mailing Zip: Not reported
UST Owner: N
Handle Regulated Hazmat: Not reported
Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: Y
Treat Haz Waste: N
Generate Medical Waste: Not reported

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Inspection Violation:

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	1040001 Hazardous materials release or threatened release not reported to the CUPA and OES immediately upon discovery. HSC 25510(a)

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	3050002 Failed to properly dispose of hazardous waste at an authorized facility. HSC 25189.5(a); 25189(c),(d); 25189.2(c)

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	5764458
Return To Compliance Date:	2017-10-11T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2017-10-11T16:17:00.000
Violation Code:	3030053 Failed to maintain waste analysis records, analytical records &/or waste determination results for at least 3 years. 22 CCR 66262.40(c)

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine
Inspection Number:	4090006
Return To Compliance Date:	2014-12-16T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2014-12-15T00:00:00.000
Violation Code:	1010002 Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet; HSC 6.95 25508(a)1A

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine
Inspection Number:	4090006
Return To Compliance Date:	2014-12-16T00:00:00.000
Nov:	No
Violation Classification:	Minor
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2014-12-15T00:00:00.000
Violation Code:	HMD1013 Hazardous Materials Business Plan not readily available for review. HSC 6.95 25505(c)

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	1010010 Emergency response procedures to mitigate a release or threatened release not adequate, not established or not submitted in CERS. HSC 25505(a)(3) and 25508(a)(1)(A)

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine
Inspection Number:	5181324

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Return To Compliance Date: 2015-12-16T00:00:00.000
Nov: Yes
Violation Classification: Class I
Underground Storage Tank Id: Not reported
Container/Tank Id: Not reported
Last Update: 2023-03-04T00:00:00.000
Inspection Date: 2015-10-21T14:51:00.000
Violation Code: 1010001 HMBP not established/ implemented. HSC 25505(a) and 25507(a)

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Facility Id Number: 37-000-201121
Program Element: Hazardous Waste Generator
Inspection Type: Routine
Inspection Number: 5181324
Return To Compliance Date: 2015-12-16T00:00:00.000
Nov: Yes
Violation Classification: Class I
Underground Storage Tank Id: Not reported
Container/Tank Id: Not reported
Last Update: 2023-03-04T00:00:00.000
Inspection Date: 2015-10-21T14:51:00.000
Violation Code: 3030022 Failed to properly separate incompatible waste. (40 CFR 262.34(d)(2); 265.177.) 22 CCR 66262.34(d)(2)

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Facility Id Number: 37-000-201121
Program Element: Hazardous Waste Generator
Inspection Type: Routine
Inspection Number: 5181324
Return To Compliance Date: 2015-12-16T00:00:00.000
Nov: Yes
Violation Classification: Class I
Underground Storage Tank Id: Not reported
Container/Tank Id: Not reported
Last Update: 2023-03-04T00:00:00.000
Inspection Date: 2015-10-21T14:51:00.000
Violation Code: 3030005 Failed to make a proper waste determination. 22 CCR 66262.11, 66262.40(c)

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Facility Id Number: 37-000-201121
Program Element: Hazardous Materials Release Response Plans
Inspection Type: Routine
Inspection Number: 5181324
Return To Compliance Date: 2015-12-16T00:00:00.000
Nov: Yes
Violation Classification: Class I
Underground Storage Tank Id: Not reported
Container/Tank Id: Not reported
Last Update: 2023-03-04T00:00:00.000
Inspection Date: 2015-10-21T14:51:00.000

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Violation Code:	1020001 Employee training plan for hazardous materials management not adequate, not established or not submitted in CERS. HSC 25505(a)(4) and 25508(a)(1)(A)
Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	3030039 Failed to implement contingency plan during an emergency, spill/release. (40 CFR 262.34(d)(5)(iv).) 22 CCR 66262.34(d)(2)
Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	3020001 Failed to ensure employees are trained for hazardous waste handling, compliance with regulations, and emergency response procedures. (40 CFR 262.34(d)(5)(iii).) 22 CCR 66262.34(d)(2)
Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-11-06T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	3010022 Failed to post, next to the telephone, emergency information containing the location of emergency equipment, contact names, and numbers. (40 CFR 262.34(d)(5)(ii).) 22 CCR 66262.34(d)(2)

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	3030030 Failed to maintain and/or operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents. (40 CFR 262.34(d)(4), 265.31.) 22 CCR 66262.34(d)(2)

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-201121
Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine
Inspection Number:	5181324
Return To Compliance Date:	2015-12-16T00:00:00.000
Nov:	Yes
Violation Classification:	Class I
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-03-04T00:00:00.000
Inspection Date:	2015-10-21T14:51:00.000
Violation Code:	1020002 Initial and/or annual employee training not conducted for hazardous materials management and/or employee training records not available or not maintained for 3 years. HSC 25505(a)(4)

Waste and Materials:

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2017-HCHEM-0154017
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2018-01-16T15:46:37.000
Chemical Name:	Hydrochloric Acid
Common Name:	Hydrochloric Acid
Case Number:	7647-01-0

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2017-HCHEM-0154018
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2018-01-16T15:46:37.000
Chemical Name:	Sodium Hypochlorite

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HCHEM-0154019
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-01-16T15:46:37.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HCHEM-0154020
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-01-16T15:46:37.000
Chemical Name: Calcium chloride (CaCl2)
Common Name: Calcium chloride
Case Number: 10043-52-4

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0307589
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2022-02-23T02:31:53.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0307591
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2022-02-23T02:31:53.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HWAST-0275184
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-02-23T02:31:53.000
Chemical Name: Sodium Hypochlorite/Debris
Common Name: Sodium Hypochlorite/Debris
Case Number: Not reported

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2021-HWAST-0275185
Trade Secret:	N
Hazardous Material Type:	Not reported
Last Updated:	2022-02-23T02:31:53.000
Chemical Name:	Hydrochloric Acid/Debris
Common Name:	Hydrochloric Acid/Debris
Case Number:	Not reported

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2018-HCHEM-0171495
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2018-03-21T02:54:08.000
Chemical Name:	Hydrochloric Acid
Common Name:	Hydrochloric Acid
Case Number:	7647-01-0

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2018-HCHEM-0171496
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2018-03-21T02:54:08.000
Chemical Name:	Sodium Hypochlorite
Common Name:	Sodium Hypochlorite
Case Number:	7681-52-9

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2018-HCHEM-0171497
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2018-03-21T02:54:08.000
Chemical Name:	Sodium Bicarbonate
Common Name:	Sodium Bicarbonate
Case Number:	144-55-8

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2018-HCHEM-0171498
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2018-03-21T02:54:08.000
Chemical Name:	Calcium chloride (CaCl2)
Common Name:	Calcium chloride
Case Number:	10043-52-4

Record ID:	DEH2002-HUPFP-201121
Permit Status:	Permit Renewed

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Active Permit: Y
Child Record Id: DEH2019-HWAST-0203902
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-03-25T02:32:52.000
Chemical Name: Sodium Hypochlorite/Debris
Common Name: Sodium Hypochlorite/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HWAST-0203903
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-03-25T02:32:52.000
Chemical Name: Hydrochloric Acid/Debris
Common Name: Hydrochloric Acid/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HCHEM-0348278
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2023-03-04T02:32:01.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HCHEM-0348280
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2023-03-04T02:32:01.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HWAST-0316272
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-03-04T02:32:01.000
Chemical Name: Sodium Hypochlorite/Debris
Common Name: Sodium Hypochlorite/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HWAST-0316273

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-03-04T02:32:01.000
Chemical Name: Hydrochloric Acid/Debris
Common Name: Hydrochloric Acid/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0186118
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-10-26T16:59:27.000
Chemical Name: Hydrochloric Acid
Common Name: Muriatic Acid 31.5%
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0207669
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2019-03-16T03:32:18.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0207670
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2019-03-16T03:32:18.000
Chemical Name: Sodium Hypochlorite,
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0207671
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2019-03-16T03:32:18.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0278872
Trade Secret: N
Hazardous Material Type: Mixture

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Last Updated: 2021-03-06T02:42:23.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0278873
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2021-03-06T02:42:23.000
Chemical Name: Sodium Hypochlorite,
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0278874
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2021-03-06T02:42:23.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0246853
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2021-03-06T02:42:23.000
Chemical Name: Sodium Hypochlorite/Debris
Common Name: Sodium Hypochlorite/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0246854
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2021-03-06T02:42:23.000
Chemical Name: Hydrochloric Acid/Debris
Common Name: Hydrochloric Acid/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HCHEM-0348279
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2023-03-04T02:32:01.000
Chemical Name: Sodium Hypochlorite,

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0307590
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2022-02-23T02:31:53.000
Chemical Name: Sodium Hypochlorite,
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0186119
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-10-26T16:59:27.000
Chemical Name: Sodium Hypochlorite, NAOCL. 12%: Liquid Pool Chlorine
Common Name: Sodium Hypochlorite, NAOCL. 12%: Liquid Pool Chlorine
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0186120
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-10-26T16:59:27.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0186121
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-10-26T16:59:27.000
Chemical Name: Calcium chloride (CaCl2)
Common Name: Calcium chloride
Case Number: 10043-52-4

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0233842
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-03-25T02:32:52.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0233843
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-03-25T02:32:52.000
Chemical Name: Sodium Hypochlorite,
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0233844
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2020-03-25T02:32:52.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0276053
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-09-25T00:36:01.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0276054
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-09-25T00:36:01.000
Chemical Name: Sodium Hypochlorite,
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0276055
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2020-09-25T00:36:01.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Active Permit: Y
Child Record Id: DEH2020-HWAST-0244372
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-09-25T00:36:01.000
Chemical Name: Sodium Hypochlorite/Debris
Common Name: Sodium Hypochlorite/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0244373
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-09-25T00:36:01.000
Chemical Name: Hydrochloric Acid/Debris
Common Name: Hydrochloric Acid/Debris
Case Number: Not reported

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2016-HCHEM-0087639
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2016-03-15T03:32:31.000
Chemical Name: Sodium Hypochlorite
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2016-HCHEM-0087640
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2016-03-15T03:32:31.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2016-HCHEM-0087641
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2016-03-15T03:32:31.000
Chemical Name: Calcium chloride (CaCl2)
Common Name: Calcium chloride
Case Number: 10043-52-4

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2016-HCHEM-0087642

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2016-03-15T03:32:31.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0177540
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-04-06T01:15:06.000
Chemical Name: Hydrochloric Acid
Common Name: Hydrochloric Acid
Case Number: 7647-01-0

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0177541
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-04-06T01:15:06.000
Chemical Name: Sodium Hypochlorite
Common Name: Sodium Hypochlorite
Case Number: 7681-52-9

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0177542
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-04-06T01:15:06.000
Chemical Name: Sodium Bicarbonate
Common Name: Sodium Bicarbonate
Case Number: 144-55-8

Record ID: DEH2002-HUPFP-201121
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0177543
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-04-06T01:15:06.000
Chemical Name: Calcium chloride (CaCl2)
Common Name: Calcium chloride
Case Number: 10043-52-4

Name: CAMERON FAMILY YMCA/CITY OF SANTEE
Address: Not reported
City,State,Zip: SANTEE, CA 92071
Permit Number: 201121
Business Type: 6HK73

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

EPA Id Number: Not reported
APN: Not reported
Last HMMD Inspection: 07/18/2011
Facility Telephone: 619-449-9622
Permit Status: OPEN
Permit Expiration: 03/31/2013
Date Last Updated: 11/02/2012
Facility Owner: YMCA OF SAN DIEGO COUNTY
Facility Mailing Address: 8881 DALLAS ST
Facility Mailing City: LA MESA
Facility Mailing State: CA
Facility Mailing Zip: 91942
UST Owner: Not reported
Handle Regulated Hazmat: Y
Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: Not reported
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

Inventory Active Permits (not SQG Medical):
Permit Number: 201121
Update Date: 11/02/2012
Case Number: 10043-52-4
Name: ANHYDROUS CALCIUM CHLORIDE
Other Information: Not reported
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 201121
Update Date: 11/02/2012
Case Number: 7647-01-0
Name: HYDROCHLORIC ACID
Other Information: MURIATIC ACID
Material Waste: Material
Hazardous Categories 1: REACTIVE
Hazardous Categories 2: ACUTE

Permit Number: 201121
Update Date: 11/02/2012
Case Number: 7681-52-9
Name: SODIUM HYPOCHLORITE
Other Information: CHLORINE OR BLEACH
Material Waste: Material
Hazardous Categories 1: REACTIVE
Hazardous Categories 2: ACUTE

Violations Active Permits:
Permit Number: 201121
Update Date: 11/02/2012
Inspection Date: 10/21/2003
Violation Code: 6HV0216
Violation: HAZMATS WITHOUT PROPER LABELS
Violation Citation: Hazardous materials have not been adequately labeled within 10 days & are now declared hazardous waste. HSC 25124(b)(3)(A) & 66262.34(f)
Activity: ACTIVE

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Name:	CAMERON FAMILY YMCA/CITY OF SANTEE
Address:	Not reported
City,State,Zip:	SANTEE, CA 92071
Permit Number:	201121
Business Type:	6HK73
EPA Id Number:	Not reported
APN:	Not reported
Last HMMD Inspection:	07/18/2011
Facility Telephone:	619-449-9622
Permit Status:	OPEN
Permit Expiration:	03/31/2013
Date Last Updated:	11/02/2012
Facility Owner:	YMCA OF SAN DIEGO COUNTY
Facility Mailing Address:	8881 DALLAS ST
Facility Mailing City:	LA MESA
Facility Mailing State:	CA
Facility Mailing Zip:	91942
UST Owner:	Not reported
Handle Regulated Hazmat:	N
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Not reported
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	201121
Update Date:	11/02/2012
Case Number:	10043-52-4
Name:	ANHYDROUS CALCIUM CHLORIDE
Other Information:	Not reported
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	201121
Update Date:	11/02/2012
Case Number:	7647-01-0
Name:	HYDROCHLORIC ACID
Other Information:	MURIATIC ACID
Material Waste:	Material
Hazardous Categories 1:	REACTIVE
Hazardous Categories 2:	ACUTE

Permit Number:	201121
Update Date:	11/02/2012
Case Number:	7681-52-9
Name:	SODIUM HYPOCHLORITE
Other Information:	CHLORINE OR BLEACH
Material Waste:	Material
Hazardous Categories 1:	REACTIVE
Hazardous Categories 2:	ACUTE

Violations Active Permits:

Permit Number:	201121
Update Date:	11/02/2012
Inspection Date:	10/21/2003

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Violation Code: 6HV0216
Violation: HAZMATS WITHOUT PROPER LABELS
Violation Citation: Hazardous materials have not been adequately labeled within 10 days & are now declared hazardous waste. HSC 25124(b)(3)(A) & 66262.34(f)
Activity: ACTIVE

CERS HAZ WASTE:
Name: YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY
Address: 10123 RIVERWALK DR
City,State,Zip: SANTEE, CA 92071
Site ID: 102632
CERS ID: 10377013
CERS Description: Hazardous Waste Generator

CERS:
Name: YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY
Address: 10123 RIVERWALK DR
City,State,Zip: SANTEE, CA 92071
Site ID: 102632
CERS ID: 10377013
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 102632
Site Name: YMCA of San Diego County/Cameron Facility
Violation Date: 10-21-2015
Citation: HSC 6.5 25189.5(a) - California Health and Safety Code, Chapter 6.5, Section(s) 25189.5(a)
Violation Description: Failure to properly dispose of hazardous waste at an authorized location.
Violation Notes: Returned to compliance on 12/16/2015.
Violation Division: San Diego County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 102632
Site Name: YMCA of San Diego County/Cameron Facility
Violation Date: 10-21-2015
Citation: 40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii)
Violation Description: Failure to post, next to the telephone, Emergency Information (SQG) containing the location of emergency equipment, contact names and numbers.
Violation Notes: Returned to compliance on 11/06/2015.
Violation Division: San Diego County Department of Env Health
Violation Program: HW
Violation Source: CERS,

Site ID: 102632
Site Name: YMCA of San Diego County/Cameron Facility
Violation Date: 10-21-2015
Citation: HSC 6.95 25510(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25510(a)
Violation Description: Failure to report a release or threatened release of a hazardous material to the unified program agency and to OES.
Violation Notes: Returned to compliance on 12/16/2015.

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31
Violation Description:	Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water which could threaten human health or the environment..
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	40 CFR 1 265.177 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.177
Violation Description:	Failure to ensure incompatible waste and/or materials are not placed or stored in the same container or nearby or into an unwashed container, which previously contained incompatible waste and/or materials, so that it does not potentially result in the following: 1) Generate extreme heat or pressure, fire or explosion, or violent reaction; 2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; 3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions; 4) Damage the structural integrity of the device or facility containing the waste; or 5) Through other like means threaten human health or the environment.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to establish and electronically submit an adequate emergency response plan and procedures for a release or threatened release of a hazardous material.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-11-2017

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Citation:	22 CCR 12 66262.40(c) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(c)
Violation Description:	Failure to keep records of any test results, waste analyses, or other determinations made in accordance with section 66262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.
Violation Notes:	Returned to compliance on 10/11/2017. Inspection Sequence ID:5764458
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description:	Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii)
Violation Description:	Failure to ensure employees are familiar with the handling and compliance of hazardous waste regulations and emergency response.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	22 CCR 12 66262.40(c) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(c)
Violation Description:	Failure to determine if the waste generated is a hazardous waste and to maintain analysis results for three years.
Violation Notes:	Returned to compliance on 12/16/2015.

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	12-15-2014
Citation:	HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description:	Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 12/16/2014. Inspection Sequence ID:4090006
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	12-15-2014
Citation:	HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description:	Business Plan Program - Administration/Documentation - General
Violation Notes:	Returned to compliance on 12/16/2014. Inspection Sequence ID:4090006;Violation:HMD1013 Hazardous Materials Business Plan not readily available for review. HSC 6.95 25505(c)
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description:	Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	102632
Site Name:	YMCA of San Diego County/Cameron Facility
Violation Date:	10-21-2015
Citation:	40 CFR 1 262.34(d)(5)(i) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(i)
Violation Description:	Failure to have an emergency coordinator or a designee onsite during operating hours.
Violation Notes:	Returned to compliance on 12/16/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-11-2017
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Kieu Bridget Inspection ID:5764458
Eval Division:	San Diego County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-11-2017
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Kieu Bridget Inspection ID:5764458
Eval Division:	San Diego County Department of Env Health
Eval Program:	HW
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-21-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Misleh John Inspection ID:5181324
Eval Division:	San Diego County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-13-2022
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Chua Jean Inspection ID:7079056
Eval Division:	San Diego County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-21-2015
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Misleh John Inspection ID:5181324
Eval Division:	San Diego County Department of Env Health
Eval Program:	HW
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-04-2019
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Denslow Vikki Inspection ID:6285977
Eval Division:	San Diego County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS,

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-04-2019

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Denslow Vikki Inspection ID:6285977
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-13-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Chua Jean Inspection ID:7079056
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-15-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Santos Steven Inspection ID:4090006
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Enforcement Action:
Site ID: 102632
Site Name: YMCA of San Diego County/Cameron Facility
Site Address: 10123 RIVERWALK DR
Site City: SANTEE
Site Zip: 92071
Enf Action Date: 04-18-2016
Enf Action Type: Referral to District Attorney
Enf Action Description: Referral to District Attorney
Enf Action Notes: Fines/Penalties Assessed: $4,300.00.
Enf Action Division: San Diego County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 102632
Site Name: YMCA of San Diego County/Cameron Facility
Site Address: 10123 RIVERWALK DR
Site City: SANTEE
Site Zip: 92071
Enf Action Date: 04-18-2016
Enf Action Type: Referral to District Attorney
Enf Action Description: Referral to District Attorney
Enf Action Notes: Fines/Penalties Assessed: $4,300.00.
Enf Action Division: San Diego County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS,

Coordinates:
Site ID: 102632
Facility Name: YMCA of San Diego County/Cameron Facility
Env Int Type Code: HMBP

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Program ID: 10377013
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.,
Latitude: 32.849630
Longitude: -116.979320

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: Ron Lelakes
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Parent Corporation
Entity Name: YMCA OF SAN DIEGO COUNTY
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Ron Lelakes
Entity Title: Executive Director of Area Facilities
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Operator
Entity Name: Cameron FAMILY YMCA
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (619) 449-9622,

Affiliation Type Desc: Environmental Contact
Entity Name: JOSE LUGO
Entity Title: Not reported
Affiliation Address: 3708 Ruffin Road
Affiliation City: San Diego
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92123
Affiliation Phone: ,

YMCA OF SAN DIEGO COUNTY/CAMERON FACILITY (Continued) **S109278911**

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	10123 Riverwalk Drive
Affiliation City:	Santee
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92071
Affiliation Phone:	,

Affiliation Type Desc:	Legal Owner
Entity Name:	YMCA OF SAN DIEGO COUNTY
Entity Title:	Not reported
Affiliation Address:	3708 Ruffin Road
Affiliation City:	San Deigo
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92123
Affiliation Phone:	(858) 942-9622,

Affiliation Type Desc:	CUPA District
Entity Name:	San Diego County Env Health Qlty
Entity Title:	Not reported
Affiliation Address:	PO Box 129261
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92112-9261
Affiliation Phone:	(858) 505-6880,

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13 **R. C. P. PIT NO. 1** **MINES MRDS** **1025738407**
East **N/A**
1/8-1/4 **SAN DIEGO (County), CA**
0.169 mi.
894 ft.

Relative:
Higher

Actual:
348 ft.

MINES MRDS:

Name:	R. C. P. PIT NO. 1
Address:	Not reported
Deposit identification Number:	10264612
City,State,Zip:	CALIFORNIA
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10264612
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0060730887
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Past Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported

R. C. P. PIT NO. 1 (Continued) **1025738407**

Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Ridenour, James
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	32.84786
Longitude:	-116.97055

14
South
1/8-1/4
0.172 mi.
907 ft.

SANTEE MATERIALS **MINES MRDS** **1025601615**
N/A

SAN DIEGO (County), CA

Relative:
Higher

Actual:
343 ft.

MINES MRDS:

Name:	SANTEE MATERIALS
Address:	Not reported
Deposit identification Number:	10116422
City,State,Zip:	CALIFORNIA
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10116422
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0060730551
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Past Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported

SANTEE MATERIALS (Continued) **1025601615**

Reporter:	Rumsey, Clayton M.
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	32.84506
Longitude:	-116.97505

15
East
1/8-1/4
0.198 mi.
1048 ft.

RCP BLOCK & BRICK INC **US MINES** **1015940856**
N/A

SAN DIEGO (County), CA

Relative:
Higher

Actual:
350 ft.

US MINES:

Sic Code(s):	144200
Sic Code(s):	000000
Sic Code(s):	000000
Sic Code(s):	000000
Sic Code(s):	000000
Sic Code(s):	000000
Mine ID:	0402077
Entity Name:	RCP SAND PLANT
Company:	RCP BLOCK & BRICK INC
Status:	Permanently Abandoned
Status Date:	20140328
Operation Class:	2
Number of Shops:	0
Number of Plants:	0
Latitude Degree:	32
Longitude Degree:	116
Latitude Minute:	50
Latitude Seconds:	57
Longitude Minutes:	58
Longitude Seconds:	12
Number of Pits:	000

D16 **RCP BLOCK & BRICK** **LUST** **S104494725**
NE **9631 MAGNOLIA AVE N** **CHMIRS** **N/A**
1/4-1/2 **SANTEE, CA 92071** **EMI**
0.255 mi.
1349 ft. **Site 1 of 2 in cluster D**

Relative:
Higher

Actual:
350 ft.

LUST REG 9:

Region:	9
Status:	Preliminary site assessment workplan submitted
Case Number:	9UT4034
Local Case:	H08229-001
Substance:	0
Qty Leaked:	Not reported
Abate Method:	Not reported
Local Agency:	San Diego
How Found:	Other Means
How Stopped:	Not reported
Source:	Other Source
Cause:	Not reported
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	02/04/2000
Date Stopped:	/ /
Confirm Date:	/ /
Submit Workplan:	2/29/00
Prelim Assess:	/ /
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	02/04/2000
Enforce Date:	Not reported
Closed Date:	Not reported
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	907.12
GW Depth:	Not reported
Beneficial Use:	MUNBU
NPDES Number:	Not reported
Priority:	Low priority. Priority ranking can change over time.
File Dispn:	Administratively opened on database, however no file physically exists
Interim Remedial Actions:	Not reported
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

CHMIRS:

Name:	Not reported
Address:	9631 MAGNOLIA AVE
City,State,Zip:	SANTEE, CA
OES Incident Number:	0-5938
OES notification:	12/14/2000
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported

RCP BLOCK & BRICK (Continued) **S104494725**

Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2000
Agency:	Santee Fire Dept.
Incident Date:	12/13/200012:00:00 AM
Admin Agency:	San Diego County Health Services Dept.
Amount:	Not reported
Contained:	Yes
Site Type:	Other
E Date:	Not reported
Substance:	Latex paint
Gallons:	61
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Abandoned illegal dumping.

RCP BLOCK & BRICK (Continued) **S104494725**

EMI:

Name:	RCP CO INC
Address:	9631 MAGNOLIA AVE. N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	1990
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	1442
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	34
Part. Matter 10 Micrometers and Smllr Tons/Yr:	19

Name:	RCP CO INC
Address:	9631 MAGNOLIA AVE. N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	1995
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	1442
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	30
Part. Matter 10 Micrometers and Smllr Tons/Yr:	13

Name:	RCP CO INC
Address:	9631 MAGNOLIA AVE. N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	1996
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	1442
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0

RCP BLOCK & BRICK (Continued) **S104494725**

SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 30
Part. Matter 10 Micrometers and Smllr Tons/Yr: 13

Name: RCP CO INC
Address: 9631 MAGNOLIA AVE. N
City,State,Zip: SANTEE, CA 92071-2776
Year: 1997
County Code: 37
Air Basin: SD
Facility ID: 290
Air District Name: SD
SIC Code: 1442
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 30
Part. Matter 10 Micrometers and Smllr Tons/Yr: 13

Name: RCP BLOCK & BRICK
Address: 9631 MAGNOLIA AVENUE N
City,State,Zip: SANTEE, CA 92071-2776
Year: 1999
County Code: 37
Air Basin: SD
Facility ID: 290
Air District Name: SD
SIC Code: 3271
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 2
NOX - Oxides of Nitrogen Tons/Yr: 11
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 74
Part. Matter 10 Micrometers and Smllr Tons/Yr: 25

Name: RCP BLOCK & BRICK
Address: 9631 MAGNOLIA AVENUE N
City,State,Zip: SANTEE, CA 92071-2776
Year: 2000
County Code: 37
Air Basin: SD
Facility ID: 290
Air District Name: SD
SIC Code: 3271
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1

RCP BLOCK & BRICK (Continued) **S104494725**

Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	11
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	74
Part. Matter 10 Micrometers and Smllr Tons/Yr:	25

Name:	RCP BLOCK & BRICK
Address:	9631 MAGNOLIA AVENUE N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	2001
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	3271
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	6
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	72
Part. Matter 10 Micrometers and Smllr Tons/Yr:	25

Name:	RCP BLOCK & BRICK
Address:	9631 MAGNOLIA AVENUE N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	2002
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	3271
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	6
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	72
Part. Matter 10 Micrometers and Smllr Tons/Yr:	25

Name:	RCP BLOCK & BRICK
Address:	9631 MAGNOLIA AVENUE N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	2003
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	3271
Air District Name:	SAN DIEGO COUNTY APCD

RCP BLOCK & BRICK (Continued) **S104494725**

Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	6
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	72
Part. Matter 10 Micrometers and Smllr Tons/Yr:	25

Name:	RCP BLOCK & BRICK
Address:	9631 MAGNOLIA AVENUE N
City,State,Zip:	SANTEE, CA 92071-2776
Year:	2004
County Code:	37
Air Basin:	SD
Facility ID:	290
Air District Name:	SD
SIC Code:	3271
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.59918822
Reactive Organic Gases Tons/Yr:	0.536117665
Carbon Monoxide Emissions Tons/Yr:	1.19941343
NOX - Oxides of Nitrogen Tons/Yr:	5.56771805
SOX - Oxides of Sulphur Tons/Yr:	0.06541585
Particulate Matter Tons/Yr:	72.41897423
Part. Matter 10 Micrometers and Smllr Tons/Yr:	25.39560115

D17 **R C P COMPANY INC** **LUST** **S100727577**
NE **9631 N MAGNOLIA AVENUE** **SAN DIEGO CO. SAM** **N/A**
1/4-1/2 **SANTEE, CA 92071** **San Diego Co. HMMD**
0.255 mi. **HIST UST**
1349 ft. **Site 2 of 2 in cluster D** **Cortese**
HWTS
Relative: Higher **NPDES**
SAN DIEGO CO LOP
Actual: 350 ft. **CIWQS**
CERS

LUST:

Name:	RCP BLOCK&BRICK INC
Address:	9631 N MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712776
Lead Agency:	SAN DIEGO COUNTY LOP
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607399232
Global Id:	T0607399232
Latitude:	32.8480818492428
Longitude:	-116.972100734711
Status:	Completed - Case Closed
Status Date:	08/19/2015
Case Worker:	JC
RB Case Number:	9UT4034
Local Agency:	SAN DIEGO COUNTY LOP
File Location:	Local Agency
Local Case Number:	H08229-001

R C P COMPANY INC (Continued) **S100727577**

Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Diesel
EPA Region:	9
Coordinate Source:	Google Map Move
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	01/05/1998
Leak Reported Date:	02/18/1998
How Discovered:	UST System Modification
How Discovered Description:	Not reported
Discharge Source:	Dispenser, Piping
Discharge Cause:	Unknown
Stop Method:	Close and Remove Tank
Stop Description:	CLOSE AND REMOVE TANK
No Further Action Date:	08/19/2015
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	The Site is located at 9631 North Magnolia Avenue in Santee, California (Site) just north of the San Diego River. The Site was owned and operated by RCP Block and Brick (RCP) and used as a block and brick manufacturing, sales, and storage facility. In January 1998, fuel dispensers and piping were removed and replaced as part of a fuel system upgrade. As part of the fuel system upgrade, DEH directed the collection of four soil samples. The soil samples were collected at approximately two feet below grade and were analyzed for total petroleum hydrocarbons (TPH). Two of the four soil samples were reported to contain concentrations of total petroleum hydrocarbons as diesel (TPHd) at 1,200 and 19,000 milligrams per kilogram (mg/kg). Based on the results of soil sampling, DEH opened Local Oversight Program Case H08229-001. At the direction of DEH, eight groundwater monitoring wells (MW-1 through MW-8) were installed at the Site. Measurable phase-separated petroleum hydrocarbons (PSH) were detected in MW-2 during a July 2002 event. PSH was subsequently not measured at the Site. The UST system was removed on August 20, 2004. Two diesel and one gasoline underground storage tanks (USTs) were removed. The consultant estimates that approximately 5.3 cubic yards of impacted soil remains onsite. On February 5, 2013, a Corrective Action Plan (CAP) was submitted. A receptor survey was conducted as part of the CAP. The presence of groundwater production wells was investigated within a +-mile radius of the Site. Based on the reported water well locations and the distance to the estimated edge of the dissolved-phase plume, a low likelihood exists for the Site release to impact nearby production wells. Given the limited extent of subsurface impacts at the Site and the apparent lack of impact to groundwater resources and sensitive receptors within the Site vicinity, it was concluded that natural attenuation would be effective in achieving remediation goals within a reasonable period of time and has already achieved cleanup goals. DEH concurred with the CAP conclusion. Public notification was conducted as part of the CAP. No comments were received. On May 14, 2015, notification was made to the Helix Water District that DEH was proposing closure of

R C P COMPANY INC (Continued) **S100727577**

the case. No comments were received. Note: A permit for the destruction of the monitoring wells was issued on August 27, 2014. The permit number is DEH2013-LMWP-000790.

LUST:
Global Id: T0607399232
Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: JAMES CLAY
Organization Name: SAN DIEGO COUNTY LOP
Address: P.O. Box 129261
City: San Diego
Email: james.clay@sdcounty.ca.gov
Phone Number: Not reported

LUST:
Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 05/20/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 07/09/2009
Action: Letter - Notice

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 10/09/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 02/19/2015
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: Other
Date: 02/18/1998
Action: Leak Reported

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 08/01/2008
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 01/04/2011
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: Other
Date: 01/05/1998
Action: Leak Began

Global Id: T0607399232
Action Type: RESPONSE

R C P COMPANY INC (Continued) **S100727577**

Date: 07/30/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0607399232
Action Type: RESPONSE
Date: 05/12/2010
Action: Soil and Water Investigation Workplan

Global Id: T0607399232
Action Type: RESPONSE
Date: 03/12/2010
Action: Correspondence

Global Id: T0607399232
Action Type: RESPONSE
Date: 08/21/2013
Action: Monitoring Report - Semi-Annually

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 08/28/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 09/06/2011
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 06/22/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: RESPONSE
Date: 08/20/2009
Action: Soil and Water Investigation Workplan

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 08/19/2015
Action: Closure/No Further Action Letter

Global Id: T0607399232
Action Type: Other
Date: 01/05/1998
Action: Leak Stopped

Global Id: T0607399232
Action Type: RESPONSE
Date: 01/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0607399232
Action Type: RESPONSE
Date: 07/30/2009
Action: Monitoring Report - Quarterly

R C P COMPANY INC (Continued) **S100727577**

Global Id: T0607399232
Action Type: RESPONSE
Date: 10/14/2010
Action: Sensitive Receptor Survey Report - Regulator Responded

Global Id: T0607399232
Action Type: RESPONSE
Date: 05/13/2011
Action: Site Assessment Report - Regulator Responded

Global Id: T0607399232
Action Type: RESPONSE
Date: 05/02/2012
Action: Monitoring Report - Quarterly - Regulator Responded

Global Id: T0607399232
Action Type: RESPONSE
Date: 02/05/2013
Action: CAP/RAP - Final Remediation / Design Plan - Regulator Responded

Global Id: T0607399232
Action Type: REMEDIATION
Date: 01/01/1998
Action: Excavation

Global Id: T0607399232
Action Type: REMEDIATION
Date: 08/20/2004
Action: Excavation

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 02/29/2000
Action: Notice of Responsibility

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 09/27/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 02/19/2015
Action: Notice of Responsibility

Global Id: T0607399232
Action Type: ENFORCEMENT
Date: 05/14/2015
Action: Letter - Notice

Global Id: T0607399232
Action Type: Other
Date: 01/05/1998
Action: Leak Discovery

LUST:
Global Id: T0607399232

R C P COMPANY INC (Continued) **S100727577**

Status: Open - Case Begin Date
Status Date: 01/05/1998

Global Id: T0607399232
Status: Open - Remediation
Status Date: 01/30/2002

Global Id: T0607399232
Status: Open - Eligible for Closure
Status Date: 05/08/2009

Global Id: T0607399232
Status: Open - Site Assessment
Status Date: 05/08/2009

Global Id: T0607399232
Status: Open - Verification Monitoring
Status Date: 05/08/2009

Global Id: T0607399232
Status: Open - Eligible for Closure
Status Date: 09/02/2014

Global Id: T0607399232
Status: Open - Site Assessment
Status Date: 02/19/2015

Global Id: T0607399232
Status: Open - Eligible for Closure
Status Date: 05/20/2015

Global Id: T0607399232
Status: Completed - Case Closed
Status Date: 08/19/2015

SAN DIEGO CO. SAM:
Name: RCP BLOCK&BRICK INC
Address: 9631 N MAGNOLIA AV
City,State,Zip: SANTEE, CA 920712776
Case Number: H08229-001
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - State Fund**
Facility Type: Drinking Water Aquifer Impacted
Facility Status: Remedial Investigation
Date: 1/30/2002
Date Began: 1/5/1998

HMMD SAN DIEGO:
Name: RCP BLOCK&BRICK INC
Address: 9631 N MAGNOLIA AV
City,State,Zip: SANTEE, CA 92071
Permit Number: 108229
Business Type: 6HK70
EPA Id Number: CAD042930099
APN: 381-160-79-00

R C P COMPANY INC (Continued) **S100727577**

Last HMMD Inspection:	08/01/2011
Facility Telephone:	619-448-2240
Permit Status:	OPEN
Permit Expiration:	02/28/2013
Date Last Updated:	11/02/2012
Facility Owner:	RCP BLOCK&BRICK INC
Facility Mailing Address:	P O BOX 579
Facility Mailing City:	LEMON GROVE
Facility Mailing State:	CA
Facility Mailing Zip:	91946-0579
UST Owner:	R C P CO INC
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Y
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	74-86-2
Name:	ACETYLENE GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	PRESSURE RELEASE

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	MIX
Name:	ANIONIC EMULSION POLYMER
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	ACUTE
Hazardous Categories 2:	Not reported

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	107-21-1
Name:	ANTIFREEZE
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	PRESSURE RELEASE

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	7440-37-1
Name:	ARGON GAS 75% CARBON DIOXIDE 25%
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	PRESSURE RELEASE

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	124-38-9

R C P COMPANY INC (Continued) **S100727577**

Name:	CARBON DIOXIDE GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	ACUTE
Permit Number:	108229
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL FUEL
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported
Permit Number:	108229
Update Date:	11/02/2012
Case Number:	64741-68-0
Name:	FUEL ADDITIVE 2
Other Information:	405 POWER-MASTER DIESEL CONCENTRATE
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	ACUTE
Permit Number:	108229
Update Date:	11/02/2012
Case Number:	1309-37-1
Name:	IRON OXIDE POWDER VARIOUS COLORS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	ACUTE
Hazardous Categories 2:	CHRONIC
Permit Number:	108229
Update Date:	11/02/2012
Case Number:	727-37-9
Name:	NITROGEN
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	EXTREMELY HAZARDOUS
Permit Number:	108229
Update Date:	11/02/2012
Case Number:	8002-05-9
Name:	OIL LUBRICATING (MOTOR OILS, TELLUS, GEAR)
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	ACUTE
Permit Number:	108229
Update Date:	11/02/2012
Case Number:	7782-44-7
Name:	OXYGEN GAS
Other Information:	Not reported
Material Waste:	Material

R C P COMPANY INC (Continued) **S100727577**

Hazardous Categories 1: FIRE
Hazardous Categories 2: PRESSURE RELEASE

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 26082-79-3
Name: POLY (DIALLYLDIMETHYLAMMONIUM CHLORIDE)
Other Information: PRAESTOL 187K
Material Waste: Material
Hazardous Categories 1: ACUTE
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 102-71-6
Name: TRIETHANOLAMINE 10%, DRY BLOCK
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: ACUTE
Hazardous Categories 2: CHRONIC

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 214 UNSPEC SOLVENT MIXTURE
Other Information: QSOL 300
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 221 WASTE OIL & MIXED OIL
Other Information: Not reported
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: GREASE/ABSRBNT (CORN WASTE)
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 342 ORGANIC LIQUIDS W/METALS
Other Information: WASTE ANTIFREEZE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

R C P COMPANY INC (Continued) **S100727577**

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 444 USED BATTERIES
Other Information: USED BATTERIES - INTERSTATE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 888 USED OIL FILTERS
Other Information: USED OIL FILTERS (CRUSHED)
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV1018
Violation: INVENTORY INCOMPLETE/NOT AMENDED
Violation Citation: Inventory not amended for 100% increase of hazardous material onsite or inventory is incomplete. 25509, 25510
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV0304
Violation: WASTE DETERMINATION NOT MADE
Violation Citation: Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV1601
Violation: HAZWASTE TANKS W/O P.E. ASSESSMENT
Violation Citation: Failed to obtain a P.E. assessment for hazardous waste tank system. 66265.191(a) or 66265.192(a)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV1605
Violation: NO DAILY TANK INSPECTION/LOG
Violation Citation: Failed to inspect and/or document daily HW tank system inspections. 66265.195 (c)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012

R C P COMPANY INC (Continued) **S100727577**

Inspection Date:	06/27/2003
Violation Code:	6HV3109
Violation:	NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation:	Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3110
Violation:	NO ANNUAL CERT OF ATG AND SENSORS
Violation Citation:	Annual certification for ATG and/or sensors not completed (existing tank systems only). 2641(j), 2638
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3111
Violation:	CONTIN MONITOR SYSTEM NOT CERT. YRLY
Violation Citation:	Continuous monitoring system not certified annually. 25284.1(a)(4)(C; 2630(d), 2637(b).
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3112
Violation:	2NDRY CONT TEST NOT DONE (6/36 MOS.)
Violation Citation:	Secondary containment testing not conducted at 6months/36 months. 25284.1; 2637(a)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3158
Violation:	ALL OPERATING CONDITIONS NOT MET
Violation Citation:	All permit operating conditions not met. 25284; 2712
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3260
Violation:	DISPENSER CONT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) & (g)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3260
Violation:	DISPENSER CONT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) & (g)
Activity:	ACTIVE

R C P COMPANY INC (Continued) **S100727577**

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3260
Violation: DISPENSER CONT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) & (g)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3263
Violation: MONITOR SYSTEM NOT ALL FUNCTIONAL
Violation Citation: Monitoring system components &/or devices are not all functional. 2630, 2641(j), 2632
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3263
Violation: MONITOR SYSTEM NOT ALL FUNCTIONAL
Violation Citation: Monitoring system components &/or devices are not all functional. 2630, 2641(j), 2632
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3405
Violation: LLD DOESN'T DETECT 3.0 GPH OR EQUIVA
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING: OPTION 3-Line leak detector does not detect 3.0 gph or equivalent? 2636(f)(2)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3406
Violation: AUTOMATIC LLD NOT CERTIFIED ANNUALLY
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING: OPTION 3-Automatic line leak detector not certified annually 25284.1(a)(4)(C); 2630(d), 2641(j)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3407
Violation: PIPE INT. TEST DOESN'T DETECT.1 GPH @150
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING: OPTION 2-Piping integrity test does not detect 0.1-gph leak with ELLD or at 150% pressure 2636(f)(4)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 08/01/2011
Violation Code: 6HV0202

R C P COMPANY INC (Continued) **S100727577**

Violation:	WASTE CONTAINER W/O LABELS
Violation Citation:	Hazardous waste containers &/or tanks are missing labels, accumulation date and/or are improperly labeled. CCR 66262.34(a)(2); 66262.34(a)(3) & 66262.34(f)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	08/01/2011
Violation Code:	6HV1605
Violation:	NO DAILY TANK INSPECTION/LOG
Violation Citation:	Failed to inspect and/or document daily HW tank system inspections. 66265.195 (c)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3102
Violation:	OPER. PERMIT NOT CURRENT/ONSITE
Violation Citation:	Current Operating Permit not available at facility. 25284(a), 25286(a); 2712(i); 68.1003
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	09/01/2009
Violation Code:	6HV1009
Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE

UST:

UST Name:	UNDERGROUND TANK 108229 T001
Last Update:	2012-11-02 14:17:38
Permit Number:	108229
Tank Type:	SINGLE WALL

R C P COMPANY INC (Continued) **S100727577**

Additional Id:	AT4530
Capacity Gallons:	10000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	1999-10-28 00:00:00
Year Installed:	1979-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	Not reported
UST Monitor Method:	Not reported

UST Name:	UNDERGROUND TANK 108229 T002
Last Update:	2012-11-02 14:17:38
Permit Number:	108229
Tank Type:	SINGLE WALL
Additional Id:	RT0872/AT4979
Capacity Gallons:	6000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	2004-08-20 00:00:00
Year Installed:	1979-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	15
UST Monitor Method:	SW TANK DW PRESSURE PIPE W/ SHUTOFF AND ALARM ON LLD AND CERTIFIED ATG: IN-TANK TEST MONTHLY

UST Name:	UNDERGROUND TANK 108229 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	108229
Tank Type:	SINGLE WALL
Additional Id:	RT0872/AT4979
Capacity Gallons:	6000
UST Contents:	DIESEL
Other Content Info:	DIESEL RED DYE
Reg Status:	REMOVED
Remove Close Date:	2004-08-20 00:00:00
Year Installed:	1979-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	15
UST Monitor Method:	SW TANK DW PRESSURE PIPE W/ SHUTOFF AND ALARM ON LLD AND CERTIFIED ATG: IN-TANK TEST MONTHLY

UST Name:	UNDERGROUND TANK 108229 T004
Last Update:	2012-11-02 14:17:38
Permit Number:	108229
Tank Type:	SINGLE WALL
Additional Id:	RT0872/AT4979
Capacity Gallons:	12000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	2004-08-20 00:00:00
Year Installed:	Not reported

R C P COMPANY INC (Continued) **S100727577**

Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 15
UST Monitor Method: SW TANK DW PRESSURE PIPE W/ SHUTOFF AND ALARM ON LLD AND CERTIFIED ATG: IN-TANK TEST MONTHLY

Name: RCP BLOCK&BRICK INC
Address: 9631 N MAGNOLIA AV
City,State,Zip: SANTEE, CA 92071
Permit Number: 108229
Business Type: 6HK70
EPA Id Number: CAD042930099
APN: 381-160-79-00
Last HMMD Inspection: 08/01/2011
Facility Telephone: 619-448-2240
Permit Status: OPEN
Permit Expiration: 02/28/2013
Date Last Updated: 11/02/2012
Facility Owner: RCP BLOCK&BRICK INC
Facility Mailing Address: P O BOX 579
Facility Mailing City: LEMON GROVE
Facility Mailing State: CA
Facility Mailing Zip: 91946-0579
UST Owner: R C P CO INC
Handle Regulated Hazmat: Y
Own Or Operate UST: N
Subject To APSA: Y
Generate Haz Waste: Y
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

Inventory Active Permits (not SQG Medical):
Permit Number: 108229
Update Date: 11/02/2012
Case Number: 74-86-2
Name: ACETYLENE GAS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: PRESSURE RELEASE

Permit Number: 108229
Update Date: 11/02/2012
Case Number: MIX
Name: ANIONIC EMULSION POLYMER
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: ACUTE
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 107-21-1
Name: ANTIFREEZE
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: FIRE

R C P COMPANY INC (Continued) **S100727577**

Hazardous Categories 2: PRESSURE RELEASE

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 7440-37-1
Name: ARGON GAS 75% CARBON DIOXIDE 25%
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: PRESSURE RELEASE

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 124-38-9
Name: CARBON DIOXIDE GAS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: ACUTE

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 68476-34-6
Name: DIESEL FUEL
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 64741-68-0
Name: FUEL ADDITIVE 2
Other Information: 405 POWER-MASTER DIESEL CONCENTRATE
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: ACUTE

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 1309-37-1
Name: IRON OXIDE POWDER VARIOUS COLORS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: ACUTE
Hazardous Categories 2: CHRONIC

Permit Number: 108229
Update Date: 11/02/2012
Case Number: 727-37-9
Name: NITROGEN
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: EXTREMELY HAZARDOUS

Permit Number: 108229

R C P COMPANY INC (Continued) **S100727577**

Update Date:	11/02/2012
Case Number:	8002-05-9
Name:	OIL LUBRICATING (MOTOR OILS, TELLUS, GEAR)
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	ACUTE

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	7782-44-7
Name:	OXYGEN GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	PRESSURE RELEASE

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	26082-79-3
Name:	POLY (DIALLYLDIMETHYLAMMONIUM CHLORIDE)
Other Information:	PRAESTOL 187K
Material Waste:	Material
Hazardous Categories 1:	ACUTE
Hazardous Categories 2:	Not reported

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	102-71-6
Name:	TRIETHANOLAMINE 10%, DRY BLOCK
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	ACUTE
Hazardous Categories 2:	CHRONIC

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 214 UNSPEC SOLVENT MIXTURE
Other Information:	QSOL 300
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 221 WASTE OIL & MIXED OIL
Other Information:	Not reported
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	108229
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 223 UNSPEC OIL CONTAINING WASTE

R C P COMPANY INC (Continued) **S100727577**

Other Information: GREASE/ABSRBNT (CORN WASTE)
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 342 ORGANIC LIQUIDS W/METALS
Other Information: WASTE ANTIFREEZE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 444 USED BATTERIES
Other Information: USED BATTERIES - INTERSTATE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 108229
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 888 USED OIL FILTERS
Other Information: USED OIL FILTERS (CRUSHED)
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:
Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV1018
Violation: INVENTORY INCOMPLETE/NOT AMENDED
Violation Citation: Inventory not amended for 100% increase of hazardous material onsite or inventory is incomplete. 25509, 25510
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV0304
Violation: WASTE DETERMINATION NOT MADE
Violation Citation: Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV1601
Violation: HAZWASTE TANKS W/O P.E. ASSESSMENT
Violation Citation: Failed to obtain a P.E. assessment for hazardous waste tank system.

R C P COMPANY INC (Continued) **S100727577**

66265.191(a) or 66265.192(a)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/22/2006
Violation Code: 6HV1605
Violation: NO DAILY TANK INSPECTION/LOG
Violation Citation: Failed to inspect and/or document daily HW tank system inspections. 66265.195 (c)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3109
Violation: NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation: Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3110
Violation: NO ANNUAL CERT OF ATG AND SENSORS
Violation Citation: Annual certification for ATG and/or sensors not completed (existing tank systems only). 2641(j), 2638
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3111
Violation: CONTIN MONITOR SYSTEM NOT CERT. YRLY
Violation Citation: Continuous monitoring system not certified annually. 25284.1(a)(4)(C; 2630(d), 2637(b).
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3112
Violation: 2NDRY CONT TEST NOT DONE (6/36 MOS.)
Violation Citation: Secondary containment testing not conducted at 6months/36 months. 25284.1; 2637(a)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3158
Violation: ALL OPERATING CONDITIONS NOT MET
Violation Citation: All permit operating conditions not met. 25284; 2712
Activity: ACTIVE

Permit Number: 108229

R C P COMPANY INC (Continued) **S100727577**

Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3260
Violation: DISPENSER CONT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) & (g)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3260
Violation: DISPENSER CONT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) & (g)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3260
Violation: DISPENSER CONT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) & (g)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3263
Violation: MONITOR SYSTEM NOT ALL FUNCTIONAL
Violation Citation: Monitoring system components &/or devices are not all functional. 2630, 2641(j), 2632
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3263
Violation: MONITOR SYSTEM NOT ALL FUNCTIONAL
Violation Citation: Monitoring system components &/or devices are not all functional. 2630, 2641(j), 2632
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3405
Violation: LLD DOESN'T DETECT 3.0 GPH OR EQUIVA
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING: OPTION 3-Line leak detector does not detect 3.0 gph or equivalent? 2636(f)(2)
Activity: ACTIVE

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 06/27/2003
Violation Code: 6HV3406
Violation: AUTOMATIC LLD NOT CERTIFIED ANNUALLY
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING: OPTION 3-Automatic line leak detector not certified annually 25284.1(a)(4)(C); 2630(d), 2641(j)

R C P COMPANY INC (Continued) **S100727577**

Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3407
Violation:	PIPE INT. TEST DOESN'T DETECT.1 GPH @150
Violation Citation:	DOUBLE WALLED PRESSURIZED PIPING: OPTION 2-Piping integrity test does not detect 0.1-gph leak with ELLD or at 150% pressure 2636(f)(4)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	08/01/2011
Violation Code:	6HV0202
Violation:	WASTE CONTAINER W/O LABELS
Violation Citation:	Hazardous waste containers &/or tanks are missing labels, accumulation date and/or are improperly labeled. CCR 66262.34(a)(2); 66262.34(a)(3) & 66262.34(f)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	08/01/2011
Violation Code:	6HV1605
Violation:	NO DAILY TANK INSPECTION/LOG
Violation Citation:	Failed to inspect and/or document daily HW tank system inspections. 66265.195 (c)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3102
Violation:	OPER. PERMIT NOT CURRENT/ONSITE
Violation Citation:	Current Operating Permit not available at facility. 25284(a), 25286(a); 2712(i); 68.1003
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	108229
Update Date:	11/02/2012
Inspection Date:	06/27/2003
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE

R C P COMPANY INC (Continued) **S100727577**

Permit Number: 108229
Update Date: 11/02/2012
Inspection Date: 09/01/2009
Violation Code: 6HV1009
Violation: HMBP: INADEQUATE SITE MAP
Violation Citation: Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity: ACTIVE

UST:
UST Name: UNDERGROUND TANK 108229 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 108229
Tank Type: SINGLE WALL
Additional Id: AT4530
Capacity Gallons: 10000
UST Contents: DIESEL
Other Content Info: DIESEL
Reg Status: REMOVED
Remove Close Date: 1999-10-28 00:00:00
Year Installed: 1979-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: Not reported
UST Monitor Method: Not reported

UST Name: UNDERGROUND TANK 108229 T002
Last Update: 2012-11-02 14:17:38
Permit Number: 108229
Tank Type: SINGLE WALL
Additional Id: RT0872/AT4979
Capacity Gallons: 6000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: 2004-08-20 00:00:00
Year Installed: 1979-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 15
UST Monitor Method: SW TANK DW PRESSURE PIPE W/ SHUTOFF AND ALARM ON LLD AND CERTIFIED ATG: IN-TANK TEST MONTHLY

UST Name: UNDERGROUND TANK 108229 T003
Last Update: 2012-11-02 14:17:38
Permit Number: 108229
Tank Type: SINGLE WALL
Additional Id: RT0872/AT4979
Capacity Gallons: 6000
UST Contents: DIESEL
Other Content Info: DIESEL RED DYE
Reg Status: REMOVED
Remove Close Date: 2004-08-20 00:00:00
Year Installed: 1979-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE

R C P COMPANY INC (Continued) **S100727577**

Monitor Code: 15
UST Monitor Method: SW TANK DW PRESSURE PIPE W/ SHUTOFF AND ALARM ON LLD AND CERTIFIED ATG: IN-TANK TEST MONTHLY

UST Name: UNDERGROUND TANK 108229 T004
Last Update: 2012-11-02 14:17:38
Permit Number: 108229
Tank Type: SINGLE WALL
Additional Id: RT0872/AT4979
Capacity Gallons: 12000
UST Contents: DIESEL
Other Content Info: DIESEL
Reg Status: REMOVED
Remove Close Date: 2004-08-20 00:00:00
Year Installed: Not reported
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 15
UST Monitor Method: SW TANK DW PRESSURE PIPE W/ SHUTOFF AND ALARM ON LLD AND CERTIFIED ATG: IN-TANK TEST MONTHLY

HIST UST:
Name: R C P COMPANY INC
Address: 9631 N MAGNOLIA AVENUE
City,State,Zip: SANTEE, CA 92071
File Number: 0002f1b3
URL: https://documents.geotracker.waterboards.ca.gov/ustpdfs/pdf/0002f1b3.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CORTESE:
Name: RCP BLOCK&BRICK INC
Address: 9631 N MAGNOLIA AV
City,State,Zip: SANTEE, CA 920712776
Region: CORTESE
Envirostor Id: Not reported

R C P COMPANY INC (Continued) **S100727577**

Global ID:	T0607399232
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	COMPLETED - CASE CLOSED
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Active Open

HWTS:

Name:	KELLER MC96 #366 - SANTEE LOCATION
Address:	9631 N MAGNOLIA AVE
Address 2:	Not reported
City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAP000304683
Inactive Date:	05/14/2020
Create Date:	02/13/2020
Last Act Date:	Not reported
Mailing Name:	Not reported
Mailing Address:	680 CONROE PARK W DR
Mailing Address 2:	Not reported
Mailing City,State,Zip:	CONROE, TX 77303
Owner Name:	KELLER NORTH AMERICA
Owner Address:	10303 CHANNEL RD
Owner Address 2:	Not reported
Owner City,State,Zip:	LAKESIDE, CA 92040
Owner Phone:	Not reported
Owner Fax:	Not reported
Contact Name:	AUSTIN OJEDA
Contact Address:	9631 N MAGNOLIA AVE
Contact Address 2:	Not reported
City,State,Zip:	SANTEE, CA 92071
Contact Phone:	Not reported
Contact Fax:	Not reported
Facility Status:	Inactive
Facility Type:	TEMPORARY
Category:	FEDERAL
Latitude:	32.8525146
Longitude:	-116.9708099

NPDES:

Name:	R C P BLOCK BRICK INC
Address:	9631 N MAGNOLIA AVE
City,State,Zip:	SANTEE, CA 92071
Facility Status:	Not reported

R C P COMPANY INC (Continued) **S100727577**

NPDES Number:	Not reported
Region:	Not reported
Agency Number:	Not reported
Regulatory Measure ID:	Not reported
Place ID:	Not reported
Order Number:	Not reported
WDID:	9 37I002459
Regulatory Measure Type:	Industrial
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Discharge Address:	Not reported
Discharge Name:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Status:	Terminated
Status Date:	02/05/2018
Operator Name:	RCP Block Brick Inc
Operator Address:	8240 Broadway
Operator City:	Lemon Grove
Operator State:	California
Operator Zip:	91945

NPDES as of 03/2018:

NPDES Number:	Not reported
Status:	Not reported
Agency Number:	Not reported
Region:	9
Regulatory Measure ID:	218220
Order Number:	Not reported
Regulatory Measure Type:	Industrial
Place ID:	Not reported
WDID:	9 37I002459
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Received Date:	05/09/2008
Processed Date:	04/01/1992
Status:	Active
Status Date:	11/06/2015
Place Size:	15
Place Size Unit:	Acres
Contact:	Michael Finch
Contact Title:	Not reported
Contact Phone:	619-460-7250
Contact Phone Ext:	Not reported
Contact Email:	Not reported
Operator Name:	RCP Block Brick Inc

R C P COMPANY INC (Continued) **S100727577**

Operator Address:	8240 Broadway
Operator City:	Lemon Grove
Operator State:	California
Operator Zip:	91945
Operator Contact:	Michael Finch
Operator Contact Title:	Not reported
Operator Contact Phone:	619-460-7250
Operator Contact Phone Ext:	Not reported
Operator Contact Email:	kolsen@rcpblock.com
Operator Type:	Private Business
Developer:	Not reported
Developer Address:	Not reported
Developer City:	Not reported
Developer State:	California
Developer Zip:	Not reported
Developer Contact:	Not reported
Developer Contact Title:	Not reported
Constype Linear Utility Ind:	Not reported
Emergency Phone:	619-460-7250
Emergency Phone Ext:	Not reported
Constype Above Ground Ind:	Not reported
Constype Below Ground Ind:	Not reported
Constype Cable Line Ind:	Not reported
Constype Comm Line Ind:	Not reported
Constype Commertial Ind:	Not reported
Constype Electrical Line Ind:	Not reported
Constype Gas Line Ind:	Not reported
Constype Industrial Ind:	Not reported
Constype Other Description:	Not reported
Constype Other Ind:	Not reported
Constype Recons Ind:	Not reported
Constype Residential Ind:	Not reported
Constype Transport Ind:	Not reported
Constype Utility Description:	Not reported
Constype Utility Ind:	Not reported
Constype Water Sewer Ind:	Not reported
Dir Discharge Uswater Ind:	N
Receiving Water Name:	San Diego River
Certifier:	Anthony Rivera
Certifier Title:	Safety Director
Certification Date:	06-NOV-15
Primary Sic:	3271-Concrete Block and Brick
Secondary Sic:	Not reported
Tertiary Sic:	Not reported
NPDES Number:	CAS000001
Status:	Terminated
Agency Number:	0
Region:	9
Regulatory Measure ID:	218220
Order Number:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place ID:	Not reported
WDID:	9 37I002459
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	04/01/1992

R C P COMPANY INC (Continued) **S100727577**

Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	01/31/2018
Discharge Name:	RCP Block Brick Inc
Discharge Address:	8240 Broadway
Discharge City:	Lemon Grove
Discharge State:	California
Discharge Zip:	91945
Received Date:	Not reported
Processed Date:	Not reported
Status:	Not reported
Status Date:	Not reported
Place Size:	Not reported
Place Size Unit:	Not reported
Contact:	Not reported
Contact Title:	Not reported
Contact Phone:	Not reported
Contact Phone Ext:	Not reported
Contact Email:	Not reported
Operator Name:	Not reported
Operator Address:	Not reported
Operator City:	Not reported
Operator State:	Not reported
Operator Zip:	Not reported
Operator Contact:	Not reported
Operator Contact Title:	Not reported
Operator Contact Phone:	Not reported
Operator Contact Phone Ext:	Not reported
Operator Contact Email:	Not reported
Operator Type:	Not reported
Developer:	Not reported
Developer Address:	Not reported
Developer City:	Not reported
Developer State:	Not reported
Developer Zip:	Not reported
Developer Contact:	Not reported
Developer Contact Title:	Not reported
Constype Linear Utility Ind:	Not reported
Emergency Phone:	Not reported
Emergency Phone Ext:	Not reported
Constype Above Ground Ind:	Not reported
Constype Below Ground Ind:	Not reported
Constype Cable Line Ind:	Not reported
Constype Comm Line Ind:	Not reported
Constype Commertial Ind:	Not reported
Constype Electrical Line Ind:	Not reported
Constype Gas Line Ind:	Not reported
Constype Industrial Ind:	Not reported
Constype Other Description:	Not reported
Constype Other Ind:	Not reported
Constype Recons Ind:	Not reported
Constype Residential Ind:	Not reported
Constype Transport Ind:	Not reported
Constype Utility Description:	Not reported
Constype Utility Ind:	Not reported
Constype Water Sewer Ind:	Not reported
Dir Discharge Uswater Ind:	Not reported
Receiving Water Name:	Not reported

R C P COMPANY INC (Continued) **S100727577**

Certifier: Not reported
Certifier Title: Not reported
Certification Date: Not reported
Primary Sic: Not reported
Secondary Sic: Not reported
Tertiary Sic: Not reported

SAN DIEGO CO LOP:
Name: RCP BLOCK&BRICK INC
Address: 9631 N MAGNOLIA AVE
City,State,Zip: SANTEE, CA 92071
Record ID: DEH1998-LSAM-H08229-001
Record Status: Completed
Opened Date: 02/18/1998
Parcel Number: 381-160-79-00
Case Type: LOP - Local Oversight Program
Historical Name: RCP BLOCK AND BRICK
SWRCB Global ID: T0607399232
Funding: S - LOP State Fund
Lead Agency: DEH/SAM
Lead Agency Date: 02/04/2000
Census Tract: 166.07
Community: Santee
Jurisdiction: SANTEE
Watershed Basin Number: 907.12
Water Purveyor: PADRE DAM MUNICIPAL WATER DISTRICT
Fire Agency: PADRE DAM MUNICIPAL WATER DISTRICT
Latitude: 32.8493984
Longitude: -116.9670061
X MapCoord: 6341460.709
Y MapCoord: 1889588.072

CIWQS:
Name: R C P BLOCK BRICK INC
Address: 9631 N MAGNOLIA AVE
City,State,Zip: SANTEE, CA 92071
Agency: RCP Block Brick Inc
Agency Address: 8240 Broadway, Lemon Grove, CA 91945
Place/Project Type: Industrial - Concrete Block and Brick
SIC/NAICS: 3271
Region: 9
Program: INDSTW
Regulatory Measure Status: Terminated
Regulatory Measure Type: Storm water industrial
Order Number: 2014-0057-DWQ
WDID: 9 37I002459
NPDES Number: CAS000001
Adoption Date: Not reported
Effective Date: 04/01/1992
Termination Date: 01/31/2018
Expiration/Review Date: Not reported
Design Flow: Not reported
Major/Minor: Not reported
Complexity: Not reported
TTWQ: Not reported

R C P COMPANY INC (Continued) **S100727577**

Enforcement Actions within 5 years: 0
Violations within 5 years: 0
Latitude: 32.8524
Longitude: -116.97088

CERS:
Name: RCP BLOCK&BRICK INC
Address: 9631 N MAGNOLIA AV
City,State,Zip: SANTEE, CA 920712776
Site ID: 679310
CERS ID: T0607399232
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: JAMES CLAY - SAN DIEGO COUNTY LOP
Entity Title: Not reported
Affiliation Address: P.O. Box 129261
Affiliation City: San Diego
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

E18 **MOBIL SERVICE STATION (08-314)** **LUST S104406480**
NE **9750 MAGNOLIA AVE** **SWEEPS UST N/A**
1/4-1/2 **SANTEE, CA 92071**
0.317 mi.
1675 ft. **Site 1 of 2 in cluster E**

Relative: Higher
Actual: 353 ft.

LUST REG 9:
Region: 9
Status: Preliminary site assessment underway
Case Number: 9UT3512
Local Case: H20825-002
Substance: Unleaded Gasoline
Qty Leaked: 0
Abate Method: Not reported
Local Agency: San Diego
How Found: Other Means
How Stopped: Repair Piping
Source: Piping
Cause: Unknown
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 05/29/1997
Date Stopped: 04/23/1997
Confirm Date: / /
Submit Workplan: Not reported
Prelim Assess: 07/07/1997
Desc Pollution: Not reported
Remed Plan: / /
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 05/29/1997
Enforce Date: 7/7/97
Closed Date: Not reported

MOBIL SERVICE STATION (08-314) (Continued) **S104406480**

Enforce Type: SEL
Pilot Program: LOP
Basin Number: 907.12
GW Depth: Not reported
Beneficial Use: Municipal groundwater use
NPDES Number: Not reported
Priority: Low priority. Priority ranking can change over time.
File Dispn: Administratively opened on database, however no file physically exists
Interim Remedial Actions: Not reported
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

SWEEPS UST:
Name: MOBIL SERVICE STATION (08-314)
Address: 9750 MAGNOLIA AVE
City: SANTEE
Status: Active
Comp Number: 20825
Number: 9
Board Of Equalization: 44-000400
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-020825-000001
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 4

Name: MOBIL SERVICE STATION (08-314)
Address: 9750 MAGNOLIA AVE
City: SANTEE
Status: Active
Comp Number: 20825
Number: 9
Board Of Equalization: 44-000400
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-020825-000002
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

Name: MOBIL SERVICE STATION (08-314)
Address: 9750 MAGNOLIA AVE
City: SANTEE
Status: Active

MOBIL SERVICE STATION (08-314) (Continued) **S104406480**

Comp Number:	20825
Number:	9
Board Of Equalization:	44-000400
Referral Date:	Not reported
Action Date:	06-26-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	37-000-020825-000003
Tank Status:	A
Capacity:	6000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	OTHER
Number Of Tanks:	Not reported

Name:	MOBIL SERVICE STATION (08-314)
Address:	9750 MAGNOLIA AVE
City:	SANTEE
Status:	Active
Comp Number:	20825
Number:	9
Board Of Equalization:	44-000400
Referral Date:	Not reported
Action Date:	06-26-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	37-000-020825-000004
Tank Status:	A
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

E19
NE
1/4-1/2
0.317 mi.
1675 ft.

Relative:
Higher

Actual:
353 ft.

CIRCLE K STORE #2709450
9750 MAGNOLIA AVE
SANTEE, CA 92071

Site 2 of 2 in cluster E

LUST **1006823933**
SAN DIEGO CO. SAM **N/A**
CPS-SLIC
San Diego Co. HMMD
CERS HAZ WASTE
CERS TANKS
FINDS
ECHO
Cortese
EMI
SAN DIEGO CO LOP
CERS

LUST:

Name:	MOBIL 18-314
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712733
Lead Agency:	SAN DIEGO COUNTY LOP
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607302280
Global Id:	T0607302280
Latitude:	32.854824007

CIRCLE K STORE #2709450 (Continued) **1006823933**

Longitude:	-116.971571843
Status:	Completed - Case Closed
Status Date:	11/05/2018
Case Worker:	EM
RB Case Number:	9UT3512
Local Agency:	SAN DIEGO COUNTY LOP
File Location:	Local Agency
Local Case Number:	H20825-002
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
EPA Region:	9
Coordinate Source:	Manual Entry on Screens
Cuf Case:	YES
Quantity Released Gallons:	Not reported
Begin Date:	04/23/1997
Leak Reported Date:	05/29/1997
How Discovered:	UST System Modification
How Discovered Description:	Soil sampling associated with piping repair
Discharge Source:	Piping
Discharge Cause:	Other
Stop Method:	Repair Product Piping
Stop Description:	REPAIR PRODUCT PIPING
No Further Action Date:	11/05/2018
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	31-35%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	This site is currently an active gas station. Release H20825-001 was opened in December 1993 due to a failed precision test and was closed in April 1994. This release (H20825-002) was opened in April 1997 due to an elevated soil sample noted during a piping repair. From 1993 to 2001, 18 groundwater monitoring wells (MWs), two Extraction Wells (EW s) and three Soil Vapor Extraction wells (SVE s) were installed, at which time the groundwater plume was delineated. Figures 4 and 5 of the January 30, 2018 Groundwater Monitoring Report Fourth Quarter 2017, show the most recent distribution of benzene and MtBE in groundwater. Liquid Phase Hydrocarbon (LPH) removal began in 1993 and continued to January 2009 by hand bailing and passive skimmers. Approximately 234 gallons of LPH was removed. On May 30, 2002, four Underground Storage Tanks (USTs), piping and dispensers were removed and replaced. In addition, the following remediation events have occurred on site: On November 2004, a six day Dual Phase Extraction (DPE) pilot test was performed and concluded that DPE was feasible for this site. On August 2011, a Multi-Phase Extraction (MPE) event was conducted whereby approximately 10,100 gallons of groundwater was extracted and 55 pounds of vapor phase hydrocarbons were treated. The radius of influence (ROI) was determined to be approximately 37 feet. On August 2012, a Soil Vapor Extraction / Air Sparge (SVEAS) event was performed. The effective air sparge zone of influence was determined to 20 feet. Between November 2012 and April 2013, six DPE high intensity target (HIT) events were performed. A total of approximately 381 pounds of hydrocarbons were treated during these events On April 2004, a soil vapor survey was conducted and estimated

CIRCLE K STORE #2709450 (Continued) **1006823933**

less than a one in a million excess cancer risk to the occupants of the onsite building from benzene. In January 2014, a Corrective Action Plan (CAP) and in August 2014, a Corrective Action Plan Addendum (CAPA) were submitted and approved for absorbent socks to remove LPH in EW-2 and natural attenuation for the dissolved plume. Based on the results of several monitoring events and removal of LPH from EW-2, a Request for Case Closure and Addendum 2 to the CAP (CAPA2) was submitted on June 18, 2018 for natural attenuation. The CAPA2 was approved. The 60-day public comment period ended on September 29, 2017 with one comment received from the Padre Dam Municipal Water District, which had concerns with possible impact to the utilities from the remaining hydrocarbon plume. DEH adequately addressed the District s comment with an August 28, 2018 letter. The consultant proposed natural attenuation because: No LPH has been detected on the groundwater since August 2016. The plume is shrinking. Although the utilities are within the groundwater table, per the September 11, 2018 Summary Letter, groundwater sampling from street MW s have not shown high dissolved levels. For example, the highest levels noted were from MW-15 which only exceeded the benzene MCL twice in 2006 and was never higher than 10 ug/l. These benign concentrations are not expected to impact utilities or nearby receptors. Based on a mass balance analysis, it is estimated that benzene in groundwater will degrade to the Maximum Contaminant Level (MCL) of 1 ug/l by 2026. Based on a degradation analysis, it is estimated that MtBE will degrade to the primary MCL of 13 ug/l by 2046. There is one supply well within + mile of the site. It is an irrigation well for the San Diego Country Club located 310 feet east of the site. It is used infrequently due to high sodium levels and is screened from 90 120 feet below ground surface, per the consultant. The plume will not reach this well since the remaining dissolved benzene is confined to the site and will degrade in a reasonable time based on the estimate performed by the consultant. The consultant states that approximately 1,899 cubic yards of soil remain on site with over 100 mg/kg TPH. This soil is located at various portions of the site at a depths from 3 18 bgs. Figure 8 of the September 11, 2018 Summary Letter show the distribution of impacts in the soil. DEH concurs with the consultant s conclusions and approves case closure. ANY CONTAMINATED SOIL EXCAVATED AS PART OF SUBSURFACE CONSTRUCTION WORK MUST BE MANAGED IN ACCORDANCE WITH THE LEGAL REQUIREMENTS AT THAT TIME. Permit #DEH2018-LMWP-003701 was issued by DEH for destruction of the 20 wells associated with the site. This includes all MW s and EW s.

LUST:

Global Id:	T0607302280
Contact Type:	Local Agency Caseworker - Primary Caseworker
Contact Name:	EWAN MOFFAT
Organization Name:	SAN DIEGO COUNTY LOP
Address:	P.O. Box 129261
City:	San Diego
Email:	ewan.moffat@sdcounty.ca.gov
Phone Number:	Not reported

LUST:

Global Id:	T0607302280
Action Type:	ENFORCEMENT
Date:	07/09/2009

CIRCLE K STORE #2709450 (Continued) **1006823933**

Action: Letter - Notice

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 08/03/2009
Action: File review

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 11/05/2018
Action: Closure/No Further Action Letter

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 08/28/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: Other
Date: 05/29/1997
Action: Leak Reported

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/30/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: RESPONSE
Date: 01/30/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: RESPONSE
Date: 04/29/2016
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 12/28/2016
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 01/30/2017
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 09/12/2018
Action: Site Assessment Report

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/31/2017
Action: Monitoring Report - Quarterly

CIRCLE K STORE #2709450 (Continued) **1006823933**

Global Id: T0607302280
Action Type: RESPONSE
Date: 05/28/2017
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/25/2017
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/28/2018
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 06/16/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 08/29/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: Other
Date: 05/29/1997
Action: Leak Began

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2013
Action: Remedial Progress Report

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2013
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/25/2014
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/05/2014
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 06/10/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT

CIRCLE K STORE #2709450 (Continued) **1006823933**

Date: 01/11/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 01/15/2015
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 05/02/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 08/22/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 09/24/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2009
Action: Correspondence

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 03/16/2009
Action: Site Assessment Report

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 01/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0607302280
Action Type: RESPONSE
Date: 04/30/2010
Action: Monitoring Report - Other

CIRCLE K STORE #2709450 (Continued) **1006823933**

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/15/2009
Action: Well Installation Workplan

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 07/07/1997
Action: Notice of Responsibility

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 05/12/2011
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 04/17/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 06/12/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 05/01/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 10/19/2012
Action: Technical Correspondence / Assistance / Other - #

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 04/26/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 02/28/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: Other
Date: 04/23/1997
Action: Leak Stopped

Global Id: T0607302280
Action Type: RESPONSE

CIRCLE K STORE #2709450 (Continued) **1006823933**

Date: 10/19/2011
Action: Other Report / Document

Global Id: T0607302280
Action Type: RESPONSE
Date: 06/16/2010
Action: Soil and Water Investigation Workplan - Addendum - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/29/2010
Action: Site Assessment Report - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/22/2011
Action: Pilot Study/ Treatability Report - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/26/2011
Action: Pilot Study/ Treatability Report - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 05/01/2012
Action: Pilot Study / Treatability Workplan - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 06/26/2012
Action: Other Workplan - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2012
Action: Monitoring Report - Semi-Annually - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/09/2013
Action: Monitoring Report - Semi-Annually - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/28/2014
Action: CAP/RAP - Feasibility Study Report - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 10/09/2014
Action: CAP/RAP - Other Report - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 09/15/2015
Action: Monitoring Report - Quarterly - Regulator Responded

CIRCLE K STORE #2709450 (Continued) **1006823933**

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/15/2016
Action: Monitoring Report - Quarterly - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 11/04/2015
Action: Monitoring Report - Quarterly - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 06/28/2018
Action: CAP/RAP - Other Report - Regulator Responded

Global Id: T0607302280
Action Type: RESPONSE
Date: 02/07/2018
Action: Preliminary Site Assessment Workplan - Regulator Responded

Global Id: T0607302280
Action Type: REMEDIATION
Date: 06/06/2002
Action: Excavation

Global Id: T0607302280
Action Type: REMEDIATION
Date: 05/01/2002
Action: Excavation

Global Id: T0607302280
Action Type: REMEDIATION
Date: 11/02/2004
Action: In Situ Physical/Chemical Treatment (other than SVE)

Global Id: T0607302280
Action Type: REMEDIATION
Date: 08/15/2011
Action: Dual Phase Extraction

Global Id: T0607302280
Action Type: REMEDIATION
Date: 11/15/2012
Action: Dual Phase Extraction

Global Id: T0607302280
Action Type: REMEDIATION
Date: 01/01/1993
Action: Free Product Removal

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 11/02/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT

CIRCLE K STORE #2709450 (Continued) **1006823933**

Date: 01/03/2012
Action: Notice of Responsibility

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 01/11/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: ENFORCEMENT
Date: 10/16/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302280
Action Type: Other
Date: 05/29/1997
Action: Leak Discovery

Global Id: T0607302280
Action Type: RESPONSE
Date: 04/30/2011
Action: Other Report / Document

Global Id: T0607302280
Action Type: RESPONSE
Date: 07/30/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0607302280
Action Type: RESPONSE
Date: 08/02/2016
Action: Monitoring Report - Quarterly

LUST:
Global Id: T0607302280
Status: Open - Case Begin Date
Status Date: 04/23/1997

Global Id: T0607302280
Status: Open - Remediation
Status Date: 09/09/1999

Global Id: T0607302280
Status: Open - Site Assessment
Status Date: 04/21/2010

Global Id: T0607302280
Status: Completed - Case Closed
Status Date: 11/05/2018

SAN DIEGO CO. SAM:
Name: MOBIL SERVICE STATION (18-314)
Address: 9750 MAGNOLIA AV
City,State,Zip: SANTEE, CA 920712733
Case Number: H20825-002

CIRCLE K STORE #2709450 (Continued) **1006823933**

Agency:	DEH Site Assessment & Mitigation
Funding:	**LOP - State Fund**
Facility Type:	Drinking Water Aquifer Impacted
Facility Status:	Remedial Investigation
Date:	6/2/2005
Date Began:	5/29/1997

Name:	MOBIL SERVICE STATION (18-314)
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712733
Case Number:	H20825-001
Agency:	DEH Site Assessment & Mitigation
Funding:	**Non Billable**
Facility Type:	Failed Integrity Test
Facility Status:	Closed Case
Date:	4/27/1994
Date Began:	12/1/1993

CPS-SLIC:

Name:	MOBIL SERVICE STATION (18-314)
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712733
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	04/27/1994
Global Id:	T0608112573
Lead Agency:	SAN DIEGO COUNTY LOP
Lead Agency Case Number:	H20825-001
Latitude:	32.854214
Longitude:	-116.971046
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	Not reported
File Location:	Local Agency
Potential Media Affected:	Under Investigation
Potential Contaminants of Concern:	Gasoline
EPA Region:	9
Coordinate Source:	Google Geocode
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	12/01/1993
Leak Reported Date:	12/17/1993
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	04/27/1994
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	31-35%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported

CIRCLE K STORE #2709450 (Continued) **1006823933**

RWQCB Region: SAN DIEGO RWQCB (REGION 9)
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

HMMD SAN DIEGO:

Name:	CIRCLE K STORES INC. SITE # 2709450
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	215713
Business Type:	6HK28
EPA Id Number:	Not reported
APN:	381-032-23-00
Last HMMD Inspection:	02/27/2012
Facility Telephone:	951-270-5108
Permit Status:	OPEN
Permit Expiration:	10/31/2013
Date Last Updated:	11/02/2012
Facility Owner:	CIRCLE K STORES INC.
Facility Mailing Address:	255 E RINCON #100
Facility Mailing City:	CORONA
Facility Mailing State:	CA
Facility Mailing Zip:	92879
UST Owner:	CIRCLE K STORES INC
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL - T007
Other Information:	UNDERGROUND TANK 120825 T007 DIESEL
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	PREMIUM UNLEADED - T006
Other Information:	UNDERGROUND TANK 120825 T006
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	REGULAR UNLEADED - T005
Other Information:	UNDERGROUND TANK 120825 T005 UNLEADED
Material Waste:	Material
Hazardous Categories 1:	FIRE

CIRCLE K STORE #2709450 (Continued) **1006823933**

Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information: WATER & FUEL
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information: GASOLINE FILTERS & ABSORBENT
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

UST:
UST Name: UNDERGROUND TANK 120825 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 12000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name: UNDERGROUND TANK 120825 T002
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 10000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name: UNDERGROUND TANK 120825 T003
Last Update: 2012-11-02 14:17:38

CIRCLE K STORE #2709450 (Continued) **1006823933**

Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	6000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T004
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	10000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T005
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	20000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T006
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	12000
UST Contents:	PREMIUM UNLEADED
Other Content Info:	PREMIUM

CIRCLE K STORE #2709450 (Continued) **1006823933**

Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T007
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	8000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

Name:	CIRCLE K STORES INC. SITE # 2709450
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	215713
Business Type:	6HK28
EPA Id Number:	Not reported
APN:	381-032-23-00
Last HMMD Inspection:	02/27/2012
Facility Telephone:	951-270-5108
Permit Status:	OPEN
Permit Expiration:	10/31/2013
Date Last Updated:	11/02/2012
Facility Owner:	CIRCLE K STORES INC.
Facility Mailing Address:	255 E RINCON #100
Facility Mailing City:	CORONA
Facility Mailing State:	CA
Facility Mailing Zip:	92879
UST Owner:	CIRCLE K STORES INC
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Y
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL - T007
Other Information:	UNDERGROUND TANK 120825 T007 DIESEL

CIRCLE K STORE #2709450 (Continued) **1006823933**

Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: 8006-61-9
Name: PREMIUM UNLEADED - T006
Other Information: UNDERGROUND TANK 120825 T006
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: 8006-61-9
Name: REGULAR UNLEADED - T005
Other Information: UNDERGROUND TANK 120825 T005 UNLEADED
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information: WATER & FUEL
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information: GASOLINE FILTERS & ABSORBENT
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

UST:
UST Name: UNDERGROUND TANK 120825 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 12000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

CIRCLE K STORE #2709450 (Continued) **1006823933**

UST Name:	UNDERGROUND TANK 120825 T002
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	10000
UST Contents:	PREMIUM UNLEADED
Other Content Info:	PREMIUM UNLEADED
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	6000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T004
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	10000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T005
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	20000

CIRCLE K STORE #2709450 (Continued) **1006823933**

UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T006
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	12000
UST Contents:	PREMIUM UNLEADED
Other Content Info:	PREMIUM
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T007
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	8000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

Name:	CIRCLE K STORES INC. SITE # 2709450
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	215713
Business Type:	6HK28
EPA Id Number:	Not reported
APN:	381-032-23-00
Last HMMD Inspection:	02/27/2012
Facility Telephone:	951-270-5108
Permit Status:	OPEN
Permit Expiration:	10/31/2013

CIRCLE K STORE #2709450 (Continued) **1006823933**

Date Last Updated:	11/02/2012
Facility Owner:	CIRCLE K STORES INC.
Facility Mailing Address:	255 E RINCON #100
Facility Mailing City:	CORONA
Facility Mailing State:	CA
Facility Mailing Zip:	92879
UST Owner:	CIRCLE K STORES INC
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Y
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL - T007
Other Information:	UNDERGROUND TANK 120825 T007 DIESEL
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	PREMIUM UNLEADED - T006
Other Information:	UNDERGROUND TANK 120825 T006
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	REGULAR UNLEADED - T005
Other Information:	UNDERGROUND TANK 120825 T005 UNLEADED
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information:	WATER & FUEL
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information:	GASOLINE FILTERS & ABSORBENT
Material Waste:	Waste
Hazardous Categories 1:	Not reported

CIRCLE K STORE #2709450 (Continued) **1006823933**

Hazardous Categories 2: Not reported

UST:

UST Name: UNDERGROUND TANK 120825 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 12000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name: UNDERGROUND TANK 120825 T002
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 10000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name: UNDERGROUND TANK 120825 T003
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 6000
UST Contents: DIESEL
Other Content Info: DIESEL
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name: UNDERGROUND TANK 120825 T004
Last Update: 2012-11-02 14:17:38
Permit Number: 215713

CIRCLE K STORE #2709450 (Continued) **1006823933**

Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	10000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T005
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	20000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T006
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	12000
UST Contents:	PREMIUM UNLEADED
Other Content Info:	PREMIUM
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T007
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	8000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE

CIRCLE K STORE #2709450 (Continued) **1006823933**

Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

Name:	CIRCLE K STORES INC. SITE # 2709450
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	215713
Business Type:	6HK28
EPA Id Number:	Not reported
APN:	381-032-23-00
Last HMMD Inspection:	02/27/2012
Facility Telephone:	951-270-5108
Permit Status:	OPEN
Permit Expiration:	10/31/2013
Date Last Updated:	11/02/2012
Facility Owner:	CIRCLE K STORES INC.
Facility Mailing Address:	255 E RINCON #100
Facility Mailing City:	CORONA
Facility Mailing State:	CA
Facility Mailing Zip:	92879
UST Owner:	CIRCLE K STORES INC
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Y
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL - T007
Other Information:	UNDERGROUND TANK 120825 T007 DIESEL
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	PREMIUM UNLEADED - T006
Other Information:	UNDERGROUND TANK 120825 T006
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	215713
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	REGULAR UNLEADED - T005
Other Information:	UNDERGROUND TANK 120825 T005 UNLEADED

CIRCLE K STORE #2709450 (Continued) **1006823933**

Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information: WATER & FUEL
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 215713
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information: GASOLINE FILTERS & ABSORBENT
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

UST:
UST Name: UNDERGROUND TANK 120825 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 12000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name: UNDERGROUND TANK 120825 T002
Last Update: 2012-11-02 14:17:38
Permit Number: 215713
Tank Type: SINGLE WALL
Additional Id: NT2301
Capacity Gallons: 10000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: REMOVED
Remove Close Date: Not reported
Year Installed: 1984-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 13
UST Monitor Method: SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

CIRCLE K STORE #2709450 (Continued) **1006823933**

UST Name:	UNDERGROUND TANK 120825 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	6000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T004
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	SINGLE WALL
Additional Id:	NT2301
Capacity Gallons:	10000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	Not reported
Year Installed:	1984-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	13
UST Monitor Method:	SW TANK W/ CERT ATG SW PRESSURE PIPE W/ SHUTOFF LLD + CERT ATG: IN-TANK TEST MONTHLY, PIPE TEST ANN 0.1 G/HR OR MO 0.2 G/HR

UST Name:	UNDERGROUND TANK 120825 T005
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	20000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T006
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	12000

CIRCLE K STORE #2709450 (Continued) **1006823933**

UST Contents:	PREMIUM UNLEADED
Other Content Info:	PREMIUM
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

UST Name:	UNDERGROUND TANK 120825 T007
Last Update:	2012-11-02 14:17:38
Permit Number:	215713
Tank Type:	DOUBLE WALL
Additional Id:	NT2301, RT3052, RT4015
Capacity Gallons:	8000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	2002-06-26 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	PRESSURE
Monitor Code:	30A
UST Monitor Method:	DW TANK, DW PRESSURIZED PIPE W/ WET TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ POSITIVE SHUT-OFF

Name:	CIRCLE K STORES INC. SITE #2709450
Address:	9750 MAGNOLIA AVE
City,State,Zip:	SANTEE, CA 92071
Permit Number:	Not reported
Business Type:	Not reported
EPA Id Number:	CAL000369510
APN:	Not reported
Last HMMD Inspection:	Not reported
Facility Telephone:	602-722-1301
Permit Status:	Permit Renewed
Permit Expiration:	Not reported
Date Last Updated:	05/10/2023
Facility Owner:	Not reported
Facility Mailing Address:	P.O. Box 52085, Attn: Environmental, Phoenix, AZ 85072
Facility Mailing City:	Not reported
Facility Mailing State:	Not reported
Facility Mailing Zip:	Not reported
UST Owner:	Y
Handle Regulated Hazmat:	Not reported
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	N
Generate Medical Waste:	Not reported

Inspection Violation:

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y

CIRCLE K STORE #2709450 (Continued) **1006823933**

Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5831673
Return To Compliance Date:	2018-02-14T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	26089
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2018-02-14T12:51:56.000
Violation Code:	2030018 (RD) Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at dispenser when a leak is detected. 23 CCR 2636(f)(1)

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5605940
Return To Compliance Date:	2017-02-16T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	26089
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2017-02-16T14:40:23.000
Violation Code:	2030008 Failure to maintain under dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid. HSC 25290.1, 25290.2, 25291

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	4834165
Return To Compliance Date:	2014-02-12T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26089
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2014-02-12T16:26:00.000
Violation Code:	2030043 Failure of the leak detection equipment to be properly programmed or properly operated. 23 CCR 16 2632, 2634, 2636, 2666

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Hazardous Materials Release Response Plans
Inspection Type:	Routine

CIRCLE K STORE #2709450 (Continued) **1006823933**

Inspection Number:	6087858
Return To Compliance Date:	2020-02-03T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2019-02-14T00:00:00.000
Violation Code:	1010005 Site map not submitted in CERS or not sufficient. HSC 25505(a)(2); 25508.1(f); 19 CCR 2652(a)(3)

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	7119664
Return To Compliance Date:	Not reported
Nov:	Not reported
Violation Classification:	Not reported
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2023-02-15T00:00:00.000
Violation Code:	HMD0000 UST TANK (DW/SW) - REQUIREMENT

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	6087858
Return To Compliance Date:	2019-03-28T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26087
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2019-02-14T00:00:00.000
Violation Code:	2060020 (TCR 9a) Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of 5 gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container, tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. 23 CCR 2635(b), 2637.1(a-c), 2665(a-b), 2712(b)(1)(F); HSC 25284.2

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y

CIRCLE K STORE #2709450 (Continued) **1006823933**

Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	4834165
Return To Compliance Date:	2014-02-18T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26087
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2014-02-12T16:26:00.000
Violation Code:	2030036 Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 23 CCR 16 2635(b)(2), 2665.
Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5214628
Return To Compliance Date:	2015-02-18T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26089
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2015-02-16T00:00:00.000
Violation Code:	2060020 Failure to comply with one or more of the following: failure to install a spill bucket, have a functional drain valve or other method for the removal of liquid from the spill bucket/spill container, and/or be resistant to galvanic corrosion.
Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5831673
Return To Compliance Date:	2018-02-14T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	26089
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2018-02-14T12:51:56.000

CIRCLE K STORE #2709450 (Continued) **1006823933**

Violation Code:	2030036 (RP) Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90% full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30m before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95% of capacity; and activate an audible alarm at least 5m before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95% of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 23 CCR 2635(b)(2), 2665
Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	7119664
Return To Compliance Date:	2023-02-15T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26089
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2023-02-15T00:00:00.000
Violation Code:	2030017 (TCR 9d) Failure to meet one or more of the following monitoring requirements in lieu of the requirement to be tightness tested every 12 months: 1) The monitoring system maintains all product piping outside the dispenser to be fail-safe and shut down the pump when a leak is detected. 2) The monitoring system shuts down the pump or stops flow when a leak is detected in the under dispenser containment (UDC). 23 CCR 2636(f)
Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	6087858
Return To Compliance Date:	2019-02-14T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26087
Container/Tank Id:	Not reported
Last Update:	2023-05-10T01:23:17.000
Inspection Date:	2019-02-14T00:00:00.000
Violation Code:	2030036 (TCR 9b) Failure to comply with one or more of the following overfill prevention equipment requirements: 1. Alert the transfer operator when the tank is 90% full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30m before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95% of capacity and activate an audible alarm at least 5m before the tank overfills; or 3. Provide positive shut-off of flow to the

CIRCLE K STORE #2709450 (Continued) **1006823933**

tank when the tank is filled to no more than 95% of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 5. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. 6. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. 7. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. 8. Inspected within 30 days after a repair to the overfill prevention equipment. 9. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. 10. Inspected by a certified UST service technician. 11. Maintain records of overfill prevention equipment inspection for 36 months. 23 CCR 2635(c)(1), 2635(d), 2637.2(a-c), 2665, 2712(b)(1)(G)

UST DTL:

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Facility Type (Ust Facility):	Motor Vehicle Fueling
Tank Owner Name:	Circle K Stores Inc.
Tankid:	26087
Tank Status:	Active
Date Ust Permanently Closed:	Not reported
Tank Use:	1a
Piping System Type:	Pressure
Last Updated:	2023-05-10T01:23:22.000
Tank Capacityin Gallons:	20000
Tank Contents:	Regular Unleaded
Type Of Tank:	Double Wall

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Facility Type (Ust Facility):	Motor Vehicle Fueling
Tank Owner Name:	Circle K Stores Inc.
Tankid:	26089
Tank Status:	Active
Date Ust Permanently Closed:	Not reported
Tank Use:	1a
Piping System Type:	Pressure
Last Updated:	2023-05-10T01:23:22.000
Tank Capacityin Gallons:	8000
Tank Contents:	Diesel
Type Of Tank:	Double Wall

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-215713
Facility Type (Ust Facility):	Motor Vehicle Fueling
Tank Owner Name:	Circle K Stores Inc.

CIRCLE K STORE #2709450 (Continued) **1006823933**

Tankid:	26088
Tank Status:	Active
Date Ust Permanently Closed:	Not reported
Tank Use:	1a
Piping System Type:	Pressure
Last Updated:	2023-05-10T01:23:22.000
Tank Capacityin Gallons:	12000
Tank Contents:	Premium Unleaded
Type Of Tank:	Double Wall

Waste and Materials:

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2017-HCHEM-0126700
Trade Secret:	N
Hazardous Material Type:	Mixture
Last Updated:	2017-01-13T01:22:21.000
Chemical Name:	Hydrotreated Light Distillate
Common Name:	Diesel
Case Number:	68476-34-6

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2017-HCHEM-0126701
Trade Secret:	N
Hazardous Material Type:	Mixture
Last Updated:	2017-01-13T01:22:21.000
Chemical Name:	Petroleum Hydrocarbon
Common Name:	Gasoline (Unleaded Super)
Case Number:	8006-61-9

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2017-HCHEM-0126702
Trade Secret:	N
Hazardous Material Type:	Mixture
Last Updated:	2017-01-13T01:22:21.000
Chemical Name:	Petroleum Hydrocarbon
Common Name:	Gasoline (Unleaded Regular)
Case Number:	8006-61-9

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2017-HWAST-0105679
Trade Secret:	N
Hazardous Material Type:	Not reported
Last Updated:	2017-01-13T01:22:21.000
Chemical Name:	Waste 352 Organic Solids (Other)
Common Name:	Gasoline Filters & Absorbent
Case Number:	Not reported

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed

CIRCLE K STORE #2709450 (Continued) **1006823933**

Active Permit: Y
Child Record Id: DEH2017-HWAST-0105680
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2017-01-13T01:22:21.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HWAST-0281868
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-02-09T01:11:55.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0216040
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-12-04T01:09:08.000
Chemical Name: Waste 352 Organic Solids (Other)
Common Name: Gasoline Filters & Absorbent
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HWAST-0293243
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-11-03T02:18:33.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HCHEM-0369764
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2023-05-10T01:23:22.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HCHEM-0369765

CIRCLE K STORE #2709450 (Continued) **1006823933**

Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2023-05-10T01:23:22.000
Chemical Name: Hydrotreated Light Distillate
Common Name: Diesel
Case Number: 68476-34-6

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0338482
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-05-10T01:23:22.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0338483
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-05-10T01:23:22.000
Chemical Name: Waste 352 Organic Solids (Other)
Common Name: Gasoline Filters & Absorbent
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0245247
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-12-04T01:09:08.000
Chemical Name: Hydrotreated Light Distillate
Common Name: Diesel
Case Number: 68476-34-6

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HCHEM-0326316
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2022-11-03T02:18:32.000
Chemical Name: Hydrotreated Light Distillate
Common Name: Diesel
Case Number: 68476-34-6

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HCHEM-0326317
Trade Secret: N
Hazardous Material Type: Mixture

CIRCLE K STORE #2709450 (Continued) **1006823933**

Last Updated: 2022-11-03T02:18:32.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HWAST-0293242
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-11-03T02:18:33.000
Chemical Name: Waste 352 Organic Solids (Other)
Common Name: Gasoline Filters & Absorbent
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0313928
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2022-02-09T01:11:55.000
Chemical Name: Hydrotreated Light Distillate
Common Name: Diesel
Case Number: 68476-34-6

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0313929
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2022-02-09T01:11:55.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HWAST-0281867
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-02-09T01:11:55.000
Chemical Name: Waste 352 Organic Solids (Other)
Common Name: Gasoline Filters & Absorbent
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HCHEM-0144131
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2019-02-14T02:46:15.000
Chemical Name: Hydrotreated Light Distillate

CIRCLE K STORE #2709450 (Continued) **1006823933**

Common Name: Diesel
Case Number: 68476-34-6

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HCHEM-0144132
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2019-02-14T02:46:15.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline (Unleaded Super)
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HCHEM-0144133
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2019-02-14T02:46:15.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline (Unleaded Regular)
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HWAST-0122920
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2019-02-14T02:46:15.000
Chemical Name: Waste 352 Organic Solids (Other)
Common Name: Gasoline Filters & Absorbent
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HWAST-0122921
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2019-02-14T02:46:15.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0286124
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2021-11-02T02:15:21.000
Chemical Name: Hydrotreated Light Distillate
Common Name: Diesel
Case Number: 68476-34-6

CIRCLE K STORE #2709450 (Continued) **1006823933**

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2019-HCHEM-0217672
Trade Secret:	N
Hazardous Material Type:	Mixture
Last Updated:	2019-10-16T02:34:13.000
Chemical Name:	Hydrotreated Light Distillate
Common Name:	Diesel
Case Number:	68476-34-6

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2019-HCHEM-0217673
Trade Secret:	N
Hazardous Material Type:	Mixture
Last Updated:	2019-10-16T02:34:13.000
Chemical Name:	Petroleum Hydrocarbon
Common Name:	Gasoline (Unleaded Super)
Case Number:	8006-61-9

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2019-HCHEM-0217674
Trade Secret:	N
Hazardous Material Type:	Mixture
Last Updated:	2019-10-16T02:34:13.000
Chemical Name:	Petroleum Hydrocarbon
Common Name:	Gasoline (Unleaded Regular)
Case Number:	8006-61-9

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2019-HWAST-0187777
Trade Secret:	N
Hazardous Material Type:	Not reported
Last Updated:	2019-10-16T02:34:13.000
Chemical Name:	Waste 352 Organic Solids (Other)
Common Name:	Gasoline Filters & Absorbent
Case Number:	Not reported

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2019-HWAST-0187778
Trade Secret:	N
Hazardous Material Type:	Not reported
Last Updated:	2019-10-16T02:34:13.000
Chemical Name:	Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name:	Water & Fuel
Case Number:	Not reported

Record ID:	DEH2011-HUPFP-215713
Permit Status:	Permit Renewed

CIRCLE K STORE #2709450 (Continued) **1006823933**

Active Permit: Y
Child Record Id: DEH2020-HCHEM-0245248
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-12-04T01:09:08.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline (Unleaded Super)
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0245249
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2020-12-04T01:09:08.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline (Unleaded Regular)
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0216041
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-12-04T01:09:08.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HCHEM-0286125
Trade Secret: N
Hazardous Material Type: Mixture
Last Updated: 2021-11-02T02:15:21.000
Chemical Name: Petroleum Hydrocarbon
Common Name: Gasoline
Case Number: 8006-61-9

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HWAST-0254756
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2021-11-02T02:15:21.000
Chemical Name: Waste 352 Organic Solids (Other)
Common Name: Gasoline Filters & Absorbent
Case Number: Not reported

Record ID: DEH2011-HUPFP-215713
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2021-HWAST-0254757

CIRCLE K STORE #2709450 (Continued) **1006823933**

Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2021-11-02T02:15:21.000
Chemical Name: Waste 134 Aqueous Sol'n W/Less 10% Org
Common Name: Water & Fuel
Case Number: Not reported

CERS HAZ WASTE:
Name: CIRCLE K STORES INC. SITE #2709450
Address: 9750 MAGNOLIA AVE
City,State,Zip: SANTEE, CA 92071
Site ID: 105680
CERS ID: 10174315
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: CIRCLE K STORES INC. SITE #2709450
Address: 9750 MAGNOLIA AVE
City,State,Zip: SANTEE, CA 92071
Site ID: 105680
CERS ID: 10174315
CERS Description: Underground Storage Tank

FINDS:
Registry ID: 110013825085

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
THE EMISSION INVENTORY SYSTEM (EIS) MAINTAINS AN INVENTORY OF LARGE STATIONARY SOURCES AND VOLUNTARILY-REPORTED SMALLER SOURCES OF AIR POINT POLLUTANT EMITTERS. IT CONTAINS INFORMATION ABOUT FACILITY SITES AND THEIR PHYSICAL LOCATION, EMISSIONS UNITS, EMISSIONS PROCESSES, RELEASE POINTS, CONTROL APPROACHES, AND REGULATIONS. FACILITY INVENTORY DATA ARE KEPT SEPARATE FROM THE EMISSIONS DATA AND HAVE STABLE IDENTIFIERS TO IMPROVE CONTINUITY FROM YEAR TO YEAR AND TO HELP IDENTIFY DUPLICATE OR MISSING FACILITIES
The California Environmental Protection Agency (CalEPA) has recently implemented a new data warehouse system (nSite). This data warehouse combines and merges facility and site information from five different systems managed within CalEPA. The five systems are: California Environmental Reporting System (CERS),EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), andToxic Release Inventory (TRI).
Registry ID: 110055837938

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The California Environmental Reporting System (CERS) is a statewide web-based user and information exchange system to support over 140,000 regulated businesses and over 130 local agencies in electronically collecting and reporting significant hazardous materials, hazardous waste and compliance and enforcement data as mandated by California law. Under oversight by Cal/EPA, certified local governing agencies (Unified Program Agencies - UPAs) consolidate, coordinate and provide

CIRCLE K STORE #2709450 (Continued) **1006823933**

consistent regulatory activities for six state and federal environmental programs.
The California Environmental Protection Agency (CalEPA) has recently implemented a new data warehouse system (nSite). This data warehouse combines and merges facility and site information from five different systems managed within CalEPA. The five systems are: California Environmental Reporting System (CERS),EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), andToxic Release Inventory (TRI).
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1006823933
Registry ID:	110055837938
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110055837938
Name:	CIRCLE K STORE #2709450
Address:	9750 MAGNOLIA AVE
City,State,Zip:	SANTEE, CA 92071

CORTESE:

Name:	MOBIL 18-314
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712733
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0607302280
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	COMPLETED - CASE CLOSED
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Active Open

EMI:

Name:	MOBIL / SANTEE
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071

CIRCLE K STORE #2709450 (Continued) **1006823933**

Year:	1999
County Code:	37
Air Basin:	SD
Facility ID:	4217
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	MOBIL / SANTEE
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Year:	2000
County Code:	37
Air Basin:	SD
Facility ID:	4217
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	MOBIL / SANTEE
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Year:	2001
County Code:	37
Air Basin:	SD
Facility ID:	4217
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

CIRCLE K STORE #2709450 (Continued) **1006823933**

Name:	MOBIL / SANTEE
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Year:	2002
County Code:	37
Air Basin:	SD
Facility ID:	4217
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	MOBIL SANTEE
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Year:	2003
County Code:	37
Air Basin:	SD
Facility ID:	4217
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	MOBIL SANTEE
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 92071
Year:	2004
County Code:	37
Air Basin:	SD
Facility ID:	4217
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3.2333938
Reactive Organic Gases Tons/Yr:	3.2333938
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0

CIRCLE K STORE #2709450 (Continued) **1006823933**

Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MOBIL SANTEE
Address: 9750 MAGNOLIA AV
City,State,Zip: SANTEE, CA 92071
Year: 2005
County Code: 37
Air Basin: SD
Facility ID: 4217
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 3.2333938
Reactive Organic Gases Tons/Yr: 3.2333938
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

SAN DIEGO CO LOP:
Name: MOBIL SERVICE STATION (18-314)
Address: 9750 MAGNOLIA AVE
City,State,Zip: SANTEE, CA 92071
Record ID: DEH1997-LSAM-H20825-002
Record Status: Completed
Opened Date: 05/29/1997
Parcel Number: 381-032-23-00
Case Type: LOP - Local Oversight Program
Historical Name: EXXONMOBIL 18-314
SWRCB Global ID: T0607302280
Funding: S - LOP State Fund
Lead Agency: DEH/SAM
Lead Agency Date: 07/07/1997
Census Tract: 166.15
Community: Santee
Jurisdiction: SANTEE
Watershed Basin Number: 907.12
Water Purveyor: PADRE DAM MUNICIPAL WATER DISTRICT
Fire Agency: PADRE DAM MUNICIPAL WATER DISTRICT
Latitude: 32.8547961
Longitude: -116.9715113
X MapCoord: 6340091.000
Y MapCoord: 1891571.006

Name: MOBIL SERVICE STATION (18-314)
Address: 9750 MAGNOLIA AVE
City,State,Zip: SANTEE, CA 92071
Record ID: DEH1993-LSAM-H20825-001
Record Status: Completed
Opened Date: 12/17/1993
Parcel Number: 381-032-23-00
Case Type: Not reported
Historical Name: MOBIL OIL CORP.

CIRCLE K STORE #2709450 (Continued) **1006823933**

SWRCB Global ID:	T0608112573
Funding:	N - Non-Billable
Lead Agency:	DEH/SAM
Lead Agency Date:	12/27/1993
Census Tract:	166.15
Community:	Santee
Jurisdiction:	SANTEE
Watershed Basin Number:	907.12
Water Purveyor:	PADRE DAM MUNICIPAL WATER DISTRICT
Fire Agency:	PADRE DAM MUNICIPAL WATER DISTRICT
Latitude:	32.8547961
Longitude:	-116.9715113
X MapCoord:	6340091.000
Y MapCoord:	1891571.006

CERS:

Name:	MOBIL 18-314
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712733
Site ID:	670054
CERS ID:	T0607302280
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	EWAN MOFFAT - SAN DIEGO COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	P.O. Box 129261
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Name:	MOBIL SERVICE STATION (18-314)
Address:	9750 MAGNOLIA AV
City,State,Zip:	SANTEE, CA 920712733
Site ID:	670266
CERS ID:	T0608112573
CERS Description:	Cleanup Program Site

Name:	CIRCLE K STORES INC. SITE #2709450
Address:	9750 MAGNOLIA AVE
City,State,Zip:	SANTEE, CA 92071
Site ID:	105680
CERS ID:	10174315
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	105680
Site Name:	Circle K Stores Inc. Site #2709450
Violation Date:	02-12-2014
Citation:	23 CCR 16 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666
Violation Description:	Failure of the leak detection equipment to be properly programmed or properly operated.
Violation Notes:	Returned to compliance on 02/12/2014. Inspection Sequence

CIRCLE K STORE #2709450 (Continued) **1006823933**

ID:4834165;Tank ID:26089;Violation Description:Failure of the leak detection equipment to be properly programmed or properly operated. 23 CCR 16 2632, 2634, 2636, 2666

Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 105680
Site Name: Circle K Stores Inc. Site #2709450
Violation Date: 02-14-2019
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description: "Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "
Violation Notes: Returned to compliance on 03/28/2019. Inspection Sequence ID:6087858;Tank ID:26087,26088,26089;Violation Description:(TCR 9a) Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of 5 gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container, tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. 23 CCR 2635(b), 2637.1(a-c), 2665(a-b), 2712(b)(1)(F); HSC 25284.2
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 105680
Site Name: Circle K Stores Inc. Site #2709450
Violation Date: 02-16-2017
Citation: HSC 6.7 25290.1(c)(3), 25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3), 25290.2(c)(3)
Violation Description: Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003 and before July 1, 2004, or on or after July 1, 2004.
Violation Notes: Returned to compliance on 02/16/2017.
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 105680
Site Name: Circle K Stores Inc. Site #2709450
Violation Date: 02-14-2019
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)

CIRCLE K STORE #2709450 (Continued) **1006823933**

Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 02/03/2020. Inspection Sequence ID:6087858
Violation Division:	San Diego County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS,
Site ID:	105680
Site Name:	Circle K Stores Inc. Site #2709450
Violation Date:	02-12-2014
Citation:	23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description:	Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes:	Returned to compliance on 02/18/2014. Inspection Sequence ID:4834165;Tank ID:26087,26088,26089;Violation Description:Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 23 CCR 16 2635(b)(2), 2665.
Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,
Site ID:	105680
Site Name:	Circle K Stores Inc. Site #2709450
Violation Date:	02-14-2018
Citation:	23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description:	Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings

CIRCLE K STORE #2709450 (Continued) **1006823933**

	located on the top of the tank are exposed to product due to overfilling.
Violation Notes:	Returned to compliance on 02/14/2018. Inspection Sequence ID:5831673;Tank ID:26089,26088,26087;Violation Description:(RP) Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90% full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30m before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95% of capacity; and activate an audible alarm at least 5m before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95% of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 23 CCR 2635(b)(2), 2665
Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,
Site ID:	105680
Site Name:	Circle K Stores Inc. Site #2709450
Violation Date:	02-16-2015
Citation:	23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description:	Failure to comply with one or more of the following: failure to install a spill bucket, have a functional drain valve or other method for the removal of liquid from the spill bucket/spill container, and/or be resistant to galvanic corrosion.
Violation Notes:	Returned to compliance on 02/18/2015.
Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,
Site ID:	105680
Site Name:	Circle K Stores Inc. Site #2709450
Violation Date:	02-14-2019
Citation:	23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description:	Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days

CIRCLE K STORE #2709450 (Continued) **1006823933**

	after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.
Violation Notes:	Returned to compliance on 02/14/2019. Inspection Sequence ID:6087858;Tank ID:26087,26088,26089;Violation Description:(TCR 9b) Failure to comply with one or more of the following overfill prevention equipment requirements: 1. Alert the transfer operator when the tank is 90% full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30m before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95% of capacity and activate an audible alarm at least 5m before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95% of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 5. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prev
Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,
Site ID:	105680
Site Name:	Circle K Stores Inc. Site #2709450
Violation Date:	02-14-2018
Citation:	23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description:	Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at the dispenser when a leak is detected.
Violation Notes:	Returned to compliance on 02/14/2018. Inspection Sequence ID:5831673;Tank ID:26089;Violation Description:(RD) Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at dispenser when a leak is detected. 23 CCR 2636(f)(1)
Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	01-15-2015
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Garchitorena Bobby Inspection ID:5161022
Eval Division:	San Diego County Department of Env Health
Eval Program:	HW
Eval Source:	CERS,
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	01-15-2015
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Inspector: Garchitorena Bobby Inspection ID:5161022

CIRCLE K STORE #2709450 (Continued) **1006823933**

Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 02-03-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: "No On-site Inspection" Inspector: Fernandez Juan Inspection ID:6604831
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-08-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:6866458
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-08-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:6866458
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Fernandez Juan Inspection ID:5214628
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5238522
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Kiener Michael Inspection ID:5605940
Eval Division: San Diego County Department of Env Health
Eval Program: UST

CIRCLE K STORE #2709450 (Continued) **1006823933**

Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-08-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:6866458
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-12-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:4834165
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-12-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:4834165
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-14-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5831673
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-14-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5831673
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Fernandez Juan Inspection ID:5214628
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection

CIRCLE K STORE #2709450 (Continued) **1006823933**

Eval Date: 02-16-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5238522
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Kiener Michael Inspection ID:5605940
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-14-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:6087858
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-14-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:6087858
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Kiener Michael Inspection ID:5605940
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-20-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Fernandez Juan Inspection ID:6389022
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 03-10-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency

CIRCLE K STORE #2709450 (Continued) **1006823933**

Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5439209
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-15-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5161022
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-12-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:4834165
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-14-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5831673
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-14-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:6087858
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Fernandez Juan Inspection ID:5214628
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5238522
Eval Division: San Diego County Department of Env Health
Eval Program: UST

CIRCLE K STORE #2709450 (Continued) **1006823933**

Eval Source: CERS,

Affiliation:

Affiliation Type Desc: Document Preparer
Entity Name: Robert Velasco
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Environmental Contact
Entity Name: Denise Anderson
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: Not reported
Affiliation Zip: 85072
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: Not reported
Affiliation Zip: 85072
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: Circle K Stores Inc.
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: United States
Affiliation Zip: 85072
Affiliation Phone: (602) 722-1301,

Affiliation Type Desc: Property Owner
Entity Name: Circle K Stores Inc.
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental
Affiliation City: Phoenix
Affiliation State: AZ
Affiliation Country: United States
Affiliation Zip: 85072
Affiliation Phone: (602) 722-1301,

Affiliation Type Desc: UST Property Owner Name
Entity Name: Circle K Stores Inc.
Entity Title: Not reported
Affiliation Address: P.O. Box 52085, Attn: Environmental

CIRCLE K STORE #2709450 (Continued) **1006823933**

Affiliation City:	Phoenix
Affiliation State:	AZ
Affiliation Country:	United States
Affiliation Zip:	85072
Affiliation Phone:	(657) 262-2358,
Affiliation Type Desc:	Identification Signer
Entity Name:	Robert Velasco
Entity Title:	Agent For Circle K
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Parent Corporation
Entity Name:	Circle K Stores Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	CUPA District
Entity Name:	San Diego County Env Health Qlty
Entity Title:	Not reported
Affiliation Address:	PO Box 129261
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92112-9261
Affiliation Phone:	(858) 505-6880,
Affiliation Type Desc:	UST Tank Operator
Entity Name:	Circle K Stores Inc.
Entity Title:	Not reported
Affiliation Address:	P.O. Box 52085, Attn: Environmental
Affiliation City:	Phoenix
Affiliation State:	AZ
Affiliation Country:	United States
Affiliation Zip:	85072
Affiliation Phone:	(657) 262-2358,
Affiliation Type Desc:	UST Tank Owner
Entity Name:	Circle K Stores Inc.
Entity Title:	Not reported
Affiliation Address:	P.O. Box 52085, Attn: Environmental
Affiliation City:	Phoenix
Affiliation State:	AZ
Affiliation Country:	United States
Affiliation Zip:	85072
Affiliation Phone:	(657) 262-2358,
Affiliation Type Desc:	Operator

CIRCLE K STORE #2709450 (Continued) **1006823933**

Entity Name:	Circle K Stores Inc.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(602) 722-1301,
Affiliation Type Desc:	UST Permit Applicant
Entity Name:	Robert Velasco
Entity Title:	Agent For Circle K
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(661) 250-9300,

F20 **CIRCLE K#2955** **SAN DIEGO CO. SAM** **S105694436**
North **10219 MAST BL** **Cortese** **N/A**
1/4-1/2 **SANTEE, CA 92071** **CERS**
0.359 mi.
1897 ft. **Site 1 of 3 in cluster F**

Relative:
Higher

Actual:
366 ft.

SAN DIEGO CO. SAM:

Name:	CIRCLE K#2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 920712735
Case Number:	H20826-001
Agency:	DEH Site Assessment & Mitigation
Funding:	**LOP - State Fund**
Facility Type:	Drinking Water Aquifer Impacted
Facility Status:	Remedial Investigation
Date:	1/30/2002
Date Began:	9/10/1998

CORTESE:

Name:	CIRCLE K#2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 920712735
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0607302618
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	COMPLETED - CASE CLOSED
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported

CIRCLE K#2955 (Continued) **S105694436**

Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

CERS:
Name: CIRCLE K#2955
Address: 10219 MAST BL
City,State,Zip: SANTEE, CA 920712735
Site ID: 645730
CERS ID: T0607302618
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: JAMES CLAY - SAN DIEGO COUNTY LOP
Entity Title: Not reported
Affiliation Address: P.O. Box 129261
Affiliation City: San Diego
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

F21 **KAYO OIL CO** **RCRA-SQG** **1000174104**
North **10219 MAST BLVD** **LUST** **CAD981681406**
1/4-1/2 **SANTEE, CA 92071** **SWEEPS UST**
0.359 mi. **HIST UST**
1897 ft. **Site 2 of 3 in cluster F** **FINDS**
ECHO
Relative: **EMI**
Higher **HIST CORTESE**
HWTS
Actual: **HAZNET**
366 ft. **CERS**

RCRA Listings:
Date Form Received by Agency: 19960901
Handler Name: Circle K Store #2955
Handler Address: 10219 MAST BLVD
Handler City,State,Zip: SANTEE, CA 92071
EPA ID: CAD981681406
Contact Name: Not reported
Contact Address: Not reported
Contact City,State,Zip: Not reported
Contact Telephone: Not reported
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Small Quantity Generator
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported

KAYO OIL CO (Continued) **1000174104**

Active Site Indicator:	Handler Activities
State District Owner:	Ca
State District:	4
Mailing Address:	5811 MANZANITA AVE
Mailing City,State,Zip:	CARMICHAEL, CA 95608
Owner Name:	Not reported
Owner Type:	Not reported
Operator Name:	Not Required
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: CIRCLE K CORP	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported

KAYO OIL CO (Continued) **1000174104**

Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: NOT REQUIRED
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19960901
Handler Name: CIRCLE K STORE #2955
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19861016
Handler Name: CIRCLE K STORE #2955
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 44511
NAICS Description: SUPERMARKETS AND OTHER GROCERY RETAILERS (EXCEPT CONVENIENCE RETAILERS)

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:

KAYO OIL CO (Continued) **1000174104**

Evaluations: No Evaluations Found

LUST:

Name:	CIRCLE K#2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 920712735
Lead Agency:	SAN DIEGO COUNTY LOP
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607302618
Global Id:	T0607302618
Latitude:	32.855007658
Longitude:	-116.975157361
Status:	Completed - Case Closed
Status Date:	05/01/2018
Case Worker:	JC
RB Case Number:	9UT3859
Local Agency:	SAN DIEGO COUNTY LOP
File Location:	Local Agency
Local Case Number:	H20826-001
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
EPA Region:	9
Coordinate Source:	* Historical Geocode - Exact Address Match
Cuf Case:	YES
Quantity Released Gallons:	Not reported
Begin Date:	09/10/1998
Leak Reported Date:	09/10/1998
How Discovered:	UST System Modification
How Discovered Description:	Not reported
Discharge Source:	Tank
Discharge Cause:	Spill
Stop Method:	Close and Remove Tank
Stop Description:	CLOSE AND REMOVE TANK
No Further Action Date:	05/01/2018
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	31-35%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	The Site is currently a Circle K convenience store and active gasoline service station; it is located on the south side of Mast Boulevard, approximately 1,000 feet west of Magnolia Avenue in Santee, California. There are two double]walled fiberglass underground storage tanks (USTs), each with a 12,000 gallon capacity installed in 1998, connected via double]walled fiberglass conveyance piping to two dispenser islands. On November 10, 1998, gasoline]impacted soil was identified during the removal of three single]walled steel 10,000]gallon USTs and associated product piping. Based on observations during the UST removal, Unauthorized Release Case H20826-001 was opened. Approximately 850 cubic yards of soil was excavated during the UST/product line replacement activities. Nine soil samples were collected from within the former UST excavation. On November 11, 1998, following the removal of the former USTs,

KAYO OIL CO (Continued) **1000174104**

excavation continued to enlarge the former UST location to accommodate the new USTs. During the additional excavation activities, petroleum hydrocarbon]impacted groundwater entered the excavation area to a depth of approximately 12 to 13 feet below ground surface (bgs). Approximately 6,600 gallons of petroleum hydrocarbon]impacted groundwater was removed from the open excavation. On November 12, 1998, the UST systems were replaced with two 12,000]gallon double]walled, fiberglass USTs and associated product piping. Two 4]inch diameter, pre]packed groundwater monitoring wells, MW]1 and MW]2, were installed within the UST excavation during backfill operations. In August 2008, DPE testing was performed to evaluate the feasibility of DPE as a soil and groundwater remedial alternative and to collect site specific parameters to facilitate the system design. Approximately 263 pounds of hydrocarbons were removed during the approximate 72 hours of DPE testing. An estimated 1,400 gallons of petroleum]hydrocarbon impacted groundwater was recovered during the DPE testing events from August 27, 2008 through August 30, 2008. On November 30, 2011, six dual]nested vapor monitoring probes (SVP]1 through SVP]6) were installed around the liquor store building located to the east of the Site (on APN 381]032]09-00) as part of health risk assessment activities. Soil vapor sampling was performed on three different days over a two month period following probe installation. Soil vapor was sampled on December 6, 2011, January 10, 2012, January 11, 2012, and February 10, 2012. During the sampling event on January 10, 2012, two additional soil vapor probes were installed; SVP]5 at 7 feet bgs was installed adjacent to the original SVP]5 due to water encountered in SVP]5 at 8 feet bgs and SVP]7 was installed at the Site. On April 23, 2012, six dual]nested vapor monitoring probes (SVP]A through SVP]F) were installed surrounding the Circle K building at the Site as part of additional health risk assessment activities. Soil vapor was sampled on May 24, 2012, June 21, 2012, and July 24, 2012. The results of the health risk are summarized in the document entitled Vapor Intrusion and Health Risk Assessment Report (dated May 4, 2012). The document concluded that there was no need for additional corrective action with respect to exposure to target compounds at the Mr. Liquor Store building located adjacent to the east of the Site. DEH responded to the report indicating that they did not concur with the April 26, 2018 H20826-001 conclusion and requested that an assessment work plan be submitted. On January 18, 2013, DEH issued a letter concurring with the conclusion that there is no significant incremental cancer risk from exposure to the target compounds at the highest concentrations detected. On August 28, 2013, an 8]hour DPE pilot test was performed. A total of 31 pounds of hydrocarbons were removed during the test. Approximately 220 gallons of petroleum hydrocarbon]impacted groundwater was recovered during the DPE testing. From July 30, 2014 through August 1, 2014, five DPE wells were installed to a total depth of approximately 25 feet bgs. In February 2015, a DPE system was installed; it consisted of a soil vapor extraction (SVE) system and a groundwater extraction (GWE) system. Operation of the SVE system began on March 23, 2015 and operation of the GWE system began on April 16, 2015. The DPE system was shut down on February 4, 2016 per the DEH letter. The DPE system operated by extracting groundwater and vapors under vacuum out of extractions wells MW]5, MW]15, DPE]1, DPE]2, DPE]3, DPE]4, and DPE]5. During the operation of the DPE system, the GWE system processed approximately 369,645 gallons of groundwater; the SVE

KAYO OIL CO (Continued) **1000174104**

system operated for approximately 6,493 hours and removed 2,127.14 pounds. An estimate of the total volume of soil with TPH>100 ppm is 433 cubic yards. Benzene in groundwater is projected to reach its MCL by 2020.

LUST:
Global Id: T0607302618
Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: JAMES CLAY
Organization Name: SAN DIEGO COUNTY LOP
Address: P.O. Box 129261
City: San Diego
Email: james.clay@sdcounty.ca.gov
Phone Number: Not reported

LUST:
Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 07/09/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 12/12/2017
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 09/07/2017
Action: Email Correspondence

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 01/18/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: Other
Date: 09/10/1998
Action: Leak Reported

Global Id: T0607302618
Action Type: RESPONSE
Date: 08/02/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0607302618
Action Type: RESPONSE
Date: 01/13/2016
Action: Monitoring Report - Other

Global Id: T0607302618
Action Type: RESPONSE
Date: 07/26/2017
Action: Monitoring Report - Semi-Annually

Global Id: T0607302618

KAYO OIL CO (Continued) **1000174104**

Action Type: RESPONSE
Date: 01/31/2018
Action: Risk Assessment Report

Global Id: T0607302618
Action Type: RESPONSE
Date: 09/26/2017
Action: Other Report / Document

Global Id: T0607302618
Action Type: RESPONSE
Date: 07/27/2016
Action: Monitoring Report - Semi-Annually

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 07/22/2011
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 01/06/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 05/31/2017
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 05/01/2018
Action: Closure/No Further Action Letter

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 12/06/2017
Action: Email Correspondence

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 03/22/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 04/26/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 11/02/2017
Action: Email Correspondence

Global Id: T0607302618
Action Type: Other
Date: 09/10/1998

KAYO OIL CO (Continued) **1000174104**

Action:	Leak Began
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	10/31/2012
Action:	Monitoring Report - Quarterly
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	01/24/2013
Action:	Monitoring Report - Quarterly
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	07/31/2013
Action:	Monitoring Report - Quarterly
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	04/30/2013
Action:	Monitoring Report - Quarterly
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	01/24/2014
Action:	Monitoring Report - Quarterly
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	07/30/2014
Action:	Monitoring Report - Semi-Annually
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	11/12/2014
Action:	Site Assessment Report
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	01/29/2015
Action:	Monitoring Report - Semi-Annually
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	05/13/2016
Action:	Monitoring Report - Other
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	04/14/2016
Action:	Other Report / Document
Global Id:	T0607302618
Action Type:	RESPONSE
Date:	02/11/2016
Action:	Monitoring Report - Other

KAYO OIL CO (Continued) **1000174104**

Global Id: T0607302618
Action Type: RESPONSE
Date: 07/29/2015
Action: Monitoring Report - Semi-Annually

Global Id: T0607302618
Action Type: RESPONSE
Date: 03/15/2016
Action: Monitoring Report - Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 12/05/2008
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 04/05/2011
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 06/20/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 05/31/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 02/02/2018
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: RESPONSE
Date: 07/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0607302618
Action Type: RESPONSE
Date: 05/01/2009
Action: Pilot Study/ Treatability Report

Global Id: T0607302618
Action Type: RESPONSE
Date: 04/07/2009
Action: Site Assessment Report

Global Id: T0607302618
Action Type: RESPONSE
Date: 04/21/2009
Action: Monitoring Report - Quarterly

Global Id: T0607302618
Action Type: RESPONSE

KAYO OIL CO (Continued) **1000174104**

Date: 04/26/2010
Action: Soil and Water Investigation Workplan - Addendum

Global Id: T0607302618
Action Type: RESPONSE
Date: 07/30/2012
Action: Monitoring Report - Quarterly

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 05/18/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 04/13/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 08/02/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 03/01/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: Other
Date: 09/10/1998
Action: Leak Stopped

Global Id: T0607302618
Action Type: RESPONSE
Date: 02/01/2010
Action: Monitoring Report - Quarterly

Global Id: T0607302618
Action Type: RESPONSE
Date: 11/10/2009
Action: Soil and Water Investigation Workplan - Addendum

Global Id: T0607302618
Action Type: RESPONSE
Date: 01/30/2012
Action: Monitoring Report - Quarterly

Global Id: T0607302618
Action Type: RESPONSE
Date: 03/09/2011
Action: Site Assessment Report - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 02/21/2012
Action: Soil and Water Investigation Workplan - Addendum - Regulator Responded

KAYO OIL CO (Continued) **1000174104**

Global Id: T0607302618
Action Type: RESPONSE
Date: 01/04/2012
Action: Soil and Water Investigation Workplan - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 05/07/2012
Action: Risk Assessment Report - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 06/15/2012
Action: Site Assessment Report - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 08/31/2012
Action: Site Assessment Report - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 12/24/2012
Action: Soil Vapor Intrusion Investigation Report - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 01/23/2013
Action: Other Report / Document - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 06/10/2013
Action: Corrective Action Plan / Remedial Action Plan - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 11/13/2013
Action: Interim Remedial Action Plan - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 01/29/2016
Action: Monitoring Report - Semi-Annually - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 12/04/2017
Action: Correspondence - Regulator Responded

Global Id: T0607302618
Action Type: RESPONSE
Date: 08/07/2017
Action: Request for Closure - Regulator Responded

Global Id: T0607302618
Action Type: REMEDIATION

KAYO OIL CO (Continued) **1000174104**

Date: 03/23/2015
Action: Dual Phase Extraction

Global Id: T0607302618
Action Type: REMEDIATION
Date: 08/28/2013
Action: Dual Phase Extraction

Global Id: T0607302618
Action Type: REMEDIATION
Date: 08/27/2008
Action: Dual Phase Extraction

Global Id: T0607302618
Action Type: REMEDIATION
Date: 11/10/1998
Action: Excavation

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 03/11/1999
Action: Notice of Responsibility

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 09/15/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 01/14/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 12/09/2011
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 01/13/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 03/02/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 05/07/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 09/27/2012
Action: Technical Correspondence / Assistance / Other

KAYO OIL CO (Continued) **1000174104**

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 09/14/2016
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: ENFORCEMENT
Date: 03/23/2017
Action: Technical Correspondence / Assistance / Other

Global Id: T0607302618
Action Type: Other
Date: 09/10/1998
Action: Leak Discovery

Global Id: T0607302618
Action Type: RESPONSE
Date: 02/01/2017
Action: Monitoring Report - Semi-Annually

LUST:
Global Id: T0607302618
Status: Open - Case Begin Date
Status Date: 09/10/1998

Global Id: T0607302618
Status: Open - Remediation
Status Date: 05/01/2000

Global Id: T0607302618
Status: Completed - Case Closed
Status Date: 05/01/2018

SWEEPS UST:
Name: CIRCLE K #2955
Address: 10219 MAST BLVD
City: SANTEE
Status: Active
Comp Number: 20826
Number: 9
Board Of Equalization: 44-022104
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-020826-000001
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 3

Name: CIRCLE K #2955

KAYO OIL CO (Continued) **1000174104**

Address: 10219 MAST BLVD
City: SANTEE
Status: Active
Comp Number: 20826
Number: 9
Board Of Equalization: 44-022104
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-020826-000002
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Name: CIRCLE K #2955
Address: 10219 MAST BLVD
City: SANTEE
Status: Active
Comp Number: 20826
Number: 9
Board Of Equalization: 44-022104
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-020826-000003
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

HIST UST:
Name: CIRCLE K 2955
Address: 10219 MAST BOULEVARD
City,State,Zip: SANTEE, CA 92071
File Number: 0002aed2
URL: https://documents.geotracker.waterboards.ca.gov/ustpdfs/pdf/0002aed2.pdf
Region: STATE
Facility ID: 00000013631
Facility Type: Gas Station
Other Type: Not reported
Contact Name: KEN ZIMMERMAN
Telephone: 6194489871
Owner Name: CIRCLE K CORPORATION
Owner Address: 4500 SOUTH 40TH STREET
Owner City,St,Zip: PHOENIX, AZ 85040
Total Tanks: 0003

Tank Num: 001

KAYO OIL CO (Continued) **1000174104**

Container Num: 1
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 2
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: 3
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Click here for Geo Tracker PDF:

FINDS:
Registry ID: 110002749937

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
THE EMISSION INVENTORY SYSTEM (EIS) MAINTAINS AN INVENTORY OF LARGE STATIONARY SOURCES AND VOLUNTARILY-REPORTED SMALLER SOURCES OF AIR POINT POLLUTANT EMITTERS. IT CONTAINS INFORMATION ABOUT FACILITY SITES AND THEIR PHYSICAL LOCATION, EMISSIONS UNITS, EMISSIONS PROCESSES, RELEASE POINTS, CONTROL APPROACHES, AND REGULATIONS. FACILITY INVENTORY DATA ARE KEPT SEPARATE FROM THE EMISSIONS DATA AND HAVE STABLE IDENTIFIERS TO IMPROVE CONTINUITY FROM YEAR TO YEAR AND TO HELP IDENTIFY DUPLICATE OR MISSING FACILITIES
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000174104
Registry ID: 110002749937
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002749937
Name: KAYO OIL CO
Address: 10219 MAST BLVD

KAYO OIL CO (Continued) **1000174104**

City,State,Zip: SANTEE, CA 92071

EMI:

Name:	CIRCLE K CORP #2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 92071
Year:	2000
County Code:	37
Air Basin:	SD
Facility ID:	1158
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	CIRCLE K CORP #2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 92071
Year:	2001
County Code:	37
Air Basin:	SD
Facility ID:	1158
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	CIRCLE K CORP #2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 92071
Year:	2002
County Code:	37
Air Basin:	SD
Facility ID:	1158
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1

KAYO OIL CO (Continued) **1000174104**

Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	CIRCLE K CORP #2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 92071
Year:	2003
County Code:	37
Air Basin:	SD
Facility ID:	1158
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	CIRCLE K CORP #2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 92071
Year:	2004
County Code:	37
Air Basin:	SD
Facility ID:	1158
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.2167554
Reactive Organic Gases Tons/Yr:	1.2167554
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Name:	CIRCLE K CORP #2955
Address:	10219 MAST BL
City,State,Zip:	SANTEE, CA 92071
Year:	2005
County Code:	37
Air Basin:	SD
Facility ID:	1158
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported

KAYO OIL CO (Continued) **1000174104**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.2167554
Reactive Organic Gases Tons/Yr:	1.2167554
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

HIST CORTESE:

edr_fname:	CIRCLE K/TOSCO
edr_fadd1:	10219 MAST
City,State,Zip:	SANTEE, CA 92071
Region:	CORTESE
Facility County Code:	37
Reg By:	LTNKA
Reg Id:	9UT3859

HWTS:

Name:	UNITED #2955
Address:	10219 MAST BLVD
Address 2:	Not reported
City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAL000406938
Inactive Date:	Not reported
Create Date:	05/18/2015
Last Act Date:	Not reported
Mailing Name:	Not reported
Mailing Address:	4130 COVER STREET
Mailing Address 2:	Not reported
Mailing City,State,Zip:	LONG BEACH, CA 908080000
Owner Name:	APRO LLC
Owner Address:	4130 COVER STREET
Owner Address 2:	Not reported
Owner City,State,Zip:	LONG BEACH, CA 908080000
Owner Phone:	Not reported
Owner Fax:	Not reported
Contact Name:	TOM ROBINS
Contact Address:	4130 COVER STREET
Contact Address 2:	Not reported
City,State,Zip:	LONG BEACH, CA 90808
Contact Phone:	Not reported
Contact Fax:	Not reported
Facility Status:	Active
Facility Type:	PERMANENT
Category:	STATE
Latitude:	32.85477
Longitude:	-116.9749845

NAICS:

EPA ID:	CAL000406938
Create Date:	2015-05-18 15:56:29.890
NAICS Code:	44719
NAICS Description:	Other Gasoline Stations
Issued EPA ID Date:	2015-05-18 15:56:29.89000
Inactive Date:	Not reported
Facility Name:	UNITED #2955

KAYO OIL CO (Continued) **1000174104**

Facility Address: 10219 MAST BLVD
Facility Address 2: Not reported
Facility City: SANTEE
Facility County: Not reported
Facility State: CA
Facility Zip: 92071

HAZNET:
Name: UNITED #2955
Address: 10219 MAST BLVD
Address 2: Not reported
City,State,Zip: SANTEE, CA 92071
Contact: TOM ROBINS
Telephone: 3103233992
Mailing Name: Not reported
Mailing Address: 4130 COVER STREET

Year: 2020
Gepaid: CAL000406938
TSD EPA ID: CAD028409019
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.05

Year: 2020
Gepaid: CAL000406938
TSD EPA ID: CAD028409019
CA Waste Code: 241 - Tank bottom waste
Disposal Method: H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Tons: 0.18766

Year: 2018
Gepaid: CAL000406938
TSD EPA ID: CAD028409019
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.02500

Year: 2017
Gepaid: CAL000406938
TSD EPA ID: CAD028409019
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.075

Year: 2017
Gepaid: CAL000406938
TSD EPA ID: CAD028409019
CA Waste Code: 241 - Tank bottom waste
Disposal Method: H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Tons: 0.31275

KAYO OIL CO (Continued) **1000174104**

Additional Info:

Year:	2020
Gen EPA ID:	CAL000406938
Shipment Date:	2/3/2020
Creation Date:	3/5/2020
Receipt Date:	2/5/2020
Manifest ID:	018273786JJK
Trans EPA ID:	CAR000288795
Trans Name:	ABLE DEGASSING INC DBA ABLE ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY & OVERTON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.05
Waste Quantity:	100
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	2/3/2020
Creation Date:	3/5/2020
Receipt Date:	2/5/2020
Manifest ID:	018273784JJK
Trans EPA ID:	CAR000288795
Trans Name:	ABLE DEGASSING INC DBA ABLE ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY & OVERTON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	241 - Tank bottom waste 251 Still bottoms with halogenated organics
RCRA Code:	Not reported
Meth Code:	H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Quantity Tons:	0.18766
Waste Quantity:	45
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2017

KAYO OIL CO (Continued) **1000174104**

Gen EPA ID:	CAL000406938
Shipment Date:	20170725
Creation Date:	5/21/2018 18:33:32
Receipt Date:	20170801
Manifest ID:	017651749JJK
Trans EPA ID:	CAR000172874
Trans Name:	ABLE ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY & OVERTON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	241 - Tank bottom waste 251 Still bottoms with halogenated organics
RCRA Code:	Not reported
Meth Code:	H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Quantity Tons:	0.0834
Waste Quantity:	20
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170114
Creation Date:	3/24/2017 18:32:23
Receipt Date:	20170119
Manifest ID:	016591166JJK
Trans EPA ID:	CAR000172874
Trans Name:	ABLE ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY & OVERTON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	241 - Tank bottom waste 251 Still bottoms with halogenated organics
RCRA Code:	Not reported
Meth Code:	H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Quantity Tons:	0.22935
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170114
Creation Date:	3/27/2017 18:30:29
Receipt Date:	20170119
Manifest ID:	016591165JJK
Trans EPA ID:	CAR000172874

KAYO OIL CO (Continued) **1000174104**

Trans Name:	ABLE ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY & OVERTON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.075
Waste Quantity:	150
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

CERS:

Name:	KAYO OIL CO
Address:	10219 MAST BLVD
City,State,Zip:	SANTEE, CA 92071
Site ID:	475428
CERS ID:	110002749937
CERS Description:	US EPA Air Emission Inventory System (EIS)

F22 **CRLLC #2702955** **LUST** **S103723467**
North **10219 MAST BLVD** **San Diego Co. HMMD** **N/A**
1/4-1/2 **SANTEE, CA 92071** **CERS HAZ WASTE**
0.359 mi. **CERS TANKS**
1897 ft. **Site 3 of 3 in cluster F** **CHMIRS**
CERS

Relative:
Higher

Actual:
366 ft.

LUST REG 9:

Region:	9
Status:	Preliminary site assessment underway
Case Number:	9UT3859
Local Case:	H20826-001
Substance:	Unleaded Gasoline
Qty Leaked:	0
Abate Method:	Not reported
Local Agency:	San Diego
How Found:	Tank Closure
How Stopped:	Close Tank
Source:	Tank
Cause:	Corrosion
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	11/10/1998
Date Stopped:	11/10/1998
Confirm Date:	/ /
Submit Workplan:	Not reported
Prelim Assess:	03/11/1999
Desc Pollution:	Not reported
Remed Plan:	/ /

CRLLC #2702955 (Continued) **S103723467**

Remed Action: Not reported
Began Monitor: Not reported
Release Date: 09/10/1998
Enforce Date: Not reported
Closed Date: Not reported
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 907.12
GW Depth: 11'
Beneficial Use: MUNBU
NPDES Number: Not reported
Priority: Low priority. Priority ranking can change over time.
File Dispn: Administratively opened on database, however no file physically exists
Interim Remedial Actions: Not reported
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

HMMD SAN DIEGO:
Name: CRLLC #2702955
Address: 10219 MAST BLVD
City,State,Zip: SANTEE, CA 92071
Permit Number: 210831
Business Type: 6HK28
EPA Id Number: CAL000338051
APN: 381-032-18-00
Last HMMD Inspection: 04/11/2012
Facility Telephone: 619-448-5236
Permit Status: OPEN
Permit Expiration: 01/31/2013
Date Last Updated: 11/02/2012
Facility Owner: CONVENIENCE RETAILERS LLC
Facility Mailing Address: 7180 KOLL CENTER PY #100
Facility Mailing City: PLEASANTON
Facility Mailing State: CA
Facility Mailing Zip: 94566-3184
UST Owner: CONVENIENCE RETAILERS, LLC
Handle Regulated Hazmat: Y
Own Or Operate UST: Y
Subject To APSA: Not reported
Generate Haz Waste: Y
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

Inventory Active Permits (not SQG Medical):
Permit Number: 210831
Update Date: 11/02/2012
Case Number: 8006-61-9
Name: PREMIUM UNLEADED
Other Information: UNDERGROUND TANK 120826 T005
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 210831
Update Date: 11/02/2012
Case Number: 8006-61-9
Name: REGULAR UNLEADED

CRLLC #2702955 (Continued) **S103723467**

Other Information: UNDERGROUND TANK 120826 T004
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 210831
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information: WATER & FUEL
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 210831
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information: USED GASOLINE FILTERS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:
Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3105
Violation: NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation: Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3107
Violation: MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation: Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3108
Violation: UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation: Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3109
Violation: NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation: Scaled Plot plan showing tank, piping & equipment location not

CRLLC #2702955 (Continued) **S103723467**

	available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV1013
Violation:	HMBP NOT AVAILABLE FOR REVIEW
Violation Citation:	Copy of HMBP not onsite for inspector’s review. 25505(e)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3411
Violation:	LLD NOT INSTALLED/NOT FUNCTIONAL
Violation Citation:	DOUBLE WALLED PRESSURIZED PIPING-Including Under Dispenser Containment (UDC):Line leak detector is not installed, not functional, or not tested. 2636(f)(2), 25284.1(a)(4)(C), 2641(j)
Activity:	ACTIVE

CRLLC #2702955 (Continued) **S103723467**

Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3109
Violation:	NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation:	Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3104
Violation:	FORMS A & B NOT AVAIL./SUBMITTED
Violation Citation:	CUPA UST form(s) A and/or B not available/complete/submitted to HMD. 25286(a); 2711
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3114
Violation:	2NDRY CONT TEST NOT DONE/SENT TO CUPA
Violation Citation:	Secondary containment testing not done at 6/36 months and/or not sent to CUPA within 30 days. 25284.1; 2637(a)&(e)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010

CRLLC #2702955 (Continued) **S103723467**

Violation Code: 6HV0132
Violation: EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation: Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/20/2010
Violation Code: 6HV3110
Violation: NO ANNUAL CERT OF ATG AND SENSORS
Violation Citation: Annual certification for ATG and/or sensors not completed (existing tank systems only). 2641(j), 2638
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3104
Violation: FORMS A & B NOT AVAIL./SUBMITTED
Violation Citation: CUPA UST form(s) A and/or B not available/complete/submitted to HMD. 25286(a); 2711
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3116
Violation: NO YRLY CERT. FOR CONTIN. MONITOR
Violation Citation: Annual certification for continuous monitoring system not completed (new tanks). 25284.1(a)(4)(C); 2630(d), 2638
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3267
Violation: DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3267
Violation: DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3411
Violation: LLD NOT INSTALLED/NOT FUNCTIONAL
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING-Including Under Dispenser Containment

CRLLC #2702955 (Continued) **S103723467**

(UDC):Line leak detector is not installed, not functional, or not tested. 2636(f)(2), 25284.1(a)(4)(C), 2641(j)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3105
Violation: NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation: Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity: ACTIVE

UST:
UST Name: UNDERGROUND TANK 120826 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 1
Capacity Gallons: 10000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: 1998-10-11 00:00:00
Year Installed: Not reported
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 02
UST Monitor Method: SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY

UST Name: UNDERGROUND TANK 120826 T002
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 2
Capacity Gallons: 10000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: 1998-10-11 00:00:00
Year Installed: Not reported
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 02
UST Monitor Method: SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY

UST Name: UNDERGROUND TANK 120826 T003
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 3
Capacity Gallons: 10000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: REMOVED

CRLLC #2702955 (Continued) **S103723467**

Remove Close Date: 1998-10-11 00:00:00
Year Installed: Not reported
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 02
UST Monitor Method: SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY

UST Name: UNDERGROUND TANK 120826 T004
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: DOUBLE WALL
Additional Id: NT2069/RT4241, RT4088, RT4868, RT5174
Capacity Gallons: 12000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: ACTIVE
Remove Close Date: Not reported
Year Installed: 1998-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 31B
UST Monitor Method: DW TANK, DW PRESSURIZED PIPE W/ DRY TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ MECHANICAL FLOAT

UST Name: UNDERGROUND TANK 120826 T005
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: DOUBLE WALL
Additional Id: NT2069/RT4241, RT4088, RT4868, RT5174
Capacity Gallons: 12000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: ACTIVE
Remove Close Date: Not reported
Year Installed: 1998-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 31B
UST Monitor Method: DW TANK, DW PRESSURIZED PIPE W/ DRY TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ MECHANICAL FLOAT

Name: UNITED #2955
Address: 10219 MAST BLVD
City,State,Zip: SANTEE, CA 92071
Permit Number: Not reported
Business Type: Not reported
EPA Id Number: CAL000406938
APN: Not reported
Last HMMD Inspection: Not reported
Facility Telephone: 310-323-3992
Permit Status: Permit Renewed
Permit Expiration: Not reported
Date Last Updated: 05/04/2023
Facility Owner: Not reported
Facility Mailing Address: 4130 Cover Street, Long Beach, CA 90808

CRLLC #2702955 (Continued) **S103723467**

Facility Mailing City: Not reported
Facility Mailing State: Not reported
Facility Mailing Zip: Not reported
UST Owner: Y
Handle Regulated Hazmat: Not reported
Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: Y
Treat Haz Waste: N
Generate Medical Waste: Not reported

Inspection Violation:
Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Facility Id Number: 37-000-210831
Program Element: Underground Storage Tank
Inspection Type: Routine
Inspection Number: 4834674
Return To Compliance Date: Not reported
Nov: Not reported
Violation Classification: Not reported
Underground Storage Tank Id: Not reported
Container/Tank Id: Not reported
Last Update: 2023-05-04T03:59:27.000
Inspection Date: 2014-04-16T17:48:00.000
Violation Code: 2030011 Failure to submit statement of UST compliance and/or Designated Operator current certification. 23 CCR 16 2715(a), 2715(b)

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Facility Id Number: 37-000-210831
Program Element: Hazardous Waste Generator
Inspection Type: Routine
Inspection Number: 5646682
Return To Compliance Date: 2017-05-10T00:00:00.000
Nov: No
Violation Classification: Class II
Underground Storage Tank Id: Not reported
Container/Tank Id: Not reported
Last Update: 2023-05-04T03:59:27.000
Inspection Date: 2017-04-11T00:00:00.000
Violation Code: 3030007 Failed to properly label/date hazardous waste container and/or tank. 22 CCR 66262.34(f)

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Facility Id Number: 37-000-210831
Program Element: Underground Storage Tank
Inspection Type: Routine
Inspection Number: 5864770
Return To Compliance Date: 2018-04-11T00:00:00.000
Nov: No
Violation Classification: Class II
Underground Storage Tank Id: 26093
Container/Tank Id: Not reported

CRLLC #2702955 (Continued) **S103723467**

Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2018-04-11T16:12:54.000
Violation Code:	2030018 (RD) Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at dispenser when a leak is detected. 23 CCR 2636(f)(1)
Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5646682
Return To Compliance Date:	Not reported
Nov:	Not reported
Violation Classification:	Not reported
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2017-04-11T00:00:00.000
Violation Code:	HMD0000 UST PRESSURIZED PIPING (DW) REQUIREMENTS
Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5401371
Return To Compliance Date:	2016-04-12T00:00:00.000
Nov:	No
Violation Classification:	Class I
Underground Storage Tank Id:	26094
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2016-04-12T10:42:01.000
Violation Code:	2030043 (RD) Failure of the leak detection equipment to be properly programmed or properly operated. 23 CCR 2632, 2634, 2636, 2666
Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	4834674
Return To Compliance Date:	2015-04-14T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26093
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2014-04-16T17:48:00.000
Violation Code:	2060009 Failure to obtain permit to install, replace, repair or modify part of the UST system containment or leak detection equipment. 23 CCR 16 2712.

CRLLC #2702955 (Continued) **S103723467**

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	4834674
Return To Compliance Date:	Not reported
Nov:	Not reported
Violation Classification:	Not reported
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2014-04-16T17:48:00.000
Violation Code:	2030012 Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system. 23 CCR 16 2715(c)(6), 2715(f)

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	5646682
Return To Compliance Date:	2018-04-11T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26093
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2017-04-11T00:00:00.000
Violation Code:	2030018 (RD) Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at dispenser when a leak is detected. 23 CCR 2636(f)(1)

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Underground Storage Tank
Inspection Type:	Routine
Inspection Number:	6125997
Return To Compliance Date:	2019-04-16T00:00:00.000
Nov:	No
Violation Classification:	Not reported
Underground Storage Tank Id:	26093
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2019-04-16T00:00:00.000
Violation Code:	2030036 (TCR 9b) Failure to comply with one or more of the following overfill prevention equipment requirements: 1. Alert the transfer

CRLLC #2702955 (Continued) **S103723467**

operator when the tank is 90% full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30m before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95% of capacity and activate an audible alarm at least 5m before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95% of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 5. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. 6. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. 7. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. 8. Inspected within 30 days after a repair to the overfill prevention equipment. 9. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. 10. Inspected by a certified UST service technician. 11. Maintain records of overfill prevention equipment inspection for 36 months. 23 CCR 2635(c)(1), 2635(d), 2637.2(a-c), 2665, 2712(b)(1)(G)

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	6903744
Return To Compliance Date:	2022-04-25T00:00:00.000
Nov:	No
Violation Classification:	Class II
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2022-04-05T00:00:00.000
Violation Code:	3030010 Failed to properly dispose of hazardous waste within 180 days (or 270 days if waste is transported over 200 miles). 22 CCR 66262.34(d); HSC 6.5 25123.3(h)(1)

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Program Element:	Hazardous Waste Generator
Inspection Type:	Routine
Inspection Number:	6903744
Return To Compliance Date:	Not reported
Nov:	Not reported
Violation Classification:	Not reported
Underground Storage Tank Id:	Not reported
Container/Tank Id:	Not reported
Last Update:	2023-05-04T03:59:27.000
Inspection Date:	2022-04-05T00:00:00.000
Violation Code:	HMD0000 HAZARDOUS WASTE REQUIREMENTS FOR SQGS ONLY

CRLLC #2702955 (Continued) **S103723467**

UST DTL:

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Facility Type (Ust Facility):	Motor Vehicle Fueling
Tank Owner Name:	APRO LLC
Tankid:	26093
Tank Status:	Active
Date Ust Permanently Closed:	Not reported
Tank Use:	1a
Piping System Type:	Pressure
Last Updated:	2023-05-04T03:59:31.000
Tank Capacityin Gallons:	12000
Tank Contents:	Regular Unleaded
Type Of Tank:	Double Wall

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Facility Id Number:	37-000-210831
Facility Type (Ust Facility):	Motor Vehicle Fueling
Tank Owner Name:	APRO LLC
Tankid:	26094
Tank Status:	Active
Date Ust Permanently Closed:	Not reported
Tank Use:	1a
Piping System Type:	Pressure
Last Updated:	2023-05-04T03:59:31.000
Tank Capacityin Gallons:	12000
Tank Contents:	Premium Unleaded
Type Of Tank:	Double Wall

Waste and Materials:

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2020-HCHEM-0244347
Trade Secret:	N
Hazardous Material Type:	Pure
Last Updated:	2020-10-17T01:11:09.000
Chemical Name:	Gasoline
Common Name:	GASOLINE
Case Number:	8006-61-9

Record ID:	DEH2009-HUPFP-210831
Permit Status:	Permit Renewed
Active Permit:	Y
Child Record Id:	DEH2020-HWAST-0215201
Trade Secret:	N
Hazardous Material Type:	Not reported
Last Updated:	2020-10-17T01:11:09.000
Chemical Name:	WATER/FUEL MIX
Common Name:	WATER/FUEL MIX
Case Number:	Not reported

CRLLC #2702955 (Continued) **S103723467**

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HCHEM-0363207
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2023-03-22T01:04:10.000
Chemical Name: Gasoline
Common Name: GASOLINE
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0331990
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-03-22T01:04:10.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HCHEM-0369261
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2023-05-04T03:59:31.000
Chemical Name: Gasoline
Common Name: GASOLINE
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HCHEM-0369262
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2023-05-04T03:59:31.000
Chemical Name: Propane
Common Name: Propane
Case Number: 74-98-6

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0337786
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-05-04T03:59:31.000
Chemical Name: WATER/FUEL MIX
Common Name: WATER/FUEL MIX
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed

CRLLC #2702955 (Continued) **S103723467**

Active Permit: Y
Child Record Id: DEH2023-HWAST-0337787
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-05-04T03:59:31.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HCHEM-0167241
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2018-10-25T05:05:21.000
Chemical Name: Gasoline
Common Name: Gasoline
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HWAST-0141848
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2018-10-25T05:05:21.000
Chemical Name: Water/Fuel Mixture Waste
Common Name: Spill Bucket Waste
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2018-HWAST-0141849
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2018-10-25T05:05:21.000
Chemical Name: Waste Filters/Absorbent
Common Name: Waste Filters/Absorbent
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0331989
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-03-22T01:04:10.000
Chemical Name: WATER/FUEL MIX
Common Name: WATER/FUEL MIX
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HCHEM-0317571

CRLLC #2702955 (Continued) **S103723467**

Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2022-04-06T00:55:17.000
Chemical Name: Gasoline
Common Name: GASOLINE
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HWAST-0284317
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-04-06T00:55:17.000
Chemical Name: WATER/FUEL MIX
Common Name: WATER/FUEL MIX
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2022-HWAST-0284318
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2022-04-06T00:55:17.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HCHEM-0128808
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2017-09-19T07:55:38.000
Chemical Name: Gasoline
Common Name: Gasoline
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HWAST-0107402
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2017-09-19T07:55:39.000
Chemical Name: Water/Fuel Mixture Waste
Common Name: Spill Bucket Waste
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2017-HWAST-0107403
Trade Secret: N
Hazardous Material Type: Not reported

CRLLC #2702955 (Continued) **S103723467**

Last Updated: 2017-09-19T07:55:39.000
Chemical Name: Waste Filters/Absorbent
Common Name: Waste Filters/Absorbent
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HCHEM-0207020
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2019-08-10T02:55:53.000
Chemical Name: Gasoline
Common Name: GASOLINE
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HWAST-0178868
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2019-08-10T02:55:53.000
Chemical Name: WATER/FUEL MIX
Common Name: WATER/FUEL MIX
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2019-HWAST-0178869
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2019-08-10T02:55:53.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0215202
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2020-10-17T01:11:09.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HCHEM-0282623
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2021-04-23T02:36:55.000
Chemical Name: Gasoline

CRLLC #2702955 (Continued) **S103723467**

Common Name: GASOLINE
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0251182
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2021-04-23T02:36:55.000
Chemical Name: WATER/FUEL MIX
Common Name: WATER/FUEL MIX
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2020-HWAST-0251183
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2021-04-23T02:36:55.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HCHEM-0351893
Trade Secret: N
Hazardous Material Type: Pure
Last Updated: 2023-01-31T02:31:22.000
Chemical Name: Gasoline
Common Name: GASOLINE
Case Number: 8006-61-9

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0319668
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-01-31T02:31:22.000
Chemical Name: WATER/FUEL MIX
Common Name: WATER/FUEL MIX
Case Number: Not reported

Record ID: DEH2009-HUPFP-210831
Permit Status: Permit Renewed
Active Permit: Y
Child Record Id: DEH2023-HWAST-0319669
Trade Secret: N
Hazardous Material Type: Not reported
Last Updated: 2023-01-31T02:31:22.000
Chemical Name: SOLID WASTE AFFECTED by GASOLINE
Common Name: SOLID WASTE AFFECTED by GASOLINE
Case Number: Not reported

CRLLC #2702955 (Continued) **S103723467**

Name:	CRLLC #2702955
Address:	10219 MAST BLVD
City,State,Zip:	SANTEE, CA 92071
Permit Number:	210831
Business Type:	6HK28
EPA Id Number:	CAL000338051
APN:	381-032-18-00
Last HMMD Inspection:	04/11/2012
Facility Telephone:	619-448-5236
Permit Status:	OPEN
Permit Expiration:	01/31/2013
Date Last Updated:	11/02/2012
Facility Owner:	CONVENIENCE RETAILERS LLC
Facility Mailing Address:	7180 KOLL CENTER PY #100
Facility Mailing City:	PLEASANTON
Facility Mailing State:	CA
Facility Mailing Zip:	94566-3184
UST Owner:	CONVENIENCE RETAILERS, LLC
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	PREMIUM UNLEADED
Other Information:	UNDERGROUND TANK 120826 T005
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	REGULAR UNLEADED
Other Information:	UNDERGROUND TANK 120826 T004
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information:	WATER & FUEL
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information:	USED GASOLINE FILTERS

CRLLC #2702955 (Continued) **S103723467**

Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3105
Violation: NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation: Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3107
Violation: MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation: Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3108
Violation: UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation: Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3109
Violation: NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation: Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV3193
Violation: NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation: Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/11/2012
Violation Code: 6HV1013
Violation: HMBP NOT AVAILABLE FOR REVIEW
Violation Citation: Copy of HMBP not onsite for inspector’s review. 25505(e)
Activity: ACTIVE

CRLLC #2702955 (Continued) **S103723467**

Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3411
Violation:	LLD NOT INSTALLED/NOT FUNCTIONAL
Violation Citation:	DOUBLE WALLED PRESSURIZED PIPING-Including Under Dispenser Containment (UDC):Line leak detector is not installed, not functional, or not tested. 2636(f)(2), 25284.1(a)(4)(C), 2641(j)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3109
Violation:	NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation:	Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012

CRLLC #2702955 (Continued) **S103723467**

Inspection Date:	04/20/2010
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3104
Violation:	FORMS A & B NOT AVAIL./SUBMITTED
Violation Citation:	CUPA UST form(s) A and/or B not available/complete/submitted to HMD. 25286(a); 2711
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3114
Violation:	2NDRY CONT TEST NOT DONE/SENT TO CUPA
Violation Citation:	Secondary containment testing not done at 6/36 months and/or not sent to CUPA within 30 days. 25284.1; 2637(a)&(e)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV0132
Violation:	EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation:	Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3110
Violation:	NO ANNUAL CERT OF ATG AND SENSORS
Violation Citation:	Annual certification for ATG and/or sensors not completed (existing tank systems only). 2641(j), 2638
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3104
Violation:	FORMS A & B NOT AVAIL./SUBMITTED

CRLLC #2702955 (Continued) **S103723467**

Violation Citation: CUPA UST form(s) A and/or B not available/complete/submitted to HMD. 25286(a); 2711
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3116
Violation: NO YRLY CERT. FOR CONTIN. MONITOR
Violation Citation: Annual certification for continuous monitoring system not completed (new tanks). 25284.1(a)(4)(C); 2630(d), 2638
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3267
Violation: DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3267
Violation: DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation: Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3411
Violation: LLD NOT INSTALLED/NOT FUNCTIONAL
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING-Including Under Dispenser Containment (UDC):Line leak detector is not installed, not functional, or not tested. 2636(f)(2), 25284.1(a)(4)(C), 2641(j)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3105
Violation: NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation: Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity: ACTIVE

UST:
UST Name: UNDERGROUND TANK 120826 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 1
Capacity Gallons: 10000

CRLLC #2702955 (Continued) **S103723467**

UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	1998-10-11 00:00:00
Year Installed:	Not reported
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	02
UST Monitor Method:	SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY
UST Name:	UNDERGROUND TANK 120826 T002
Last Update:	2012-11-02 14:17:38
Permit Number:	210831
Tank Type:	SINGLE WALL
Additional Id:	2
Capacity Gallons:	10000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	REMOVED
Remove Close Date:	1998-10-11 00:00:00
Year Installed:	Not reported
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	02
UST Monitor Method:	SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY
UST Name:	UNDERGROUND TANK 120826 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	210831
Tank Type:	SINGLE WALL
Additional Id:	3
Capacity Gallons:	10000
UST Contents:	PREMIUM UNLEADED
Other Content Info:	PREMIUM UNLEADED
Reg Status:	REMOVED
Remove Close Date:	1998-10-11 00:00:00
Year Installed:	Not reported
Pipe Type:	SINGLE WALL
Delivery System:	PRESSURE
Monitor Code:	02
UST Monitor Method:	SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY
UST Name:	UNDERGROUND TANK 120826 T004
Last Update:	2012-11-02 14:17:38
Permit Number:	210831
Tank Type:	DOUBLE WALL
Additional Id:	NT2069/RT4241, RT4088, RT4868, RT5174
Capacity Gallons:	12000
UST Contents:	REGULAR UNLEADED
Other Content Info:	REGULAR UNLEADED
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	1998-01-01 00:00:00
Pipe Type:	DOUBLE WALL

CRLLC #2702955 (Continued) **S103723467**

Delivery System: PRESSURE
Monitor Code: 31B
UST Monitor Method: DW TANK, DW PRESSURIZED PIPE W/ DRY TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ MECHANICAL FLOAT

UST Name: UNDERGROUND TANK 120826 T005
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: DOUBLE WALL
Additional Id: NT2069/RT4241, RT4088, RT4868, RT5174
Capacity Gallons: 12000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: ACTIVE
Remove Close Date: Not reported
Year Installed: 1998-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 31B
UST Monitor Method: DW TANK, DW PRESSURIZED PIPE W/ DRY TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ MECHANICAL FLOAT

Name: CRLLC #2702955
Address: 10219 MAST BLVD
City,State,Zip: SANTEE, CA 92071
Permit Number: 210831
Business Type: 6HK28
EPA Id Number: CAL000338051
APN: 381-032-18-00
Last HMMD Inspection: 04/11/2012
Facility Telephone: 619-448-5236
Permit Status: OPEN
Permit Expiration: 01/31/2013
Date Last Updated: 11/02/2012
Facility Owner: CONVENIENCE RETAILERS LLC
Facility Mailing Address: 7180 KOLL CENTER PY #100
Facility Mailing City: PLEASANTON
Facility Mailing State: CA
Facility Mailing Zip: 94566-3184
UST Owner: CONVENIENCE RETAILERS, LLC
Handle Regulated Hazmat: Y
Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: Y
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

Inventory Active Permits (not SQG Medical):
Permit Number: 210831
Update Date: 11/02/2012
Case Number: 8006-61-9
Name: PREMIUM UNLEADED
Other Information: UNDERGROUND TANK 120826 T005
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

CRLLC #2702955 (Continued) **S103723467**

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	8006-61-9
Name:	REGULAR UNLEADED
Other Information:	UNDERGROUND TANK 120826 T004
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 134 AQUEOUS SOL'N W/LESS 10% ORG
Other Information:	WATER & FUEL
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	210831
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 352 ORGANIC SOLIDS (OTHER)
Other Information:	USED GASOLINE FILTERS
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Violations Active Permits:

Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE

Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE

Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE

Permit Number:	210831
Update Date:	11/02/2012

CRLLC #2702955 (Continued) **S103723467**

Inspection Date:	04/11/2012
Violation Code:	6HV3109
Violation:	NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation:	Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV1013
Violation:	HMBP NOT AVAILABLE FOR REVIEW
Violation Citation:	Copy of HMBP not onsite for inspector’s review. 25505(e)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/19/2011
Violation Code:	6HV3411
Violation:	LLD NOT INSTALLED/NOT FUNCTIONAL
Violation Citation:	DOUBLE WALLED PRESSURIZED PIPING-Including Under Dispenser Containment

CRLLC #2702955 (Continued) **S103723467**

	(UDC):Line leak detector is not installed, not functional, or not tested. 2636(f)(2), 25284.1(a)(4)(C), 2641(j)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3109
Violation:	NO SCALED PLOT PLAN AVAIL/TO HMD
Violation Citation:	Scaled Plot plan showing tank, piping & equipment location not available/complete/submitted to HMD. 2711(a)(8), 2632(d)(1) (C)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3104
Violation:	FORMS A & B NOT AVAIL./SUBMITTED
Violation Citation:	CUPA UST form(s) A and/or B not available/complete/submitted to HMD. 25286(a); 2711
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3114
Violation:	2NDRY CONT TEST NOT DONE/SENT TO CUPA
Violation Citation:	Secondary containment testing not done at 6/36 months and/or not sent to CUPA within 30 days. 25284.1; 2637(a)&(e)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE

CRLLC #2702955 (Continued) **S103723467**

Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV0132
Violation:	EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation:	Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/20/2010
Violation Code:	6HV3110
Violation:	NO ANNUAL CERT OF ATG AND SENSORS
Violation Citation:	Annual certification for ATG and/or sensors not completed (existing tank systems only). 2641(j), 2638
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/11/2012
Violation Code:	6HV3104
Violation:	FORMS A & B NOT AVAIL./SUBMITTED
Violation Citation:	CUPA UST form(s) A and/or B not available/complete/submitted to HMD. 25286(a); 2711
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009
Violation Code:	6HV3116
Violation:	NO YRLY CERT. FOR CONTIN. MONITOR
Violation Citation:	Annual certification for continuous monitoring system not completed (new tanks). 25284.1(a)(4)(C); 2630(d), 2638
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009
Violation Code:	6HV3267
Violation:	DISP. CONTAINMENT NOT ADEQ. MONITORED
Violation Citation:	Dispenser containment not adequately monitored. 2636(f)(1) or (f)(5)(A)
Activity:	ACTIVE
Permit Number:	210831
Update Date:	11/02/2012
Inspection Date:	04/21/2009

CRLLC #2702955 (Continued) **S103723467**

Violation Code: 6HV3411
Violation: LLD NOT INSTALLED/NOT FUNCTIONAL
Violation Citation: DOUBLE WALLED PRESSURIZED PIPING-Including Under Dispenser Containment (UDC):Line leak detector is not installed, not functional, or not tested. 2636(f)(2), 25284.1(a)(4)(C), 2641(j)
Activity: ACTIVE

Permit Number: 210831
Update Date: 11/02/2012
Inspection Date: 04/21/2009
Violation Code: 6HV3105
Violation: NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation: Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity: ACTIVE

UST:
UST Name: UNDERGROUND TANK 120826 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 1
Capacity Gallons: 10000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: 1998-10-11 00:00:00
Year Installed: Not reported
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 02
UST Monitor Method: SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY

UST Name: UNDERGROUND TANK 120826 T002
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 2
Capacity Gallons: 10000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: REMOVED
Remove Close Date: 1998-10-11 00:00:00
Year Installed: Not reported
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 02
UST Monitor Method: SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY

UST Name: UNDERGROUND TANK 120826 T003
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: SINGLE WALL
Additional Id: 3
Capacity Gallons: 10000

CRLLC #2702955 (Continued) **S103723467**

UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: REMOVED
Remove Close Date: 1998-10-11 00:00:00
Year Installed: Not reported
Pipe Type: SINGLE WALL
Delivery System: PRESSURE
Monitor Code: 02
UST Monitor Method: SW TANK SW PRESSURE PIPE W/ RESTRICTIVE LLD W/ SIRS: SIR DATA ANALYSIS MONTHLY, TANK TEST BIENNIALLY, PIPE TEST ANNUALLY

UST Name: UNDERGROUND TANK 120826 T004
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: DOUBLE WALL
Additional Id: NT2069/RT4241, RT4088, RT4868, RT5174
Capacity Gallons: 12000
UST Contents: REGULAR UNLEADED
Other Content Info: REGULAR UNLEADED
Reg Status: ACTIVE
Remove Close Date: Not reported
Year Installed: 1998-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 31B
UST Monitor Method: DW TANK, DW PRESSURIZED PIPE W/ DRY TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ MECHANICAL FLOAT

UST Name: UNDERGROUND TANK 120826 T005
Last Update: 2012-11-02 14:17:38
Permit Number: 210831
Tank Type: DOUBLE WALL
Additional Id: NT2069/RT4241, RT4088, RT4868, RT5174
Capacity Gallons: 12000
UST Contents: PREMIUM UNLEADED
Other Content Info: PREMIUM UNLEADED
Reg Status: ACTIVE
Remove Close Date: Not reported
Year Installed: 1998-01-01 00:00:00
Pipe Type: DOUBLE WALL
Delivery System: PRESSURE
Monitor Code: 31B
UST Monitor Method: DW TANK, DW PRESSURIZED PIPE W/ DRY TANK ANNULAR; POSITIVE SHUT-OFF & FAILSAFE, 3.0LLD; UDC W/ MECHANICAL FLOAT

CERS HAZ WASTE:
Name: UNITED #2955
Address: 10219 MAST BLVD
City,State,Zip: SANTEE, CA 92071
Site ID: 54685
CERS ID: 10310635
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: UNITED #2955

CRLLC #2702955 (Continued) **S103723467**

Address: 10219 MAST BLVD
City,State,Zip: SANTEE, CA 92071
Site ID: 54685
CERS ID: 10310635
CERS Description: Underground Storage Tank

CHMIRS:
Name: Not reported
Address: 10219 MAST BLVD
City,State,Zip: SANTEE, CA 92071
OES Incident Number: 11278
OES notification: Not reported
OES Date: 12/12/1995
OES Time: 11:18:42 AM
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported
Vehicle License Number: Not reported
Vehicle State: Not reported
Vehicle Id Number: Not reported
CA DOT PUC/ICC Number: Not reported
Company Name: Not reported
Reporting Officer Name/ID: Not reported
Report Date: Not reported
Facility Telephone: Not reported
Waterway Involved: YES
Waterway: Not reported
Spill Site: Not reported
Cleanup By: santee fire dept
Containment: Not reported
What Happened: Not reported
Type: PETROLEUM
Measure: Not reported
Other: Not reported
Date/Time: Not reported
Year: 1995
Agency: circle k
Incident Date: 0900/12dec95
Admin Agency: Not reported
Amount: est 5 gals
Contained: NO
Site Type: S/S
E Date: Not reported

CRLLC #2702955 (Continued) **S103723467**

Substance:	gasoline
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	customer reported nozzle had not been secured by previous customer after pumping gas

CERS:

Name:	UNITED #2955
Address:	10219 MAST BLVD
City,State,Zip:	SANTEE, CA 92071
Site ID:	54685
CERS ID:	10310635
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	54685
Site Name:	United #2955
Violation Date:	04-16-2019
Citation:	23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description:	Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1, 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October 1, 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill

CRLLC #2702955 (Continued) **S103723467**

prevention equipment inspection for 36 months.

Violation Notes: Returned to compliance on 04/16/2019. Inspection Sequence ID:6125997;Tank ID:26093,26094;Violation Description:(TCR 9b) Failure to comply with one or more of the following overfill prevention equipment requirements: 1. Alert the transfer operator when the tank is 90% full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30m before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95% of capacity and activate an audible alarm at least 5m before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95% of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. 5. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 54685
Site Name: United #2955
Violation Date: 04-16-2014
Citation: 23 CCR 16 2715(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(b)
Violation Description: Failure to submit statement of UST compliance and/or Designated Operator current certification.
Violation Notes: Returned to compliance on 04/16/2015. Inspection Sequence ID:4834674;Tank ID:26093;Violation Description:Failure to submit statement of UST compliance and/or Designated Operator current certification. 23 CCR 16 2715(a), 2715(b)
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 54685
Site Name: United #2955
Violation Date: 04-16-2014
Citation: 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)
Violation Description: Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system.
Violation Notes: Returned to compliance on 04/14/2015. Inspection Sequence ID:4834674;Tank ID:26094;Violation Description:Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system. 23 CCR 16 2715(c)(6), 2715(f)

CRLLC #2702955 (Continued) **S103723467**

Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,
Site ID:	54685
Site Name:	United #2955
Violation Date:	04-05-2022
Citation:	HSC 6.5 25123.3(h)(1) - California Health and Safety Code, Chapter 6.5, Section(s) 25123.3(h)(1)
Violation Description:	Failure to send hazardous waste offsite for treatment, storage, or disposal within 180 days (or 270 days if waste is transported over 200 miles) for a generator who generates less than 1000 kilogram per month if all of the following conditions are met: (1) The quantity of hazardous waste accumulated onsite never exceeds 6,000 kilograms. (2) The generator complies with the requirements of 40 Code of Federal Regulations section 262.34(d), (e) and (f). (3) The generator does not hold acutely hazardous waste or extremely hazardous waste in an amount greater than one kilogram for more than 90 days.
Violation Notes:	Returned to compliance on 04/25/2022. Inspection Sequence ID:6903744
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	54685
Site Name:	United #2955
Violation Date:	04-12-2016
Citation:	23 CCR 16 2632, 2634, 2636, 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632, 2634, 2636, 2666
Violation Description:	Failure of the leak detection equipment to be properly programmed or properly operated.
Violation Notes:	Returned to compliance on 04/12/2016. Inspection Sequence ID:5401371;Tank ID:26094;Violation Description:(RD) Failure of the leak detection equipment to be properly programmed or properly operated. 23 CCR 2632, 2634, 2636, 2666
Violation Division:	San Diego County Department of Env Health
Violation Program:	UST
Violation Source:	CERS,
Site ID:	54685
Site Name:	United #2955
Violation Date:	04-11-2017
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 05/10/2017. Inspection Sequence ID:5646682
Violation Division:	San Diego County Department of Env Health
Violation Program:	HW
Violation Source:	CERS,
Site ID:	54685
Site Name:	United #2955
Violation Date:	04-11-2018
Citation:	23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23,

CRLLC #2702955 (Continued) **S103723467**

Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at the dispenser when a leak is detected.
Violation Notes: Returned to compliance on 04/11/2018.
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 54685
Site Name: United #2955
Violation Date: 04-16-2014
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712
Violation Description: Failure to obtain permit to install, replace, repair, or modify part of the UST system containment or leak detection equipment.
Violation Notes: Returned to compliance on 03/14/2016. Inspection Sequence ID:4834674;Tank ID:26093,26094;Violation Description:Failure to obtain permit to install, replace, repair or modify part of the UST system containment or leak detection equipment. 23 CCR 16 2712.
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Site ID: 54685
Site Name: United #2955
Violation Date: 04-11-2017
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at the dispenser when a leak is detected.
Violation Notes: Returned to compliance on 04/11/2018. Inspection Sequence ID:5646682;Tank ID:26093,26094;Violation Description:(RD) Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at dispenser when a leak is detected. 23 CCR 2636(f)(1)
Violation Division: San Diego County Department of Env Health
Violation Program: UST
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-05-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:6903744
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-05-2022
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:6903744
Eval Division: San Diego County Department of Env Health

CRLLC #2702955 (Continued) **S103723467**

Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-14-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5160911
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:6125997
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-11-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5646682
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-11-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5864770
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-12-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5401371
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:4834674
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

CRLLC #2702955 (Continued) **S103723467**

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:6125997
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 04-22-2021
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: "No On-site Inspection" Inspector: Fernandez Juan Inspection ID:6587755
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Other/Unknown
Eval Date: 05-06-2020
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: "No On-site Inspection" Inspector: Fernandez Juan Inspection ID:6403068
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-05-2023
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:7159357
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-11-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5646682
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-11-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5864770
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection

CRLLC #2702955 (Continued) **S103723467**

Eval Date: 04-12-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5401371
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-12-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5401371
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-14-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5160911
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:4834674
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:6125997
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-05-2022
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Halsey Christopher Inspection ID:6903744
Eval Division: San Diego County Department of Env Health
Eval Program: UST
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-11-2017
Violations Found: No
Eval Type: Routine done by local agency

CRLLC #2702955 (Continued) **S103723467**

Eval Notes: Inspector: Archer Veronica Inspection ID:5646682
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-11-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Archer Veronica Inspection ID:5864770
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-14-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:5160911
Eval Division: San Diego County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-16-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Inspector: Garchitorena Bobby Inspection ID:4834674
Eval Division: San Diego County Department of Env Health
Eval Program: HW
Eval Source: CERS,

Coordinates:
Site ID: 54685
Facility Name: United #2955
Env Int Type Code: HWG
Program ID: 10310635
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.,
Latitude: 32.854740
Longitude: -116.974970

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Tom Robins
Entity Title: Not reported
Affiliation Address: 4130 Cover Street
Affiliation City: Long Beach
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 90808
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Tom Robins
Entity Title: Staff Geologist

CRLLC #2702955 (Continued) **S103723467**

Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Legal Owner
Entity Name:	APRO LLC
Entity Title:	Not reported
Affiliation Address:	4130 Cover Street
Affiliation City:	Long Beach
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	90808
Affiliation Phone:	(310) 323-3992,
Affiliation Type Desc:	UST Permit Applicant
Entity Name:	Allen Faass
Entity Title:	Compliance
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 289-5286,
Affiliation Type Desc:	CUPA District
Entity Name:	San Diego County Env Health Qlty
Entity Title:	Not reported
Affiliation Address:	PO Box 129261
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92112-9261
Affiliation Phone:	(858) 505-6880,
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	4130 Cover Street
Affiliation City:	Long Beach
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	90808
Affiliation Phone:	,
Affiliation Type Desc:	Operator
Entity Name:	APRO LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(310) 323-3992,

CRLLC #2702955 (Continued) **S103723467**

Affiliation Type Desc:	Parent Corporation
Entity Name:	APRO LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	UST Tank Operator
Entity Name:	APRO LLC
Entity Title:	Not reported
Affiliation Address:	4130 Cover Street
Affiliation City:	Long Beach
Affiliation State:	Ca
Affiliation Country:	United States
Affiliation Zip:	90808
Affiliation Phone:	(310) 323-3992,

Affiliation Type Desc:	Document Preparer
Entity Name:	Tom Robins
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Affiliation Type Desc:	UST Tank Owner
Entity Name:	APRO LLC
Entity Title:	Not reported
Affiliation Address:	4130 Cover Street
Affiliation City:	Long Beach
Affiliation State:	Ca
Affiliation Country:	United States
Affiliation Zip:	90808
Affiliation Phone:	(310) 323-3992,

Affiliation Type Desc:	UST Property Owner Name
Entity Name:	CF UNITED PROPCO LLC
Entity Title:	Not reported
Affiliation Address:	4130 Cover Street
Affiliation City:	Long Beach
Affiliation State:	Ca
Affiliation Country:	United States
Affiliation Zip:	90808
Affiliation Phone:	(310) 323-3992,

23
NNE
1/4-1/2
0.373 mi.
1967 ft.

CARRIAGE CLEANERS
10251 MAST BLVD
SANTEE, CA 92071

RCRA-SQG **1000358289**
FINDS **CAD981618028**
ECHO
HIST CORTESE

Relative:
Higher

Actual:
368 ft.

RCRA Listings:

Date Form Received by Agency:	19920727
Handler Name:	Carriage Cleaners
Handler Address:	10251 MAST BLVD
Handler City,State,Zip:	SANTEE, CA 92071
EPA ID:	CAD981618028
Contact Name:	GEORGE JACKSON
Contact Address:	10251 MAST BLVD
Contact City,State,Zip:	SANTEE, CA 92071
Contact Telephone:	619-449-1911
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ca
State District:	4
Mailing Address:	10251 MAST BLVD
Mailing City,State,Zip:	SANTEE, CA 92071
Owner Name:	George W Jackson
Owner Type:	Private
Operator Name:	Not Required
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

CARRIAGE CLEANERS (Continued) **1000358289**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: GEORGE W JACKSON	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	10251 MAST BLVD
Owner/Operator City,State,Zip:	SANTEE, CA 92071
Owner/Operator Telephone:	619-449-1911
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: NOT REQUIRED	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, ME 99999
Owner/Operator Telephone:	415-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19920727
Handler Name: CARRIAGE CLEANERS	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ca
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

CARRIAGE CLEANERS (Continued) **1000358289**

List of NAICS Codes and Descriptions:
NAICS Code: 81232
NAICS Description: DRYCLEANING AND LAUNDRY SERVICES (EXCEPT COIN-OPERATED)

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110002725819

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
THE EMISSION INVENTORY SYSTEM (EIS) MAINTAINS AN INVENTORY OF LARGE STATIONARY SOURCES AND VOLUNTARILY-REPORTED SMALLER SOURCES OF AIR POINT POLLUTANT EMITTERS. IT CONTAINS INFORMATION ABOUT FACILITY SITES AND THEIR PHYSICAL LOCATION, EMISSIONS UNITS, EMISSIONS PROCESSES, RELEASE POINTS, CONTROL APPROACHES, AND REGULATIONS. FACILITY INVENTORY DATA ARE KEPT SEPARATE FROM THE EMISSIONS DATA AND HAVE STABLE IDENTIFIERS TO IMPROVE CONTINUITY FROM YEAR TO YEAR AND TO HELP IDENTIFY DUPLICATE OR MISSING FACILITIES
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000358289
Registry ID: 110002725819
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002725819
Name: CARRIAGE CLEANERS
Address: 10251 MAST BLVD
City,State,Zip: SANTEE, CA 92071

HIST CORTESE:
edr_fname: HUNTINGTON BEACH USD
edr_fadd1: 10251
City,State,Zip: HUNTINGTON BEACH, CA 92646
Region: CORTESE
Facility County Code: 30
Reg By: LTNKA
Reg Id: 083003215T

G24 **CNTY SD LAS COLINAS DETENTION** **LUST** **S104494689**
SSE **9000 COTTONWOOD AVE** **N/A**
1/4-1/2 **SANTEE, CA 92071**
0.390 mi.
2060 ft. **Site 1 of 3 in cluster G**

Relative:
Higher

Actual:
349 ft.

LUST REG 9:

Region:	9
Status:	Preliminary site assessment underway
Case Number:	9UT3982
Local Case:	H20813-001
Substance:	Gasoline
Qty Leaked:	0
Abate Method:	Not reported
Local Agency:	San Diego
How Found:	Tank Closure
How Stopped:	Close Tank
Source:	Unknown
Cause:	Unknown
Lead Agency:	Local Agency
Case Type:	Aquifer affected
Date Found:	10/20/1998
Date Stopped:	10/20/1998
Confirm Date:	/ /
Submit Workplan:	Not reported
Prelim Assess:	06/03/1999
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	05/10/1999
Enforce Date:	Not reported
Closed Date:	Not reported
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	907.12
GW Depth:	Not reported
Beneficial Use:	MUNBU
NPDES Number:	Not reported
Priority:	High priority
File Dispn:	Not reported
Interim Remedial Actions:	Not reported
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

G25 **SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY** **SAN DIEGO CO. SAM** **S106061773**
SSE **9000 COTTONWOOD AVENUE** **LUST** **N/A**
1/4-1/2 **SANTEE, CA 92071** **CPS-SLIC**
0.390 mi. **San Diego Co. HMMD**
2060 ft. **Site 2 of 3 in cluster G** **Cortese**
SAN DIEGO CO LOP

Relative:
Higher

CIWQS
CERS

Actual:
349 ft.

SAN DIEGO CO. SAM:

Name:	LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 920713005
Case Number:	H20813-001
Agency:	DEH Site Assessment & Mitigation

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Funding:	**LOP - Federal Fund**
Facility Type:	Drinking Water Aquifer Impacted
Facility Status:	Closed Case
Date:	4/16/2001
Date Began:	10/3/1998

LUST:

Name:	LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 920713005
Lead Agency:	SAN DIEGO COUNTY LOP
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607399053
Global Id:	T0607399053
Latitude:	32.8396491
Longitude:	-116.9736145
Status:	Completed - Case Closed
Status Date:	04/16/2001
Case Worker:	Not reported
RB Case Number:	9UT3982
Local Agency:	Not reported
File Location:	Local Agency
Local Case Number:	H20813-001
Potential Media Affect:	Not reported
Potential Contaminants of Concern:	Not reported
EPA Region:	9
Coordinate Source:	Google Geocode
Cuf Case:	YES
Quantity Released Gallons:	Not reported
Begin Date:	06/03/1999
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	04/16/2001
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	Not reported

LUST:

Global Id:	T0607399053
Action Type:	ENFORCEMENT
Date:	04/16/2001
Action:	Closure/No Further Action Letter

LUST:

Global Id:	T0607399053
Status:	Open - Case Begin Date

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Status Date: 06/03/1999

Global Id: T0607399053
Status: Completed - Case Closed
Status Date: 04/16/2001

CPS-SLIC:

Name:	SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY
Address:	9000 COTTONWOOD AVENUE
City,State,Zip:	SANTEE, CA 92071
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	03/05/2013
Global Id:	T10000004142
Lead Agency:	SAN DIEGO COUNTY LOP
Lead Agency Case Number:	H39793-001
Latitude:	32.841411667168
Longitude:	-116.972529888153
Case Type:	Cleanup Program Site
Case Worker:	CF
Local Agency:	SAN DIEGO COUNTY LOP
RB Case Number:	Not reported
File Location:	Local Agency
Potential Media Affected:	Soil
Potential Contaminants of Concern:	DDD / DDE / DDT, Other Insecticides / Pesticide / Fumigants / Herbicides
EPA Region:	9
Coordinate Source:	Not reported
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	06/14/2012
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	03/05/2013
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	A replacement facility for the Los Colinas Women s Detention Center is planned for a 30-acre property located south of the San Diego River in Santee, California, between Cottonwood and Magnolia Avenues. The property, which is owned by the County of San Diego (County), was formerly used as agricultural land and lies immediately east of the present facility. A portion of the County-operated Edgemoor Hospital occupied the east-central area of the property until it was demolished in 2012. Since the majority of the property had been used for agricultural purposes since the 1920s, the project Environmental

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Impact Report required testing site soils for the presence of organochlorine pesticides (OCPs). The County s grading contractor, Balfour Beatty Construction, Inc., entered the DEH Voluntary Assistance Program on June 14, 2012. A VAP case (#H39793-001) was opened to provided regulatory oversight and review services for the soil investigation. Construction Testing & Engineering, Inc. (CTE) was retained to perform the soil investigation prior to bulk grading activities at the site. Historical aerial photographs and topographic maps were reviewed by CTE to develop a work plan for collection of soil samples. The work plan, which proposed the collection of 60 soil samples over a grid pattern and up to 10 judgmental soil samples in areas deemed to have had potential pesticide impacts, was approved by DEH on June 24, 2012. Shallow test pits were excavated at the site by a backhoe to facilitate soil sample collection. Samples were collected from the sidewalls of the test pits at depths of 0 to 0.5, 1.5 to 2, and 3 to 3.5 feet below ground surface (bgs). Upon submittal to the laboratory, the samples were analyzed for OCPs and the metals arsenic, copper, lead, and mercury. OCPs were not detected in 43 of the soil samples collected from the 0 to 0.5-foot depth interval. Twelve OCPs were detected in the remaining unbiased and judgmental samples, primarily in samples collected from the 0 to 0.5-foot depth interval. 4,4-DDE, 4,4-DDT, dieldrin, and endrin were the most frequently detected OCPs. OCP, copper, lead, and mercury concentrations detected in the soil samples were compared to residential California Human Health Screening Levels (CHHSLs) except for the concentrations of OCPs endosulfan I and heptachlor epoxide, which were compared to U.S. EPA Regional Screening Levels (RSLs). Arsenic levels in the soil samples were compared to regional background levels. None of the OCPs or metals detected exceeded its respective residential CHHSL or RSL and detected arsenic concentrations were less than the regional background level of 12 milligrams per kilogram (mg/kg). Based on the analytical results for soil samples, CTE concluded that the residual OCP concentrations do not pose a human health risk to future residents of the women s detention replacement facility and that mitigation of OCP-impacted soils was not necessary. DEH concurred, but required implementation of a community health and safety plan (CHSP) during bulk grading activities to mitigate potential off-site impacts (e.g., fugitive dust, noise, storm runoff, traffic). Implementation of the CHSP included establishing four temporary air monitoring points around the site perimeter prior to initiation of bulk grading at the site on September 4, 2012. A temporary weather station was also installed to measure wind speed and direction during grading activities. Daily air particulate samples were collected at the four monitoring points during the initial week of bulk grading and analyzed for OCPs. No OCPs were detected in the samples. Subsequent air particulate sampling was performed on a weekly basis at each monitoring point. These samples were archived in the event off-site impacts were reported, but no such reports were received. Bulk grading at the site was completed on December 3, 2012, and the air monitoring equipment was decommissioned. CTE submitted a final report recommending no further action and case closure. DEH concurs with the consultant s recommendations.

Click here to access the California GeoTracker records for this facility:

Name: SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Address:	9000 COTTONWOOD AVENUE
City,State,Zip:	SANTEE, CA 92071
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	10/09/2014
Global Id:	T10000006155
Lead Agency:	SAN DIEGO COUNTY LOP
Lead Agency Case Number:	DEH2014-LSAM-000257
Latitude:	32.8419263280939
Longitude:	-116.974232238623
Case Type:	Cleanup Program Site
Case Worker:	CF
Local Agency:	SAN DIEGO COUNTY LOP
RB Case Number:	Not reported
File Location:	Local Agency
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
EPA Region:	9
Coordinate Source:	Not reported
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	09/02/2014
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	10/09/2014
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	A replacement facility for the Los Colinas Women s Detention Center is under construction on a County-owned property located south of the San Diego River in Santee, California, between Cottonwood and Magnolia Avenues. The former facility was vacated in August 2014 and was subsequently demolished. New portions of the replacement facility were recently constructed immediately east and north of the subject property. Since the majority of the property had been used for agricultural purposes since the 1920s, the project Environmental Impact Report required testing site soils for the presence of organochlorine pesticides (OCPs). The County s grading contractor, Balfour Beatty Construction, Inc., entered the DEH Voluntary Assistance Program on August 29, 2014. A VAP case (#DEH2014-LSAM-000257) was opened to provided regulatory oversight and review services for the soil investigation. Construction Testing & Engineering, Inc. (CTE) was retained to perform the soil investigation prior to bulk grading activities at the site. Historical aerial photographs and topographic maps were reviewed by CTE to develop a work plan for collection of soil samples. The work plan was approved by DEH on September 14, 2014. During the soil

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

investigation on September 16 and 17, 2014, hand-augered borings were advanced and a soil sample was collected at a depth of 0.5 to 1.0-foot below ground surface (bgs) from each boring. If fill material was sampled, the boring was deepened in order to collect a sample of the underlying alluvium [the alluvial material presumably was at the ground surface when previous agricultural use of the property may have occurred]. The borings were advance to a maximum depth of 5.0 feet bgs. Upon submittal for laboratory, the samples of alluvium were analyzed for OCPs and the metals arsenic, copper, lead, and mercury. Laboratory results for the 34 soil samples collected indicated that OCPs were not detected. The non-detect OCP results for the soil samples did not exceed their respective residential California Human Health Screening Levels (CHHSLs). None of the analytical results for the metals copper, lead, or mercury exceeded their respective residential CHHSLs. However, arsenic, with a laboratory reporting limit of 1.0 milligrams per kilogram (mg/kg), was detected in 31 of the 34 samples at concentrations that ranged from 1.0 to 3.6 mg/kg. The detected range of arsenic concentrations was also compared to its residential CHHSL (0.70 mg/kg) and the US EPA Region IX Regional Screening Level (residential) for arsenic, which is 0.67 mg/kg. However, the detected arsenic concentrations are within the range of background levels in southern California soils. Based on the analytical results for soil samples, CTE concluded that the residual OCP concentrations do not pose a human health risk to future residents of the women s detention replacement facility. The consultant recommended no further action and case closure. DEH concurs with these recommendations.

Click here to access the California GeoTracker records for this facility:

HMMD SAN DIEGO:

Name:	SD COUNTY LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	152208
Business Type:	6HK10
EPA Id Number:	Not reported
APN:	381-050-51-00
Last HMMD Inspection:	07/14/2011
Facility Telephone:	619-258-3200
Permit Status:	OPEN
Permit Expiration:	03/31/2013
Date Last Updated:	11/02/2012
Facility Owner:	SHERIFF'S DEPT MEDICAL SERVICES
Facility Mailing Address:	8525 GIBBS DR #303
Facility Mailing City:	SAN DIEGO
Facility Mailing State:	CA
Facility Mailing Zip:	92123
UST Owner:	Not reported
Handle Regulated Hazmat:	Not reported
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Y

Inventory Active Permits (SQG Medical):

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	152208
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 902 INFECTIOUS WASTE, SHARPS
Other Information:	Not reported
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	152208
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 901 INFECTIOUS WASTE, GENERAL
Other Information:	RED BAGS
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	152208
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 541 PHOTOCHEM/PHOTOPROC WASTE
Other Information:	PHOTO PROCESSING FIXER/DEVELOPER
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Violations Active Permits:

Permit Number:	152208
Update Date:	11/02/2012
Inspection Date:	07/14/2011
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

Name:	SD CNTY LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	120813
Business Type:	6HK23
EPA Id Number:	CAL000040308
APN:	381-050-37-00
Last HMMD Inspection:	08/14/2012
Facility Telephone:	619-258-3262
Permit Status:	OPEN
Permit Expiration:	06/30/2013
Date Last Updated:	11/02/2012
Facility Owner:	COUNTY OF SAN DIEGO
Facility Mailing Address:	5560 OVERLAND AVE 04TH FLR #410
Facility Mailing City:	SAN DIEGO
Facility Mailing State:	CA
Facility Mailing Zip:	92123-1219
UST Owner:	COUNTY OF SAN DIEGO/GEN SVCS
Handle Regulated Hazmat:	Y

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: Y
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

Inventory Active Permits (not SQG Medical):
Permit Number: 120813
Update Date: 11/02/2012
Case Number: 74-86-2
Name: ACETYLENE GAS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: 7440-37-1
Name: ARGON GAS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: ACUTE

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: CARBON DIOXIDE/ ARGON GAS MIXTURE
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: 68476-34-6
Name: DIESEL
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: CHRONIC
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: 68476-34-6
Name: DIESEL
Other Information: UNDERGROUND TANK 120813 T003 DIESEL
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: LATEX PAINT
Other Information: LATEX PAINT
Material Waste: Material

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Hazardous Categories 1: ACUTE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: 7782-44-7
Name: OXYGEN GAS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: DIESEL FUEL & WATER
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: PAINT WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:
Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3158
Violation: ALL OPERATING CONDITIONS NOT MET
Violation Citation: All permit operating conditions not met. 25284; 2712
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3108
Violation: UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation: Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3193
Violation: NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation: Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity: ACTIVE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV3192
Violation:	NO D.O INSPECTION/INCOMPL;NO REPORTS
Violation Citation:	Designated Operator monthly inspection not conducted or incomplete; or DO inspection reports not onsite 2715 (c)(d)(e)
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV1015
Violation:	EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation:	Did not have adequate employee training program 2732 &/or 25504(c)
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0307
Violation:	ILLEGAL DISPOSAL OF UNIVERSAL WASTE
Violation Citation:	Disposal of universal waste to an unauthorized point. 25189.5(a); SQH:66273.11(a); LQH: 66273.31(a)
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violation Code:	6HV0138
Violation:	NO TSDF SIGNED MANIFEST ONSITE
Violation Citation:	Generator has not maintained the required signed copy of the hazardous waste manifest from the TSD facility on site for review. CCR 66262.40(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3102
Violation:	OPER. PERMIT NOT CURRENT/ONSITE
Violation Citation:	Current Operating Permit not available at facility. 25284(a), 25286(a); 2712(i); 68.1003
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3112
Violation:	2NDRY CONT TEST NOT DONE (6/36 MOS.)
Violation Citation:	Secondary containment testing not conducted at 6months/36 months. 25284.1; 2637(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3158
Violation:	ALL OPERATING CONDITIONS NOT MET

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violation Citation:	All permit operating conditions not met. 25284; 2712
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0132
Violation:	EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation:	Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0207
Violation:	FIRE/EXPLOSION/RELEASE NOT MINIMIZED
Violation Citation:	Facility not maintained &/operated to minimize possibility of fire, explosion or release. CCR 66265.31
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0401
Violation:	TRAINING RECORDS UNAVAILABLE
Violation Citation:	Personnel training records are not maintained to document compliance with requirements for current and former employees. CCR 66265.16(d)&(e)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV1009
Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV1014
Violation:	HMBP INCOMPLETE/NOT AMENDED
Violation Citation:	HMBP is incomplete/inadequate/not amended to reflect changes. 25504,

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

	25505(a)(2) &/or 25509(a); 25505(b); 19 CCR 2729
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV4212
Violation:	RED BAGS NOT CONTAINERIZED
Violation Citation:	Did not containerize and place red bags in rigid, leak resistant, and covered containers or bins. 118280(b)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1002
Violation:	HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation:	Hazardous materials handler has not established/implemented a business plan. HSC 25503.5(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1015
Violation:	EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation:	Did not have adequate employee training program 2732 &/or 25504(c)
Activity:	ACTIVE
Permit Number:	120813

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/13/2005
Violation Code:	6HV0304
Violation:	WASTE DETERMINATION NOT MADE
Violation Citation:	Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/13/2005
Violation Code:	6HV0402
Violation:	TRAINING PROGRAM NOT ADEQUATE
Violation Citation:	Personnel training is not adequate to ensure compliance with hazardous waste regulations. CCR 66265.16(a)&(b)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV0304
Violation:	WASTE DETERMINATION NOT MADE
Violation Citation:	Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE

UST:

UST Name:	UNDERGROUND TANK 120813 T001
Last Update:	2012-11-02 14:17:38

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-2
Capacity Gallons:	550
UST Contents:	Not reported
Other Content Info:	WASTE OIL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1983-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	GRAVITY
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name:	UNDERGROUND TANK 120813 T002
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-1 (NT2127)
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1978-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	SUCTION
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name:	UNDERGROUND TANK 120813 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	DOUBLE WALL
Additional Id:	NT2127 DIESEL; RT2713
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	1998-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	SUCTION
Monitor Code:	21
UST Monitor Method:	DW TANK DW SUCTION AND/ OR GRAVITY PIPING WITH INTERSTITIAL MONITORS: INTERSTITIAL.

Name:	SD CNTY LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	120813
Business Type:	6HK23
EPA Id Number:	CAL000040308
APN:	381-050-37-00

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Last HMMD Inspection:	08/14/2012
Facility Telephone:	619-258-3262
Permit Status:	OPEN
Permit Expiration:	06/30/2013
Date Last Updated:	11/02/2012
Facility Owner:	COUNTY OF SAN DIEGO
Facility Mailing Address:	5560 OVERLAND AVE 04TH FLR #410
Facility Mailing City:	SAN DIEGO
Facility Mailing State:	CA
Facility Mailing Zip:	92123-1219
UST Owner:	COUNTY OF SAN DIEGO/GEN SVCS
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	74-86-2
Name:	ACETYLENE GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	7440-37-1
Name:	ARGON GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	ACUTE

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported
Name:	CARBON DIOXIDE/ ARGON GAS MIXTURE
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	CHRONIC
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	68476-34-6

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Name: DIESEL
Other Information: UNDERGROUND TANK 120813 T003 DIESEL
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: LATEX PAINT
Other Information: LATEX PAINT
Material Waste: Material
Hazardous Categories 1: ACUTE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: 7782-44-7
Name: OXYGEN GAS
Other Information: Not reported
Material Waste: Material
Hazardous Categories 1: PRESSURE RELEASE
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: DIESEL FUEL & WATER
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: PAINT WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:
Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3158
Violation: ALL OPERATING CONDITIONS NOT MET
Violation Citation: All permit operating conditions not met. 25284; 2712
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3108
Violation: UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation: Emergency Response Plan is not available/complete. 25289(b); 2632(b),

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

	2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV3192
Violation:	NO D.O INSPECTION/INCOMPL;NO REPORTS
Violation Citation:	Designated Operator monthly inspection not conducted or incomplete; or DO inspection reports not onsite 2715 (c)(d)(e)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV1015
Violation:	EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation:	Did not have adequate employee training program 2732 &/or 25504(c)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0307
Violation:	ILLEGAL DISPOSAL OF UNIVERSAL WASTE
Violation Citation:	Disposal of universal waste to an unauthorized point. 25189.5(a); SQH:66273.11(a); LQH: 66273.31(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0138
Violation:	NO TSDF SIGNED MANIFEST ONSITE
Violation Citation:	Generator has not maintained the required signed copy of the hazardous waste manifest from the TSD facility on site for review. CCR 66262.40(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3102
Violation:	OPER. PERMIT NOT CURRENT/ONSITE
Violation Citation:	Current Operating Permit not available at facility. 25284(a), 25286(a); 2712(i); 68.1003
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Inspection Date:	01/30/2003
Violation Code:	6HV3112
Violation:	2NDRY CONT TEST NOT DONE (6/36 MOS.)
Violation Citation:	Secondary containment testing not conducted at 6months/36 months. 25284.1; 2637(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3158
Violation:	ALL OPERATING CONDITIONS NOT MET
Violation Citation:	All permit operating conditions not met. 25284; 2712
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0132
Violation:	EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation:	Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0207
Violation:	FIRE/EXPLOSION/RELEASE NOT MINIMIZED
Violation Citation:	Facility not maintained &/operated to minimize possibility of fire, explosion or release. CCR 66265.31
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0401
Violation:	TRAINING RECORDS UNAVAILABLE
Violation Citation:	Personnel training records are not maintained to document compliance with requirements for current and former employees. CCR 66265.16(d)&(e)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV1009

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV1014
Violation:	HMBP INCOMPLETE/NOT AMENDED
Violation Citation:	HMBP is incomplete/inadequate/not amended to reflect changes. 25504, 25505(a)(2) &/or 25509(a); 25505(b); 19 CCR 2729
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV4212
Violation:	RED BAGS NOT CONTAINERIZED
Violation Citation:	Did not containerize and place red bags in rigid, leak resistant, and covered containers or bins. 118280(b)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1002
Violation:	HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation:	Hazardous materials handler has not established/implemented a business

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

plan. HSC 25503.5(a)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 07/10/2007
Violation Code: 6HV1015
Violation: EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation: Did not have adequate employee training program 2732 &/or 25504(c)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 07/10/2007
Violation Code: 6HV0135
Violation: MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation: Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/13/2005
Violation Code: 6HV0304
Violation: WASTE DETERMINATION NOT MADE
Violation Citation: Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/13/2005
Violation Code: 6HV0402
Violation: TRAINING PROGRAM NOT ADEQUATE
Violation Citation: Personnel training is not adequate to ensure compliance with hazardous waste regulations. CCR 66265.16(a)&(b)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 08/10/2010
Violation Code: 6HV0225
Violation: ACCUMULATED HW>180 OR >270 DAYS
Violation Citation: Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 08/10/2010
Violation Code: 6HV0304
Violation: WASTE DETERMINATION NOT MADE
Violation Citation: Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity: ACTIVE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE

UST:

UST Name:	UNDERGROUND TANK 120813 T001
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-2
Capacity Gallons:	550
UST Contents:	Not reported
Other Content Info:	WASTE OIL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1983-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	GRAVITY
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name:	UNDERGROUND TANK 120813 T002
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-1 (NT2127)
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1978-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	SUCTION
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name:	UNDERGROUND TANK 120813 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	DOUBLE WALL
Additional Id:	NT2127 DIESEL; RT2713
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	1998-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	SUCTION

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Monitor Code: 21
UST Monitor Method: DW TANK DW SUCTION AND/ OR GRAVITY PIPING WITH INTERSTITIAL MONITORS: INTERSTITIAL.

Name: SD COUNTY LAS COLINAS DETENTION FACILITY
Address: 9000 COTTONWOOD AV
City,State,Zip: SANTEE, CA 92071
Permit Number: 152208
Business Type: 6HK10
EPA Id Number: Not reported
APN: 381-050-51-00
Last HMMD Inspection: 07/14/2011
Facility Telephone: 619-258-3200
Permit Status: OPEN
Permit Expiration: 03/31/2013
Date Last Updated: 11/02/2012
Facility Owner: SHERIFF'S DEPT MEDICAL SERVICES
Facility Mailing Address: 8525 GIBBS DR #303
Facility Mailing City: SAN DIEGO
Facility Mailing State: CA
Facility Mailing Zip: 92123
UST Owner: Not reported
Handle Regulated Hazmat: Not reported
Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: Not reported
Treat Haz Waste: Not reported
Generate Medical Waste: Y

Inventory Active Permits (SQG Medical):
Permit Number: 152208
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 902 INFECTIOUS WASTE, SHARPS
Other Information: Not reported
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 152208
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 901 INFECTIOUS WASTE, GENERAL
Other Information: RED BAGS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 152208
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 541 PHOTOCHEM/PHOTOPROC WASTE
Other Information: PHOTO PROCESSING FIXER/DEVELOPER
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violations Active Permits:

Permit Number:	152208
Update Date:	11/02/2012
Inspection Date:	07/14/2011
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

Name:	SD CNTY LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	120813
Business Type:	6HK23
EPA Id Number:	CAL000040308
APN:	381-050-37-00
Last HMMD Inspection:	08/14/2012
Facility Telephone:	619-258-3262
Permit Status:	OPEN
Permit Expiration:	06/30/2013
Date Last Updated:	11/02/2012
Facility Owner:	COUNTY OF SAN DIEGO
Facility Mailing Address:	5560 OVERLAND AVE 04TH FLR #410
Facility Mailing City:	SAN DIEGO
Facility Mailing State:	CA
Facility Mailing Zip:	92123-1219
UST Owner:	COUNTY OF SAN DIEGO/GEN SVCS
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Y
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	74-86-2
Name:	ACETYLENE GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	7440-37-1
Name:	ARGON GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	ACUTE

Permit Number:	120813
Update Date:	11/02/2012

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Case Number:	Not reported
Name:	CARBON DIOXIDE/ ARGON GAS MIXTURE
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	CHRONIC
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL
Other Information:	UNDERGROUND TANK 120813 T003 DIESEL
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported
Name:	LATEX PAINT
Other Information:	LATEX PAINT
Material Waste:	Material
Hazardous Categories 1:	ACUTE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	7782-44-7
Name:	OXYGEN GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information:	DIESEL FUEL & WATER
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information:	PAINT WASTE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3158
Violation: ALL OPERATING CONDITIONS NOT MET
Violation Citation: All permit operating conditions not met. 25284; 2712
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3108
Violation: UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation: Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3193
Violation: NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation: Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3192
Violation: NO D.O INSPECTION/INCOMPL;NO REPORTS
Violation Citation: Designated Operator monthly inspection not conducted or incomplete; or DO inspection reports not onsite 2715 (c)(d)(e)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV1015
Violation: EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation: Did not have adequate employee training program 2732 &/or 25504(c)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV0135
Violation: MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation: Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity: ACTIVE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0307
Violation:	ILLEGAL DISPOSAL OF UNIVERSAL WASTE
Violation Citation:	Disposal of universal waste to an unauthorized point. 25189.5(a); SQH:66273.11(a); LQH: 66273.31(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0138
Violation:	NO TSDF SIGNED MANIFEST ONSITE
Violation Citation:	Generator has not maintained the required signed copy of the hazardous waste manifest from the TSD facility on site for review. CCR 66262.40(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3102
Violation:	OPER. PERMIT NOT CURRENT/ONSITE
Violation Citation:	Current Operating Permit not available at facility. 25284(a), 25286(a); 2712(i); 68.1003
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Inspection Date:	01/30/2003
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3112
Violation:	2NDRY CONT TEST NOT DONE (6/36 MOS.)
Violation Citation:	Secondary containment testing not conducted at 6months/36 months. 25284.1; 2637(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3158
Violation:	ALL OPERATING CONDITIONS NOT MET
Violation Citation:	All permit operating conditions not met. 25284; 2712
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0132
Violation:	EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation:	Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0207
Violation:	FIRE/EXPLOSION/RELEASE NOT MINIMIZED

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violation Citation:	Facility not maintained &/operated to minimize possibility of fire, explosion or release. CCR 66265.31
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0401
Violation:	TRAINING RECORDS UNAVAILABLE
Violation Citation:	Personnel training records are not maintained to document compliance with requirements for current and former employees. CCR 66265.16(d)&(e)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV1009
Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV1014
Violation:	HMBP INCOMPLETE/NOT AMENDED
Violation Citation:	HMBP is incomplete/inadequate/not amended to reflect changes. 25504, 25505(a)(2) &/or 25509(a); 25505(b); 19 CCR 2729
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete,

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

	and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV4212
Violation:	RED BAGS NOT CONTAINERIZED
Violation Citation:	Did not containerize and place red bags in rigid, leak resistant, and covered containers or bins. 118280(b)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1002
Violation:	HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation:	Hazardous materials handler has not established/implemented a business plan. HSC 25503.5(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1015
Violation:	EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation:	Did not have adequate employee training program 2732 &/or 25504(c)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/13/2005
Violation Code:	6HV0304
Violation:	WASTE DETERMINATION NOT MADE
Violation Citation:	Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/13/2005
Violation Code:	6HV0402
Violation:	TRAINING PROGRAM NOT ADEQUATE
Violation Citation:	Personnel training is not adequate to ensure compliance with hazardous waste regulations. CCR 66265.16(a)&(b)
Activity:	ACTIVE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV0304
Violation:	WASTE DETERMINATION NOT MADE
Violation Citation:	Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity:	ACTIVE

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/10/2010
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE

UST:

UST Name:	UNDERGROUND TANK 120813 T001
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-2
Capacity Gallons:	550
UST Contents:	Not reported
Other Content Info:	WASTE OIL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1983-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	GRAVITY
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name:	UNDERGROUND TANK 120813 T002
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-1 (NT2127)
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1978-01-01 00:00:00
Pipe Type:	SINGLE WALL

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Delivery System:	SUCTION
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY
UST Name:	UNDERGROUND TANK 120813 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	DOUBLE WALL
Additional Id:	NT2127 DIESEL; RT2713
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	1998-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	SUCTION
Monitor Code:	21
UST Monitor Method:	DW TANK DW SUCTION AND/ OR GRAVITY PIPING WITH INTERSTITIAL MONITORS: INTERSTITIAL.
Name:	SD CNTY LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 92071
Permit Number:	120813
Business Type:	6HK23
EPA Id Number:	CAL000040308
APN:	381-050-37-00
Last HMMD Inspection:	08/14/2012
Facility Telephone:	619-258-3262
Permit Status:	OPEN
Permit Expiration:	06/30/2013
Date Last Updated:	11/02/2012
Facility Owner:	COUNTY OF SAN DIEGO
Facility Mailing Address:	5560 OVERLAND AVE 04TH FLR #410
Facility Mailing City:	SAN DIEGO
Facility Mailing State:	CA
Facility Mailing Zip:	92123-1219
UST Owner:	COUNTY OF SAN DIEGO/GEN SVCS
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Inventory Active Permits (not SQG Medical):

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	74-86-2
Name:	ACETYLENE GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	7440-37-1
Name:	ARGON GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	ACUTE

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported
Name:	CARBON DIOXIDE/ ARGON GAS MIXTURE
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	CHRONIC
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	68476-34-6
Name:	DIESEL
Other Information:	UNDERGROUND TANK 120813 T003 DIESEL
Material Waste:	Material
Hazardous Categories 1:	FIRE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported
Name:	LATEX PAINT
Other Information:	LATEX PAINT
Material Waste:	Material
Hazardous Categories 1:	ACUTE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	7782-44-7
Name:	OXYGEN GAS
Other Information:	Not reported
Material Waste:	Material
Hazardous Categories 1:	PRESSURE RELEASE
Hazardous Categories 2:	Not reported

Permit Number:	120813
Update Date:	11/02/2012
Case Number:	Not reported

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: DIESEL FUEL & WATER
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Permit Number: 120813
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 223 UNSPEC OIL CONTAINING WASTE
Other Information: PAINT WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:
Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3158
Violation: ALL OPERATING CONDITIONS NOT MET
Violation Citation: All permit operating conditions not met. 25284; 2712
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3108
Violation: UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation: Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3193
Violation: NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation: Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV3192
Violation: NO D.O INSPECTION/INCOMPL;NO REPORTS
Violation Citation: Designated Operator monthly inspection not conducted or incomplete; or DO inspection reports not onsite 2715 (c)(d)(e)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/20/2006
Violation Code: 6HV1015
Violation: EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation: Did not have adequate employee training program 2732 &/or 25504(c)

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/20/2006
Violation Code:	6HV0307
Violation:	ILLEGAL DISPOSAL OF UNIVERSAL WASTE
Violation Citation:	Disposal of universal waste to an unauthorized point. 25189.5(a); SQH:66273.11(a); LQH: 66273.31(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0227
Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	08/02/2011
Violation Code:	6HV0138
Violation:	NO TSDF SIGNED MANIFEST ONSITE
Violation Citation:	Generator has not maintained the required signed copy of the hazardous waste manifest from the TSD facility on site for review. CCR 66262.40(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3102
Violation:	OPER. PERMIT NOT CURRENT/ONSITE
Violation Citation:	Current Operating Permit not available at facility. 25284(a), 25286(a); 2712(i); 68.1003
Activity:	ACTIVE

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3105
Violation:	NO CURRENT FINANCIAL RESPONSIBILITY
Violation Citation:	Current evidence of financial responsibility not available. 25292.2(a), 25299.33; 2809
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3107
Violation:	MONITORING PROCEDURES NOT AVAIL/TO HMD
Violation Citation:	Monitoring procedures not available/complete/submitted to HMD 2632(b)& (d), 2634(d), 2641(h), 2711(a)(9)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3108
Violation:	UST ER RESPONSE PLAN NOT COMPLETE/AVAIL
Violation Citation:	Emergency Response Plan is not available/complete. 25289(b); 2632(b), 2634(e), 2641(h)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3112
Violation:	2NDRY CONT TEST NOT DONE (6/36 MOS.)
Violation Citation:	Secondary containment testing not conducted at 6months/36 months. 25284.1; 2637(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV3158
Violation:	ALL OPERATING CONDITIONS NOT MET
Violation Citation:	All permit operating conditions not met. 25284; 2712
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0132
Violation:	EPA ID NUMBER NOT OBTAINED/MAINTAINED
Violation Citation:	Generator of hazardous waste has not obtained/maintained an EPA identification number. CCR 66262.12(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0135

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0207
Violation:	FIRE/EXPLOSION/RELEASE NOT MINIMIZED
Violation Citation:	Facility not maintained &/operated to minimize possibility of fire, explosion or release. CCR 66265.31
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV0401
Violation:	TRAINING RECORDS UNAVAILABLE
Violation Citation:	Personnel training records are not maintained to document compliance with requirements for current and former employees. CCR 66265.16(d)&(e)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	01/30/2003
Violation Code:	6HV1009
Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV1014
Violation:	HMBP INCOMPLETE/NOT AMENDED
Violation Citation:	HMBP is incomplete/inadequate/not amended to reflect changes. 25504, 25505(a)(2) &/or 25509(a); 25505(b); 19 CCR 2729
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/30/2008
Violation Code:	6HV0227

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Violation:	HAZWASTE TANK/CONTAINER W/O LABEL/DATE
Violation Citation:	Failed to properly label/date hazardous waste container &/or tank. 66262.34(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV3193
Violation:	NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation:	Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV4212
Violation:	RED BAGS NOT CONTAINERIZED
Violation Citation:	Did not containerize and place red bags in rigid, leak resistant, and covered containers or bins. 118280(b)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1002
Violation:	HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation:	Hazardous materials handler has not established/implemented a business plan. HSC 25503.5(a)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV1015
Violation:	EMPLOYEE TRAINING NOT ADEQUATE
Violation Citation:	Did not have adequate employee training program 2732 &/or 25504(c)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	07/10/2007
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE
Permit Number:	120813
Update Date:	11/02/2012
Inspection Date:	06/13/2005
Violation Code:	6HV0304
Violation:	WASTE DETERMINATION NOT MADE
Violation Citation:	Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 06/13/2005
Violation Code: 6HV0402
Violation: TRAINING PROGRAM NOT ADEQUATE
Violation Citation: Personnel training is not adequate to ensure compliance with hazardous waste regulations. CCR 66265.16(a)&(b)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 08/10/2010
Violation Code: 6HV0225
Violation: ACCUMULATED HW>180 OR >270 DAYS
Violation Citation: Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 08/10/2010
Violation Code: 6HV0304
Violation: WASTE DETERMINATION NOT MADE
Violation Citation: Generator of a waste has not determined if that waste is a hazardous waste as defined by law. CCR 66262.11 & 66260.200(c)
Activity: ACTIVE

Permit Number: 120813
Update Date: 11/02/2012
Inspection Date: 08/10/2010
Violation Code: 6HV3193
Violation: NO TRAINING/RECORD INCOMPLETE-NOT ONSITE
Violation Citation: Facility employee(s) are not trained, training records are incomplete, and/or not onsite. 2715(f)
Activity: ACTIVE

UST:
UST Name: UNDERGROUND TANK 120813 T001
Last Update: 2012-11-02 14:17:38
Permit Number: 120813
Tank Type: SINGLE WALL
Additional Id: LC-2
Capacity Gallons: 550
UST Contents: Not reported
Other Content Info: WASTE OIL
Reg Status: REMOVED
Remove Close Date: 1998-10-20 00:00:00
Year Installed: 1983-01-01 00:00:00
Pipe Type: SINGLE WALL
Delivery System: GRAVITY
Monitor Code: 06
UST Monitor Method: SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name: UNDERGROUND TANK 120813 T002

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	SINGLE WALL
Additional Id:	LC-1 (NT2127)
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	REMOVED
Remove Close Date:	1998-10-20 00:00:00
Year Installed:	1978-01-01 00:00:00
Pipe Type:	SINGLE WALL
Delivery System:	SUCTION
Monitor Code:	06
UST Monitor Method:	SW TANK SW SUCTION PIPE W/DAILY RECONCILIATION OR WEEKLY GAUGING: TANK TEST ANNUAL (EXEMPT IF UST < 551 GAL), PIPE TEST TRIENNIALLY

UST Name:	UNDERGROUND TANK 120813 T003
Last Update:	2012-11-02 14:17:38
Permit Number:	120813
Tank Type:	DOUBLE WALL
Additional Id:	NT2127 DIESEL; RT2713
Capacity Gallons:	1000
UST Contents:	DIESEL
Other Content Info:	DIESEL
Reg Status:	ACTIVE
Remove Close Date:	Not reported
Year Installed:	1998-01-01 00:00:00
Pipe Type:	DOUBLE WALL
Delivery System:	SUCTION
Monitor Code:	21
UST Monitor Method:	DW TANK DW SUCTION AND/ OR GRAVITY PIPING WITH INTERSTITIAL MONITORS: INTERSTITIAL.

CORTESE:

Name:	LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AV
City,State,Zip:	SANTEE, CA 920713005
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0607399053
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	COMPLETED - CASE CLOSED
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

Waste Management Uit Name: Not reported
File Name: Active Open

SAN DIEGO CO LOP:

Name:	LAS COLINAS DETENTION FACILITY
Address:	9000 COTTONWOOD AVE
City,State,Zip:	SANTEE, CA 92071
Record ID:	DEH1999-LSAM-H20813-001
Record Status:	Completed
Opened Date:	05/10/1999
Parcel Number:	381-050-37-00
Case Type:	LOP - Local Oversight Program
Historical Name:	COUNTY OF SD-LAS COLINAS DETEN
SWRCB Global ID:	T0607399053
Funding:	F - LOP Federal Fund
Lead Agency:	DEH/SAM
Lead Agency Date:	06/03/1999
Census Tract:	166.15
Community:	Santee
Jurisdiction:	SANTEE
Watershed Basin Number:	907.12
Water Purveyor:	PADRE DAM MUNICIPAL WATER DISTRICT
Fire Agency:	PADRE DAM MUNICIPAL WATER DISTRICT
Latitude:	32.8399908
Longitude:	-116.9742539
X MapCoord:	6339211.047
Y MapCoord:	1886180.637

CIWQS:

Name:	WOMENS DETENTION FACILITY
Address:	9000 COTTONWOOD AVENUE
City,State,Zip:	SANTEE, CA 92071
Agency:	County Of San Diego
Agency Address:	5560 Overland Ave Suite 410, San Diego, CA 92123
Place/Project Type:	Construction
SIC/NAICS:	Not reported
Region:	9
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	9 37C363643
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	05/16/2012
Termination Date:	12/04/2015
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	32.839649
Longitude:	-116.973614

SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY (Continued) **S106061773**

CERS:
Name: SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY
Address: 9000 COTTONWOOD AVENUE
City,State,Zip: SANTEE, CA 92071
Site ID: 681933
CERS ID: T10000006155
CERS Description: Cleanup Program Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: CAROL FENNER - SAN DIEGO COUNTY LOP
Entity Title: Not reported
Affiliation Address: P.O. Box 129261
Affiliation City: San Diego
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Name: LAS COLINAS DETENTION FACILITY
Address: 9000 COTTONWOOD AV
City,State,Zip: SANTEE, CA 920713005
Site ID: 664607
CERS ID: T0607399053
CERS Description: Leaking Underground Storage Tank Cleanup Site

Name: SAN DIEGO COUNTY WOMEN'S DETENTION FACILITY
Address: 9000 COTTONWOOD AVENUE
City,State,Zip: SANTEE, CA 92071
Site ID: 681933
CERS ID: T10000004142
CERS Description: Cleanup Program Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: CAROL FENNER - SAN DIEGO COUNTY LOP
Entity Title: Not reported
Affiliation Address: P.O. Box 129261
Affiliation City: San Diego
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

G26 **EDGEMORE HOSPITAL** **Notify 65** **S100178162**
SSE **N/A**
1/4-1/2 **SANTEE, CA**
0.400 mi.
2114 ft. **Site 3 of 3 in cluster G**

Relative:
Higher

Actual:
350 ft.

NOTIFY 65:
Name: EDGEMORE HOSPITAL
Address: Not reported
City,State,Zip: SANTEE, CA
Date Reported: Not reported
Staff Initials: Not reported

EDGEMORE HOSPITAL (Continued) **S100178162**

Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported
Global ID: Not reported
Status: Not reported

H27 **EDGEMOOR GERIATRIC HOSPITAL** **SAN DIEGO CO. SAM** **U001572267**
SSE **9065 EDGEMOOR DR** **LUST** **N/A**
1/4-1/2 **SANTEE, CA 92071** **CPS-SLIC**
0.411 mi. **SWEEPS UST**
2172 ft. **Site 1 of 3 in cluster H** **HIST UST**
HIST CORTESE
Relative: **SAN DIEGO CO LOP**
Higher **CERS**

Actual:
350 ft.

SAN DIEGO CO. SAM:

Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 920713037
Case Number: H14318-001
Agency: DEH Site Assessment & Mitigation
Funding: **Non Billable**
Facility Type: Complaint
Facility Status: Closed Case
Date: 3/12/1992
Date Began: 4/23/1991

Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 920713037
Case Number: H14318-002
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - Federal Fund**
Facility Type: Soils Only
Facility Status: Closed Case
Date: 5/9/2001
Date Began: 10/20/1998

LUST:

Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 920713037
Lead Agency: SAN DIEGO COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607302505
Global Id: T0607302505
Latitude: 32.8419479
Longitude: -116.9719531
Status: Completed - Case Closed
Status Date: 05/09/2001
Case Worker: Not reported
RB Case Number: 9UT3737
Local Agency: Not reported
File Location: Local Agency
Local Case Number: H14318-002

EDGEMOOR GERIATRIC HOSPITAL (Continued) **U001572267**

Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
EPA Region:	9
Coordinate Source:	Google Geocode
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	10/20/1998
Leak Reported Date:	10/20/1998
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Tank
Discharge Cause:	Physc / Mech Damage
Stop Method:	Close and Remove Tank
Stop Description:	CLOSE AND REMOVE TANK
No Further Action Date:	05/09/2001
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	Not reported

LUST:

Global Id:	T0607302505
Action Type:	Other
Date:	10/20/1998
Action:	Leak Reported

Global Id:	T0607302505
Action Type:	Other
Date:	10/20/1998
Action:	Leak Began

Global Id:	T0607302505
Action Type:	ENFORCEMENT
Date:	05/09/2001
Action:	Closure/No Further Action Letter

Global Id:	T0607302505
Action Type:	Other
Date:	10/20/1998
Action:	Leak Stopped

Global Id:	T0607302505
Action Type:	Other
Date:	10/20/1998
Action:	Leak Discovery

LUST:

Global Id:	T0607302505
Status:	Open - Case Begin Date
Status Date:	10/20/1998

Global Id:	T0607302505

EDGEMOOR GERIATRIC HOSPITAL (Continued) **U001572267**

Status: Completed - Case Closed
Status Date: 05/09/2001

CPS-SLIC:

Name:	EDGEMOOR GERIATRIC HOSPITAL
Address:	9065 EDGEMOOR DR
City,State,Zip:	SANTEE, CA 920713037
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	03/12/1992
Global Id:	T0608198078
Lead Agency:	SAN DIEGO COUNTY LOP
Lead Agency Case Number:	H14318-001
Latitude:	32.840452
Longitude:	-116.97027
Case Type:	Cleanup Program Site
Case Worker:	KH
Local Agency:	SAN DIEGO COUNTY LOP
RB Case Number:	Not reported
File Location:	Local Agency
Potential Media Affected:	Under Investigation
Potential Contaminants of Concern:	Not reported
EPA Region:	9
Coordinate Source:	Google Geocode
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	04/23/1991
Leak Reported Date:	04/23/1991
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Other
Discharge Cause:	Other
Stop Method:	Remove Contents
Stop Description:	REMOVE CONTENTS
No Further Action Date:	03/12/1992
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	41-45%
CA Enviroscreen 4 Score:	15-20%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SWEEPS UST:

Name:	EDGEMOOR GERIATRIC HOSPITAL
Address:	9065 EDGEMOOR DR
City:	SANTEE
Status:	Not reported
Comp Number:	14318
Number:	Not reported
Board Of Equalization:	44-022185

EDGEMOOR GERIATRIC HOSPITAL (Continued) **U001572267**

Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-014318-000004
Tank Status: Not reported
Capacity: 1000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: LEADED
Number Of Tanks: 1

Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City: SANTEE
Status: Active
Comp Number: 14318
Number: 9
Board Of Equalization: 44-022185
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-014318-000001
Tank Status: A
Capacity: 2000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: OTHER
Number Of Tanks: 3

Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City: SANTEE
Status: Active
Comp Number: 14318
Number: 9
Board Of Equalization: 44-022185
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-014318-000002
Tank Status: A
Capacity: 5000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: OTHER
Number Of Tanks: Not reported

Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City: SANTEE
Status: Active

EDGEMOOR GERIATRIC HOSPITAL (Continued) **U001572267**

Comp Number: 14318
Number: 9
Board Of Equalization: 44-022185
Referral Date: Not reported
Action Date: 06-26-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 37-000-014318-000003
Tank Status: A
Capacity: 1000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: OTHER
Number Of Tanks: Not reported

HIST UST:
Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 92071
File Number: Not reported
URL: Not reported
Region: STATE
Facility ID: 00000044190
Facility Type: Other
Other Type: HOSPITAL/HEATING
Contact Name: HILDO HERNANDEZ (565-5274)
Telephone: 6195655274
Owner Name: COUNTY OF SAN DIEGO
Owner Address: 5555 OVERLAND AVE
Owner City,St,Zip: SAN DIEGO, CA 92123
Total Tanks: 0004

Tank Num: 001
Container Num: GS 032
Year Installed: Not reported
Tank Capacity: 00001800
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 002
Container Num: GSO42
Year Installed: Not reported
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 003
Container Num: GS 030
Year Installed: Not reported
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: Not reported

EDGEMOOR GERIATRIC HOSPITAL (Continued) **U001572267**

Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 004
Container Num: GS 031
Year Installed: Not reported
Tank Capacity: 00001800
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

HIST CORTESE:
edr_fname: EDGEMOOR
edr_fadd1: 9065 EDGEMOOR
City,State,Zip: SANTEE, CA 92071
Region: CORTESE
Facility County Code: 37
Reg By: LTNKA
Reg Id: 9UT3737

SAN DIEGO CO LOP:
Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 92071
Record ID: DEH1998-LSAM-H14318-002
Record Status: Completed
Opened Date: 10/20/1998
Parcel Number: 384-111-07-00
Case Type: LOP - Local Oversight Program
Historical Name: EDGEMOOR
SWRCB Global ID: T0607302505
Funding: F - LOP Federal Fund
Lead Agency: DEH/SAM
Lead Agency Date: 10/20/1998
Census Tract: Not reported
Community: Not reported
Jurisdiction: Not reported
Watershed Basin Number: Not reported
Water Purveyor: Not reported
Fire Agency: Not reported
Latitude: Not reported
Longitude: Not reported
X MapCoord: Not reported
Y MapCoord: Not reported

CERS:
Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 920713037
Site ID: 651177
CERS ID: T0608198078
CERS Description: Cleanup Program Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker

EDGEMOOR GERIATRIC HOSPITAL (Continued) **U001572267**

Entity Name:	KEVIN HEATON - SAN DIEGO COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	P.O. Box 129261
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

Name:	EDGEMOOR GERIATRIC HOSPITAL
Address:	9065 EDGEMOOR DR
City,State,Zip:	SANTEE, CA 920713037
Site ID:	651177
CERS ID:	T0607302505
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	KEVIN HEATON - SAN DIEGO COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	P.O. Box 129261
Affiliation City:	San Diego
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,

H28 **HEARTLAND- ADHC** **LUST** **S105035138**
SSE **9065 EDGEMOOR DR** **San Diego Co. HMMD** **N/A**
1/4-1/2 **SANTEE, CA 92071**
0.411 mi.
2172 ft. **Site 2 of 3 in cluster H**

Relative: Higher

Actual: 350 ft.

LUST:

No Details:	No Details

HMMD SAN DIEGO:

Name:	HEARTLAND- ADHC
Address:	9065 EDGEMOOR DR
City,State,Zip:	SANTEE, CA 92071
Permit Number:	153095
Business Type:	6HK10
EPA Id Number:	Not reported
APN:	384-111-07-00
Last HMMD Inspection:	04/12/1999
Facility Telephone:	619-283-5731
Permit Status:	INAC
Permit Expiration:	04/12/1999
Date Last Updated:	11/02/2012
Facility Owner:	HEARTLAND AND ADHC
Facility Mailing Address:	2840 ADAMS AV 103
Facility Mailing City:	SAN DIEGO
Facility Mailing State:	CA
Facility Mailing Zip:	92116-
UST Owner:	Not reported
Handle Regulated Hazmat:	Not reported
Own Or Operate UST:	Not reported

HEARTLAND- ADHC (Continued) **S105035138**

Subject To APSA: Not reported
Generate Haz Waste: Not reported
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

H29 **EDGEMOOR GERIATRIC HOSPITAL** **Cortese** **S113032110**
SSE **9065 EDGEMOOR DR** **HWTS** **N/A**
1/4-1/2 **SANTEE, CA 92071** **HAZNET**
0.411 mi.
2172 ft. **Site 3 of 3 in cluster H**

Relative:
Higher

Actual:
350 ft.

CORTESE:
Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
City,State,Zip: SANTEE, CA 920713037
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0607302505
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

HWTS:
Name: EDGEMOOR GERIATRIC HOSPITAL
Address: 9065 EDGEMOOR DR
Address 2: Not reported
City,State,Zip: SANTEE, CA 92071
EPA ID: CAL000028400
Inactive Date: 06/30/2003
Create Date: 05/10/1990
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 5555 OVERLAND AVE BUILDING 2 RM 360
Mailing Address 2: Not reported
Mailing City,State,Zip: SAN DIEGO, CA 92123
Owner Name: COUNTY OF SAN DIEGO
Owner Address: 5555 OVERLAND AVE BUILDING 2 RM 360
Owner Address 2: Not reported
Owner City,State,Zip: SAN DIEGO, CA 92123
Owner Phone: Not reported
Owner Fax: Not reported
Contact Name: ANDRE PHILLIPS/SAFETY COORD

EDGEMOOR GERIATRIC HOSPITAL (Continued) **S113032110**

Contact Address:	5555 OVERLAND AVE BUILDING 2 RM 360
Contact Address 2:	Not reported
City,State,Zip:	SAN DIEGO, CA 92123
Contact Phone:	Not reported
Contact Fax:	Not reported
Facility Status:	Inactive
Facility Type:	PERMANENT
Category:	STATE
Latitude:	32.840131
Longitude:	-116.970124

NAICS:

EPA ID:	CAL000028400
Create Date:	2002-11-21 09:39:48.873
NAICS Code:	92119
NAICS Description:	Other General Government Support
Issued EPA ID Date:	1990-05-10 00:00:00
Inactive Date:	2003-06-30 00:00:00
Facility Name:	EDGEMOOR GERIATRIC HOSPITAL
Facility Address:	9065 EDGEMOOR DR
Facility Address 2:	Not reported
Facility City:	SANTEE
Facility County:	Not reported
Facility State:	CA
Facility Zip:	920713037

HAZNET:

Name:	EDGEMOOR GERIATRIC HOSPITAL
Address:	9065 EDGEMOOR DR
Address 2:	Not reported
City,State,Zip:	SANTEE, CA 920713037
Contact:	Andre Phillips/safety coord
Telephone:	8586942478
Mailing Name:	Not reported
Mailing Address:	5555 Overland Ave Building 2 Rm 360
Year:	2003
Gepaid:	CAL000028400
TSD EPA ID:	CAD009007626
CA Waste Code:	151 - Asbestos containing waste
Disposal Method:	D80 - Disposal, Land Fill
Tons:	16.94028
Year:	2003
Gepaid:	CAL000028400
TSD EPA ID:	AZC950823111
CA Waste Code:	151 - Asbestos containing waste
Disposal Method:	D80 - Disposal, Land Fill
Tons:	7.5852
Year:	2002
Gepaid:	CAL000028400
TSD EPA ID:	AZC950823111
CA Waste Code:	151 - Asbestos containing waste
Disposal Method:	D80 - Disposal, Land Fill
Tons:	3.3712

EDGEMOOR GERIATRIC HOSPITAL (Continued) **S113032110**

Year: 1998
Gepaid: CAL000028400
TSD EPA ID: CAT080013352
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: R01 - Recycler
Tons: 2.502

Year: 1995
Gepaid: CAL000028400
TSD EPA ID: CAL000027741
CA Waste Code: 151 - Asbestos containing waste
Disposal Method: D80 - Disposal, Land Fill
Tons: 16.856

Year: 1990
Gepaid: CAL000028400
TSD EPA ID: CAT080010101
CA Waste Code: 214 - Unspecified solvent mixture
Disposal Method: H01 - Transfer Station
Tons: 0.0208

Year: 1989
Gepaid: CAL000028400
TSD EPA ID: CAT080010101
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: 14 -
Tons: 0.0208

Additional Info:
Year: 2003
Gen EPA ID: CAL000028400

Shipment Date: 20030911
Creation Date: 8/2/2004 9:36:58
Receipt Date: 20030915
Manifest ID: 22086085
Trans EPA ID: CAL000252045
Trans Name: Not reported
Trans 2 EPA ID: CAR000017657
Trans 2 Name: Not reported
TSDF EPA ID: CAD009007626
Trans Name: Not reported
TSDF Alt EPA ID: CAD009007626
TSDF Alt Name: Not reported
Waste Code Description: 151 - Asbestos-containing waste
RCRA Code: Not reported
Meth Code: D80 - Disposal, Land Fill
Quantity Tons: 0.50568
Waste Quantity: 0.6
Quantity Unit: Y
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

EDGEMOOR GERIATRIC HOSPITAL (Continued) **S113032110**

Shipment Date:	20030722
Creation Date:	7/26/2004 18:30:41
Receipt Date:	20030801
Manifest ID:	22086063
Trans EPA ID:	CAL000252045
Trans Name:	Not reported
Trans 2 EPA ID:	CAR000017657
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD009007626
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD009007626
TSDF Alt Name:	Not reported
Waste Code Description:	151 - Asbestos-containing waste
RCRA Code:	Not reported
Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	1.2642
Waste Quantity:	1.5
Quantity Unit:	Y
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20030317
Creation Date:	3/16/2007 18:30:50
Receipt Date:	20030321
Manifest ID:	22251677
Trans EPA ID:	CAR000047993
Trans Name:	Not reported
Trans 2 EPA ID:	CAR000049064
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD009007626
Trans Name:	Not reported
TSDF Alt EPA ID:	CAD009007626
TSDF Alt Name:	Not reported
Waste Code Description:	151 - Asbestos-containing waste
RCRA Code:	Not reported
Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	15.1704
Waste Quantity:	18
Quantity Unit:	Y
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20030313
Creation Date:	5/28/2003 18:32:22
Receipt Date:	Not reported
Manifest ID:	22251668
Trans EPA ID:	CAR000047993
Trans Name:	Not reported
Trans 2 EPA ID:	CAR000049064
Trans 2 Name:	Not reported
TSDF EPA ID:	AZC950823111

EDGEMOOR GERIATRIC HOSPITAL (Continued) **S113032110**

Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	151 - Asbestos-containing waste
RCRA Code:	Not reported
Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	7.5852
Waste Quantity:	9
Quantity Unit:	Y
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2002
Gen EPA ID:	CAL000028400
Shipment Date:	20021122
Creation Date:	3/15/2003 18:31:28
Receipt Date:	20021129
Manifest ID:	22251611
Trans EPA ID:	CAR000047993
Trans Name:	Not reported
Trans 2 EPA ID:	CAR000049064
Trans 2 Name:	Not reported
TSDF EPA ID:	AZC950823111
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	151 - Asbestos-containing waste
RCRA Code:	Not reported
Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	3.3712
Waste Quantity:	4
Quantity Unit:	Y
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1998
Gen EPA ID:	CAL000028400
Shipment Date:	19981102
Creation Date:	1/13/1999 0:00:00
Receipt Date:	19981104
Manifest ID:	98087719
Trans EPA ID:	CA0000039461
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352

EDGEMOOR GERIATRIC HOSPITAL (Continued) **S113032110**

Trans Name:	Not reported
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	223 - Unspecified oil-containing waste
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.834
Waste Quantity:	200
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	19981019
Creation Date:	12/17/1998 0:00:00
Receipt Date:	19981021
Manifest ID:	98087712
Trans EPA ID:	CA0000039461
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	Not reported
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	223 - Unspecified oil-containing waste
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	1.668
Waste Quantity:	400
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	1995
Gen EPA ID:	CAL000028400

Shipment Date:	19951127
Creation Date:	7/26/1996 0:00:00
Receipt Date:	19951201
Manifest ID:	95152659
Trans EPA ID:	CAL922304939
Trans Name:	Not reported
Trans 2 EPA ID:	CAD983668583
Trans 2 Name:	Not reported
TSDF EPA ID:	CAL000027741
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	151 - Asbestos-containing waste
RCRA Code:	Not reported

EDGEMOOR GERIATRIC HOSPITAL (Continued) **S113032110**

Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	16.856
Waste Quantity:	20
Quantity Unit:	Y
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

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30 NNE 1/4-1/2 0.475 mi. 2509 ft. **DAISY CLEANER - SANTANA VILLAGE SHOPPING CENTER** **CPS-SLIC S118504762**
9866 NORTH MAGNOLIA AVENUE **CERS N/A**
SANTEE, CA 92071

Relative: Higher

Actual: 371 ft.

CPS-SLIC:

Name:	DAISY CLEANER - SANTANA VILLAGE SHOPPING CENTER
Address:	9866 NORTH MAGNOLIA AVENUE
City,State,Zip:	SANTEE, CA 92071
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	01/05/2017
Global Id:	T10000008333
Lead Agency:	SAN DIEGO COUNTY LOP
Lead Agency Case Number:	DEH2016-LSAM-000352
Latitude:	32.856416474261
Longitude:	-116.97180594841
Case Type:	Cleanup Program Site
Case Worker:	TS
Local Agency:	SAN DIEGO COUNTY LOP
RB Case Number:	Not reported
File Location:	Not reported
Potential Media Affected:	Aquifer used for drinking water supply, Soil, Soil Vapor
Potential Contaminants of Concern:	Other Chlorinated Hydrocarbons, Tetrachloroethylene (PCE), Trichloroethylene (TCE), Vinyl chloride, Total Petroleum Hydrocarbons (TPH)
EPA Region:	9
Coordinate Source:	Google Map Move
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	01/19/2016
Leak Reported Date:	Not reported
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	01/05/2017
CA Water Watershed Name:	San Diego - Lower San Diego - Santee (907.12)
Dwr Groundwater Subbasin Name:	San Diego River Valley (9-015)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	6-10%
CA Enviroscreen 4 Score:	10-15%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	SAN DIEGO RWQCB (REGION 9)

DAISY CLEANER - SANTANA VILLAGE SHOPPING CENTER (Continued) **S118504762**

Site History: The Daisy Cleaner has occupied a tenant space at the Santana Village Shopping Center since 1992. Prior to 1992, a different dry cleaner reportedly operated at the site. The Daisy Cleaner used tetrachloroethene (PCE) as a dry cleaning solvent until 2008, when the machine was replaced by one that utilizes the hydrocarbon solvent DF-2000. In 2003, two subsurface investigations were conducted within and adjacent to the dry cleaners to investigate whether solvent releases had occurred at the site. No volatile organic compounds (VOCs) were detected in any of the soil samples collected from five borings or in a grab groundwater sample collected from a boring located in front of the dry cleaners. In May 2015, a soil and soil vapor investigation was conducted at the site. Soil samples were collected at a depth of 5 feet below ground surface (bgs) from four borings. Two of the borings (B-1 and B-2) were advanced inside of the building beneath the floor, and two borings (B-3 and B-4) were located outside the rear of the building. VOCs were not detected in any of the soil samples. A total petroleum hydrocarbons as diesel (TPH-d) concentration of 1,100 milligrams per kilogram was reported in the B-4 soil sample. Four soil vapor samples were also collected from a depth of 5 feet bgs from four vapor probes. PCE was detected in one of the two samples collected beneath the dry cleaner floor at a concentration of 0.044 milligrams per cubic meter (mg/m3). Vapor samples from the two outdoor vapor probes had PCE concentrations of 0.14 mg/m3 and 12.0 mg/m3. Trichloroethene (TCE) and vinyl chloride concentrations of 0.82 to 2.5 mg/m3 and not detected (<0.26 mg/m3) to 0.053 mg/m3, respectively, were also detected in vapor samples from the outdoor probes. The rear of the building is covered by concrete and asphalt. The consultant stated that the concentrations of PCE, TCE, and vinyl chloride detected in the outside boring vapor samples exceeded the California Human Health Screening Levels for commercial/industrial land use sites. The PCE concentration detected in the vapor sample collected beneath the inside floor did not exceed the screening level. DEH staff confirmed that the calculated excess cancer risks from soil vapors at the site are below the one-in-one million risk considered to be of potential human health concern. The site is located in a groundwater basin with designated beneficial uses, including municipal use. Between June 29, 2016 and July 6, 2016, two borings/monitoring wells were installed to a depth of 21 feet bgs behind the building to further evaluate the nature and extent of contamination. Relatively low concentrations of TPH-d (9.7 mg/kg) and TPH in the oil range (34 mg/kg) were detected in one soil sample, but VOCs were not detected in any of the soil samples. A dissolved TPH-d concentration of 100 micrograms per liter (g/l) and a dissolved PCE concentration of 2.1 g/l were reported in one of the two groundwater samples. The consultant concludes that the detected petroleum hydrocarbons at the site represent neither an environmental concern nor a health risk. Also, the detected PCE concentration in groundwater is lower than the Maximum Contaminant Level (MCL) for PCE of 5 g/l. In addition, there are no significant risks to building occupants posed by vapor intrusion. The consultant recommends no further site investigation. DEH approves case closure. The two site groundwater monitoring wells were destroyed under DEH Permit number DEH2016-LMWP-002534.

Click here to access the California GeoTracker records for this facility:

DAISY CLEANER - SANTANA VILLAGE SHOPPING CENTER (Continued) **S118504762**

CERS:
Name: DAISY CLEANER - SANTANA VILLAGE SHOPPING CENTER
Address: 9866 NORTH MAGNOLIA AVENUE
City,State,Zip: SANTEE, CA 92071
Site ID: 649035
CERS ID: T10000008333
CERS Description: Cleanup Program Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: TERESA SHERMAN - SAN DIEGO COUNTY LOP
Entity Title: Not reported
Affiliation Address: P.O. Box 129261
Affiliation City: SAN DIEGO
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

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31 **SANTANA HIGH SCHOOL** **ENVIROSTOR** **S103677965**
NNE **9915 MAGNOLIA AVENUE** **SCH** **N/A**
1/2-1 **SANTEE, CA 92071** **CERS**
0.570 mi.
3009 ft.

Relative:
Higher

Actual:
383 ft.

ENVIROSTOR:
Name: SANTANA HIGH SCHOOL
Address: 9915 MAGNOLIA AVENUE
City,State,Zip: SANTEE, CA 92071
Facility ID: 60000859
Status: Inactive - Withdrawn
Status Date: 09/23/2008
Site Code: 404785
Site Type: School Investigation
Site Type Detailed: School
Acres: 1
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Aslam Shareef
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 75
Senate: 40
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 32.85733
Longitude: -116.9710
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: 404785
Alias Type: Project Code (Site Code)

SANTANA HIGH SCHOOL (Continued) **S103677965**

Alias Name: 60000859
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/23/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 05/19/2008
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: SANTANA HIGH SCHOOL
Address: 9915 MAGNOLIA AVENUE
City,State,Zip: SANTEE, CA 92071
Facility ID: 60000859
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 1
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Aslam Shareef
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404785
Assembly: 75
Senate: 40
Special Program Status: Not reported
Status: Inactive - Withdrawn
Status Date: 09/23/2008
Restricted Use: NO
Funding: School District
Latitude: 32.85733
Longitude: -116.9710
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED

SANTANA HIGH SCHOOL (Continued) **S103677965**

Potential Description: NONE SPECIFIED
Alias Name: 404785
Alias Type: Project Code (Site Code)
Alias Name: 60000859
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/23/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 05/19/2008
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CERS:
Name: SANTANA HIGH SCHOOL
Address: 9915 MAGNOLIA AVENUE
City,State,Zip: SANTEE, CA 92071
Site ID: 610016
CERS ID: 60000859
CERS Description: School Investigation

Affiliation:
Affiliation Type Desc: Lead Project Manager
Entity Name: Aslam Shareef
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Supervisor
Entity Name: Shahir Haddad
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

I32 **DAVE'S AUTO SERVICE** **HIST Cal-Sites** **S102860941**
SSE **10438 MISSION GORGE ROAD** **N/A**
1/2-1 **SANTEE, CA 92071**
0.660 mi.
3486 ft. **Site 1 of 2 in cluster I**

Relative:
Higher

Actual:
363 ft.

Calsite:

Name:	DAVE'S AUTO SERVICE
Address:	10438 MISSION GORGE ROAD
City:	SANTEE
Region:	CYPRESS
Facility ID:	37750003
Facility Type:	RP
Type:	RESPONSIBLE PARTY
Branch:	SB
Branch Name:	SO CAL - CYPRESS
File Name:	Not reported
State Senate District:	07302003
Status:	CERTIFIED AS HAVING BEEN REMEDIED SATISFACTORILY UNDER DTSC OVERSIGHT
Status Name:	CERTIFIED
Lead Agency:	DEPT OF TOXIC SUBSTANCES CONTROL
NPL:	Not Listed
SIC Code:	75
SIC Name:	AUTO REPAIR, SERVICES & PARKING
Access:	Not reported
Cortese:	Not reported
Hazardous Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Not reported
Staff Member Responsible for Site:	JCULLY
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	SD
Region Water Control Board Name:	SAN DIEGO
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	77
State Senate District Code:	36
Facility ID:	37750003
Activity:	DISC
Activity Name:	DISCOVERY
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	11081995
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported

DAVE'S AUTO SERVICE (Continued) **S102860941**

For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	37750003
Activity:	SS
Activity Name:	SITE SCREENING
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	12201995
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	37750003
Activity:	PEA
Activity Name:	PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code:	PASI
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	08021999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	37750003
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	ISED
Proposed Budget:	0

DAVE'S AUTO SERVICE (Continued) **S102860941**

AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	12222000
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	37750003
Activity:	RAW
Activity Name:	REMOVAL ACTION WORKPLAN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04102003
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	37750003
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06272003
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	172

DAVE'S AUTO SERVICE (Continued) **S102860941**

Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	1
Unknown Type:	0
Facility ID:	37750003
Activity:	CERT
Activity Name:	CERTIFICATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07302003
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	37750003
Activity:	PEA
Activity Name:	PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code:	PEAE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	11152002
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	CERT
Definition of Status:	CERTIFIED
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0

DAVE'S AUTO SERVICE (Continued) **S102860941**

Unknown Type:	0
Alternate Address:	10438 MISSION GORGE ROAD
Alternate City,St,Zip:	SANTEE, CA 92071
Background Info:	Richard Storrs has leased the entire property from Lloyd Parson and Lloyd and Rose E. Parsons Trust since 1970. David Tucker subleased a portion of this property from Mr. Storrs from 1985 to 1986, and again from 1987 to 1993, and used the building as a radiator repair shop. After the sublease expired in 1993, Mr. Storrs and Mr. Tucker entered into a 20-year sublease agreement for the radiator shop. In 1993, Mr. Storrs evicted Mr. Tucker for nonpayment of rent. Not reported Three businesses currently operate on the Site. These include: 1) Conceptions Retail Store (a toy and baby supply store), 2) Import Auto Tech, and 3) Chi Li Auto Center (Parker Properties, 2002). Conceptions Retail Store used to be a Sewing and Vacuum shop. The parking lot for Conceptions Retail Store is in the southeast portion of the Site. Previously, there was a J.T. Diesel in the northern portion of the site, and Brake Depot was there prior to that. J.T. Diesel was east of Chi Li Auto Center, northeast of Conceptions Retail Store, south of the former sump, and southwest of the section of bare soil in the northeast corner of the Site. This portion of the site is now vacant. The cars that were being serviced by J.T. Diesel were parked on the Site, in the eastern portion of the site, east of J.T. Diesel. The employees of Chi Li Auto Center park on an adjacent property immediately east of the site.
Comments Date:	06272003
Comments:	amount excavated was 224 tons, or an estimated 172 cubic yards.
Comments Date:	04102003
Comments:	The Removal Action Workplan was approved for the excavation of
Comments Date:	04102003
Comments:	approximately 180 cubic yards of soil contaminated with lead
Comments Date:	04102003
Comments:	and cadmium from this site and adjacent areas and the disposal
Comments Date:	04102003
Comments:	of this soil to a permitted disposal facility.
Comments Date:	04262001
Comments:	Samples taken at the site using an XRF. Found up to 38,000
Comments Date:	04262001
Comments:	ppm. of lead.
Comments Date:	05251999
Comments:	Performed site visit as part of PA, and took samples. Found
Comments Date:	05251999
Comments:	lead as high as 11,000 ppm.
Comments Date:	06231999
Comments:	Mailed PA package to U.S. EPA.
Comments Date:	06272003
Comments:	Lead and cadmium-contaminated soil was excavated and removed to
Comments Date:	06272003
Comments:	a permitted disposal facility. Cleanup was completed to a
Comments Date:	06272003
Comments:	residential standard. All confirmation samples were below the
Comments Date:	07302003
Comments:	The Department has determined that all appropriate response
Comments Date:	07302003
Comments:	actions have been completed, that all acceptable engineering

DAVE'S AUTO SERVICE (Continued) **S102860941**

Comments Date:	07302003
Comments:	practices were implemented and that no further removal/remedial
Comments Date:	07302003
Comments:	action is necessary.
Comments Date:	08021999
Comments:	Completed a Preliminary Assessment with sampling for this site.
Comments Date:	08021999
Comments:	It was approved by U.S.EPA on August 2, 1999.
Comments Date:	09252001
Comments:	DTSC's contractor Tetra-tech submitted a report of soil
Comments Date:	09252001
Comments:	sampling. Found up to approximately 1,000 mg./kg lead.
Comments Date:	09252001
Comments:	Tetra-tech will take more surface samples and prepare a
Comments Date:	09252001
Comments:	Removal Action Workplan.
Comments Date:	10191998
Comments:	Changed the site status from PEAR to PEAP.
Comments Date:	10222002
Comments:	Tetra Tech, the contractor, submitted the latest version of
Comments Date:	10222002
Comments:	the RAW. With minor variations, DTSC has approved it.
Comments Date:	11081995
Comments:	Release discovered, date of release is unknown.
Comments Date:	11081995
Comments:	Lab reports show Lead contamination in soil, 971 mg/kg.
Comments Date:	11152002
Comments:	Through its contractor DTSC completed a site investigation
Comments Date:	11152002
Comments:	report as part of the second phase of a remedial investigation
Comments Date:	11152002
Comments:	for this site.
Comments Date:	12201995
Comments:	PEA required letter sent to Dave's Auto Service.
Comments Date:	12201995
Comments:	Not reported
Comments Date:	12201995
Comments:	Contacts:
Comments Date:	12201995
Comments:	Dave's Auto Service: Dave Tucker (619) 562-5432
Comments Date:	12201995
Comments:	Consultant: Safety Compliance Inc
Comments Date:	12201995
Comments:	Charles Ferguson (619) 449-5969
Comments Date:	12201995
Comments:	Not reported
Comments Date:	12201995
Comments:	Radiator repair process tank (above ground) possibly used
Comments Date:	12201995
Comments:	by previous operator (Storr's Auto Repair) indications of
Comments Date:	12201995
Comments:	leakage on-site running off-site at rear. Private
Comments Date:	12201995
Comments:	residence across alley way in rear.
Comments Date:	12201995
Comments:	No action taken as yet. SD County and RWQCB notified.
Comments Date:	12222000

DAVE'S AUTO SERVICE (Continued) **S102860941**

Comments:	I &SE Determination issued.
Comments Date:	06272003
Comments:	action levels of 147 mg/kg lead and 1.4 mg/kg cadmium. Total
ID Name:	CALSTARS CODE
ID Value:	400713
Alternate Name:	DAVE'S AUTO SERVICE
Alternate Name:	Not reported
Special Programs Code:	Not reported
Special Programs Name:	Not reported

I33 **DAVE'S AUTO SERVICE** **RESPONSE** **S108744490**
SSE **10438 MISSION GORGE ROAD** **ENVIROSTOR** **N/A**
1/2-1 **SANTEE, CA 92071** **LIENS**
0.660 mi.
3486 ft. **Site 2 of 2 in cluster I**

Relative:
Higher

Actual:
363 ft.

RESPONSE:

Name:	DAVE'S AUTO SERVICE
Address:	10438 MISSION GORGE ROAD
City,State,Zip:	SANTEE, CA 92071
Facility ID:	37750003
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	0.55
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Joseph Cully
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Site Code:	400713
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	75
Senate:	40
Special Program Status:	Not reported
Status:	Certified
Status Date:	07/30/2003
Restricted Use:	NO
Funding:	Orphan Funds
Latitude:	32.83868
Longitude:	-116.9699
APN:	NONE SPECIFIED
Past Use:	VEHICLE MAINTENANCE
Potential COC :	Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	110033616638
Alias Type:	EPA (FRS #)
Alias Name:	400713
Alias Type:	Project Code (Site Code)
Alias Name:	37750003
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Letter - Notice
Completed Date:	09/03/2009

DAVE'S AUTO SERVICE (Continued) **S108744490**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 07/30/2003
Comments: The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Subst. Endangerment Determination
Completed Date: 12/22/2000
Comments: I &SE Determination issued.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 11/08/1995
Comments: Release discovered, date of release is unknown. Lab reports show Lead contamination in soil, 971 mg/kg.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 07/31/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 08/02/1999
Comments: Completed a Preliminary Assessment with sampling for this site. It was approved by U.S. EPA on August 2, 1999.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 05/03/2001
Comments: Consultant sent final RI workplan, dated May 3, 2001, to DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 10/15/2004
Comments: Field visit was performed on October 15, 2004.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 02/28/2003
Comments: Fact sheet dated February, 2003 was released in English and Spanish.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report

DAVE'S AUTO SERVICE (Continued) **S108744490**

Completed Date:	11/15/2002
Comments:	Approved Site Investigation Report.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Lien Satisfaction
Completed Date:	02/07/2013
Comments:	Even though the property owners have not paid for DTSC's costs, DTSC is releasing the lien from the property because the statute of limitations have been exceeded.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Lien
Completed Date:	05/24/2010
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	04/10/2003
Comments:	The Removal Action Workplan was approved for the excavation of approximately 180 cubic yards of soil contaminated with lead and cadmium from this site and adjacent areas and the disposal of this soil to a permitted disposal facility.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	06/27/2003
Comments:	Lead and cadmium-contaminated soil was excavated and removed to a permitted disposal facility. Cleanup was completed to a residential standard. All confirmation samples were below the action levels of 147 mg/kg lead and 1.4 mg/kg cadmium. Total amount excavated was 224 tons, or an estimated 172 cubic yards.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	12/20/1995
Comments:	PEA required letter sent to Dave's Auto Service. Contacts: Dave's Auto Service: Dave Tucker (619) 562-5432 Consultant: Safety Compliance Inc Charles Ferguson (619) 449-5969 Radiator repair process tank (above ground) possibly used by previous operator (Storr's Auto Repair) indications of leakage on-site running off-site at rear. Private residence across alley way in rear. No action taken as yet. SD County and RWQCB notified.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

DAVE'S AUTO SERVICE (Continued) **S108744490**

ENVIROSTOR:

Name:	DAVE'S AUTO SERVICE
Address:	10438 MISSION GORGE ROAD
City,State,Zip:	SANTEE, CA 92071
Facility ID:	37750003
Status:	Certified
Status Date:	07/30/2003
Site Code:	400713
Site Type:	State Response
Site Type Detailed:	State Response or NPL
Acres:	0.55
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Joseph Cully
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Assembly:	75
Senate:	40
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Orphan Funds
Latitude:	32.83868
Longitude:	-116.9699
APN:	NONE SPECIFIED
Past Use:	VEHICLE MAINTENANCE
Potential COC:	Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	110033616638
Alias Type:	EPA (FRS #)
Alias Name:	400713
Alias Type:	Project Code (Site Code)
Alias Name:	37750003
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Letter - Notice
Completed Date:	09/03/2009
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	07/30/2003
Comments:	The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Imminent and/or Subst. Endangerment Determination
Completed Date:	12/22/2000
Comments:	I &SE Determination issued.

DAVE'S AUTO SERVICE (Continued) **S108744490**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 11/08/1995
Comments: Release discovered, date of release is unknown. Lab reports show Lead contamination in soil, 971 mg/kg.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 07/31/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 08/02/1999
Comments: Completed a Preliminary Assessment with sampling for this site. It was approved by U.S. EPA on August 2, 1999.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 05/03/2001
Comments: Consultant sent final RI workplan, dated May 3, 2001, to DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 10/15/2004
Comments: Field visit was performed on October 15, 2004.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 02/28/2003
Comments: Fact sheet dated February, 2003 was released in English and Spanish.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 11/15/2002
Comments: Approved Site Investigation Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien Satisfaction
Completed Date: 02/07/2013
Comments: Even though the property owners have not paid for DTSC's costs, DTSC is releasing the lien from the property because the statute of limitations have been exceeded.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 05/24/2010
Comments: Not reported

DAVE'S AUTO SERVICE (Continued) **S108744490**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	04/10/2003
Comments:	The Removal Action Workplan was approved for the excavation of approximately 180 cubic yards of soil contaminated with lead and cadmium from this site and adjacent areas and the disposal of this soil to a permitted disposal facility.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	06/27/2003
Comments:	Lead and cadmium-contaminated soil was excavated and removed to a permitted disposal facility. Cleanup was completed to a residential standard. All confirmation samples were below the action levels of 147 mg/kg lead and 1.4 mg/kg cadmium. Total amount excavated was 224 tons, or an estimated 172 cubic yards.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	12/20/1995
Comments:	PEA required letter sent to Dave's Auto Service. Contacts: Dave's Auto Service: Dave Tucker (619) 562-5432 Consultant: Safety Compliance Inc Charles Ferguson (619) 449-5969 Radiator repair process tank (above ground) possibly used by previous operator (Storr's Auto Repair) indications of leakage on-site running off-site at rear. Private residence across alley way in rear. No action taken as yet. SD County and RWQCB notified.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

LIENS:

Name:	DAVE'S AUTO SERVICE
City,State,Zip:	SANTEE, CA 92071
Envirostor Id:	37750003
Latitude:	32.838684
Longitude:	-116.96990
Project Mgr:	JOSEPH CULLY
Project Code:	400713
If Satisfied:	YES
Date Satisfied:	2/7/2013
Site Status:	CERTIFIED
Site Type:	STATE RESPONSE OR NPL
Completed:	05/24/2010
Lien Amount:	$502,417.55
Amount Remaining:	Not reported
APNS:	Not reported

DAVE'S AUTO SERVICE (Continued) **S108744490**

Description: Richard Storrs has leased the entire property from Lloyd Parson and Lloyd and Rose E. Parsons Trust since 1970. David Tucker subleased a portion of this property from Mr. Storrs from 1985 to 1986, and again from 1987 to 1993, and used the building as a radiator repair shop. After the sublease expired in 1993, Mr. Storrs and Mr. Tucker entered into a 20-year sublease agreement for the radiator shop. In 1993, Mr. Storrs evicted Mr. Tucker for nonpayment of rent. A Remedial Investigation was performed at the site, and later a Removal Action Workplan, for the removal of soil contaminated with lead for both the Parsons property and an adjacent property which had also been contaminated. Teh Removal Action was completed, andt he site has been certified.

J34 **ARMY CAMP (SANTEE)** **FUDS** **1024904003**
SE **N/A**
1/2-1 **SANTEE, CA**
0.800 mi.
4222 ft. **Site 1 of 2 in cluster J**

Relative:
Higher

Actual:
376 ft.

FUDS:

EPA Region:	09
Installation ID:	CA99799FA35200
Congressional District Number:	48
Name:	ARMY CAMP (SANTEE)
FUDS Number:	J09CA7323
City:	SANTEE
State:	CA
County:	SAN DIEGO
Object ID:	9501
USACE Division:	SPD
USACE District:	Los Angeles District (SPL)
Status:	Properties without projects
Current Owner:	PRIV: PRIVATE Most of the site is now occupied by various commercial establishments.
EMS Map Link:	https://fudsportal.usace.army.mil/ems/inventory/map?id=62916
Eligibility:	Eligible
Has Projects:	No
NPL Status:	Not reported
Project Required:	No
Feature Description:	The Army acquired the use of the Santee Camp through unknown means sometime in 1941. There are no records of the camp's existence after 1943. The Army used an existing structure, built in approximately 1915, as a headquarters building. The quartermaster units stationed at the camp lived in tents, which were located on the north side and on the east side of the headquarters building. There may also have been tents located to the south of the headquarters building. First-hand witnesses of the camp suggested that the site was used as a fuel depot for Army trucks. The former headquarters building still exists, and is now used as a restaurant. Except for a small field to the south of the headquarters structure, the entire site has been developed into a commercial area. Other than the restaurant building, no other military improvements remain on the property.
Latitude:	32.8375
Longitude:	-116.96666667

J35 **SANTEE ARMY CAMP** **ENVIROSTOR** **S107737292**
SE **N/A**
1/2-1 **SANTEE, CA**
0.802 mi.
4232 ft. **Site 2 of 2 in cluster J**

Relative:
Higher

Actual:
376 ft.

ENVIROSTOR:

Name:	SANTEE ARMY CAMP
Address:	Not reported
City,State,Zip:	SANTEE, CA
Facility ID:	80000969
Status:	Inactive - Needs Evaluation
Status Date:	07/01/2005
Site Code:	Not reported
Site Type:	Military Evaluation
Site Type Detailed:	FUDS
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Assembly:	75
Senate:	40
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	DERA
Latitude:	32.8375
Longitude:	-116.9666
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CA99799FA35200
Alias Type:	Federal Facility ID
Alias Name:	J09CA7323
Alias Type:	INPR
Alias Name:	80000969
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Inventory Project Report (INPR)
Completed Date:	09/21/1999
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

36
East
1/2-1
0.948 mi.
5007 ft.

KETEMA PROCESS EQUIPMENT CO., C/O BAKER PROCESS
9484 MISSION PARK PLACE
SANTEE, CA 92071

ENVIROSTOR **S118757455**
N/A

Relative:
Higher

Actual:
356 ft.

ENVIROSTOR:

Name:	KETEMA PROCESS EQUIPMENT CO., C/O BAKER PROCESS
Address:	9484 MISSION PARK PLACE
City,State,Zip:	SANTEE, CA 92071
Facility ID:	71003382
Status:	No Action Required
Status Date:	09/30/1998
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Cypress
Assembly:	75
Senate:	40
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	32.84870
Longitude:	-116.9574
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAL000178492
Alias Type:	EPA Identification Number
Alias Name:	71003382
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	03/31/2004
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase I Verification
Completed Date:	09/30/1998
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported

KETEMA PROCESS EQUIPMENT CO., C/O BAKER PROCESS (Continued) **S118757455**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 1 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LAKESIDE	S126984237	KEPHART DUMP	SAN DIEGO EUCALYPTUS LANDS	92040	SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/07/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 64

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 79

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 05/30/2023
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/31/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/14/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 09/06/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 04/06/2023
Date Data Arrived at EDR: 04/13/2023
Date Made Active in Reports: 04/19/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/16/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/13/2023
Number of Days to Update: 83

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 71
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/06/2023
Number of Days to Update: 80

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/25/2023
Number of Days to Update: 78

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/06/2023
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 81

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/01/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/25/2023
Number of Days to Update: 81

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/25/2023
Number of Days to Update: 81

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 56

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/09/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/31/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/15/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 81

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/18/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 84

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/09/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/06/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023
Date Data Arrived at EDR: 09/01/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 19

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 04/14/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/28/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/22/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2023
Date Data Arrived at EDR: 07/19/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 83
Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11
Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546
Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/02/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98
Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74
Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/10/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16
Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2023
Date Data Arrived at EDR: 08/22/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 77

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 61

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/04/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 60

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 10/20/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 82

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 09/13/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 65

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/06/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 07/16/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing

Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing

This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 110

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/14/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 09/06/2023
Number of Days to Update: 84

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 03/31/2023
Date Data Arrived at EDR: 05/08/2023
Date Made Active in Reports: 07/31/2023
Number of Days to Update: 84

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/10/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO METO DIST: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing

A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/17/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 75

Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO CO DIST: San Diego County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 08/08/2023
Date Data Arrived at EDR: 08/09/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 78

Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 08/08/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/27/2021
Date Data Arrived at EDR: 09/01/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 79

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Annually

DRYCLEAN FEATHER RIVER DIST: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88
Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 06/08/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/18/2023
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 75
Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 75
Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN JOAQ VAL DIST: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 05/24/2023
Date Data Arrived at EDR: 05/30/2023
Date Made Active in Reports: 08/21/2023
Number of Days to Update: 83
Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 05/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB CO DIST: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 10/13/2023
Number of Days to Update: 78
Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 07/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GLENN CO DIST: Glenn County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 05/02/2023
Date Data Arrived at EDR: 05/03/2023
Date Made Active in Reports: 07/25/2023
Number of Days to Update: 83
Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 05/03/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN EAST KERN DIST: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 01/12/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL CO DIST: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MENDO CO DIST: Mendocino County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/28/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 77

Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MOJAVE DESERT DIST: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTEREY BAY DIST: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SHASTA CO DIST: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO DIST: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER CO DIST: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89

Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 05/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BAY AREA DIST: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432
Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 07/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE CO DIST: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1469
Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN CALAVERAS CO DIST: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412
Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 04/24/2023
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN GRANT: Grant Recipients List
Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 816
Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

DRYCLEAN LAKE CO DIST: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 05/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO COAST UNIFIED DIST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473
Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SIERRA DIST: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 05/07/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SONOMA CO DIST: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 04/17/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB CO DIST: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN TEHAMA CO DIST: Tehama County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468
Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN VENTURA CO DIST: Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 04/16/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77
Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 04/24/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 06/09/2023
Date Made Active in Reports: 08/30/2023
Number of Days to Update: 82
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/15/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79
Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 09/13/2023
Date Data Arrived at EDR: 09/14/2023
Date Made Active in Reports: 09/21/2023
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 09/13/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/16/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 77

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/14/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 78

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/14/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/14/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/14/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 06/29/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/19/2023
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/09/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 07/05/2022
Date Made Active in Reports: 09/19/2022
Number of Days to Update: 76

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/05/2022
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/08/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/16/2023
Number of Days to Update: 83

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/16/2023
Number of Days to Update: 83

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/06/2023
Date Data Arrived at EDR: 06/07/2023
Date Made Active in Reports: 08/25/2023
Number of Days to Update: 79
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82
Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Annually

SANTA CRUZ CO SITE MITI: Site Mitigation Listing
Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20
Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 08/09/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region’s active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/06/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/09/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 81
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/06/2023
Number of Days to Update: 80
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196
Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 06/27/2023
Date Data Arrived at EDR: 06/28/2023
Date Made Active in Reports: 09/14/2023
Number of Days to Update: 78
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77
Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/27/2023
Date Data Arrived at EDR: 06/28/2023
Date Made Active in Reports: 09/14/2023
Number of Days to Update: 78

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/20/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 77

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 08/02/2023
Date Data Arrived at EDR: 08/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 77

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 07/12/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 76

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 13

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 08/03/2023
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 05/31/2023
Number of Days to Update: 34

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 06/21/2023
Date Data Arrived at EDR: 06/28/2023
Date Made Active in Reports: 09/14/2023
Number of Days to Update: 78

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/10/2023
Date Data Arrived at EDR: 07/10/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 79

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/09/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/29/2023
Number of Days to Update: 76

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/19/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/13/2023
Date Data Arrived at EDR: 07/13/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 76

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/20/2023
Date Data Arrived at EDR: 06/22/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 48

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/20/2023
Date Data Arrived at EDR: 06/22/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 82

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/02/2023
Date Data Arrived at EDR: 04/18/2023
Date Made Active in Reports: 07/07/2023
Number of Days to Update: 80

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/12/2023
Date Data Arrived at EDR: 05/02/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 42

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/25/2023
Date Data Arrived at EDR: 08/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 77

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/21/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 04/01/2023
Date Data Arrived at EDR: 05/18/2023
Date Made Active in Reports: 06/14/2023
Number of Days to Update: 27

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/26/2022
Date Data Arrived at EDR: 08/29/2022
Date Made Active in Reports: 11/15/2022
Number of Days to Update: 78

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/10/2023
Date Data Arrived at EDR: 07/11/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/10/2023
Date Data Arrived at EDR: 07/11/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 77
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 09/25/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 09/25/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 05/02/2023
Date Data Arrived at EDR: 05/04/2023
Date Made Active in Reports: 07/25/2023
Number of Days to Update: 82
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/18/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/16/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 77
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 10/26/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/16/2023
Number of Days to Update: 83

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/04/2023
Date Data Arrived at EDR: 04/05/2023
Date Made Active in Reports: 06/27/2023
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 79

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/25/2023
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79

Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/09/2023
Date Data Arrived at EDR: 08/10/2023
Date Made Active in Reports: 10/27/2023
Number of Days to Update: 78

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/08/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 05/10/2023
Date Data Arrived at EDR: 05/11/2023
Date Made Active in Reports: 07/31/2023
Number of Days to Update: 81

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 10/31/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 19

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/01/2023
Date Data Arrived at EDR: 08/02/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 78

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 07/12/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/26/2023
Date Data Arrived at EDR: 07/20/2023
Date Made Active in Reports: 10/03/2023
Number of Days to Update: 75
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/16/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/26/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/13/2023
Number of Days to Update: 80
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/16/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 06/14/2023
Number of Days to Update: 12
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 04/03/2023
Date Data Arrived at EDR: 04/18/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 56
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/26/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 77

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 10/29/2021
Date Made Active in Reports: 01/19/2022
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/05/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/10/2022
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

NOT REPORTED
NOT REPORTED
SANTEE, CA 92071

TARGET PROPERTY COORDINATES

Latitude (North):	32.848446 - 32° 50' 54.41''
Longitude (West):	116.975637 - 116° 58' 32.29''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	502279.8
UTM Y (Meters):	3634295.5
Elevation:	343 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	12008233 EL CAJON, CA
Version Date:	2018

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

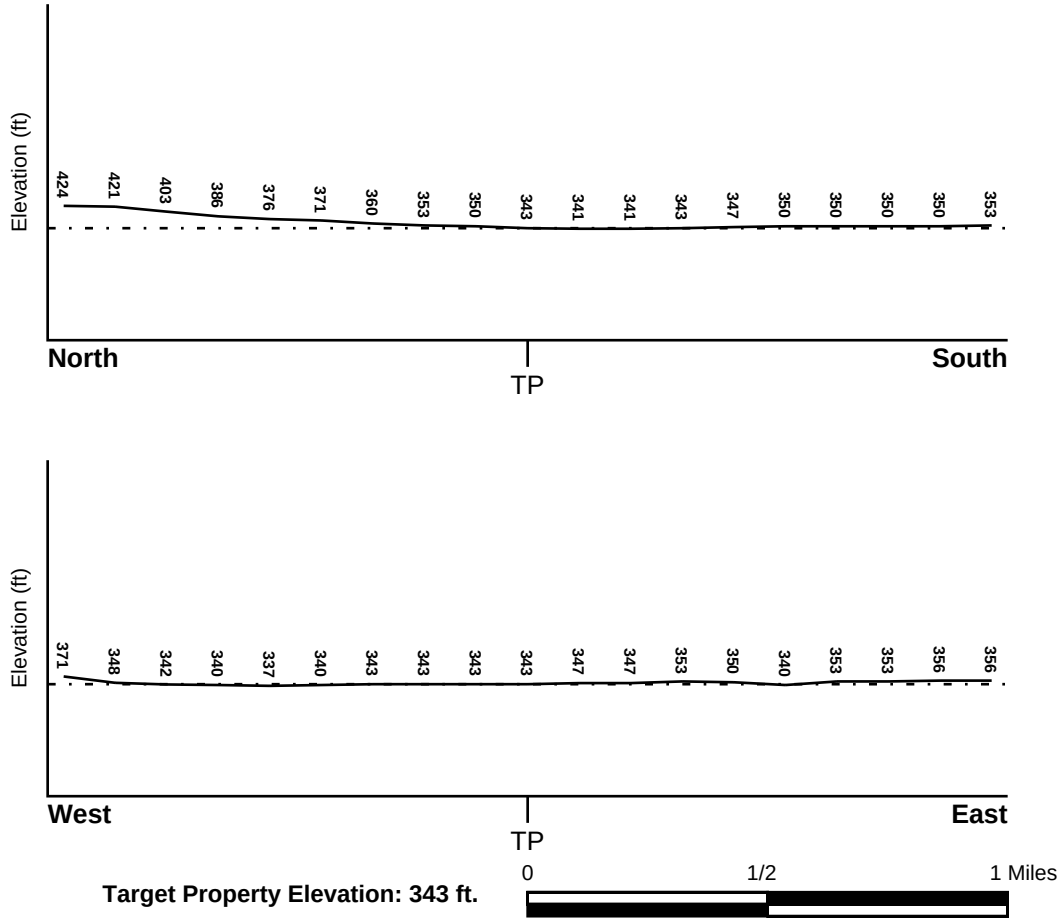
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06073C1651G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06073C1652G	FEMA FIRM Flood data
06073C1653G	FEMA FIRM Flood data
06073C1654G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
EL CAJON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
69	1/2 - 1 Mile SSW	Varies
K86	1/2 - 1 Mile SW	Not Reported
M124	1/2 - 1 Mile SW	NNW
1G	1/2 - 1 Mile SW	NNW
2G	1/2 - 1 Mile SW	Not Reported
3G	1/2 - 1 Mile SSW	Varies

For additional site information, refer to Physical Setting Source Map Findings.

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

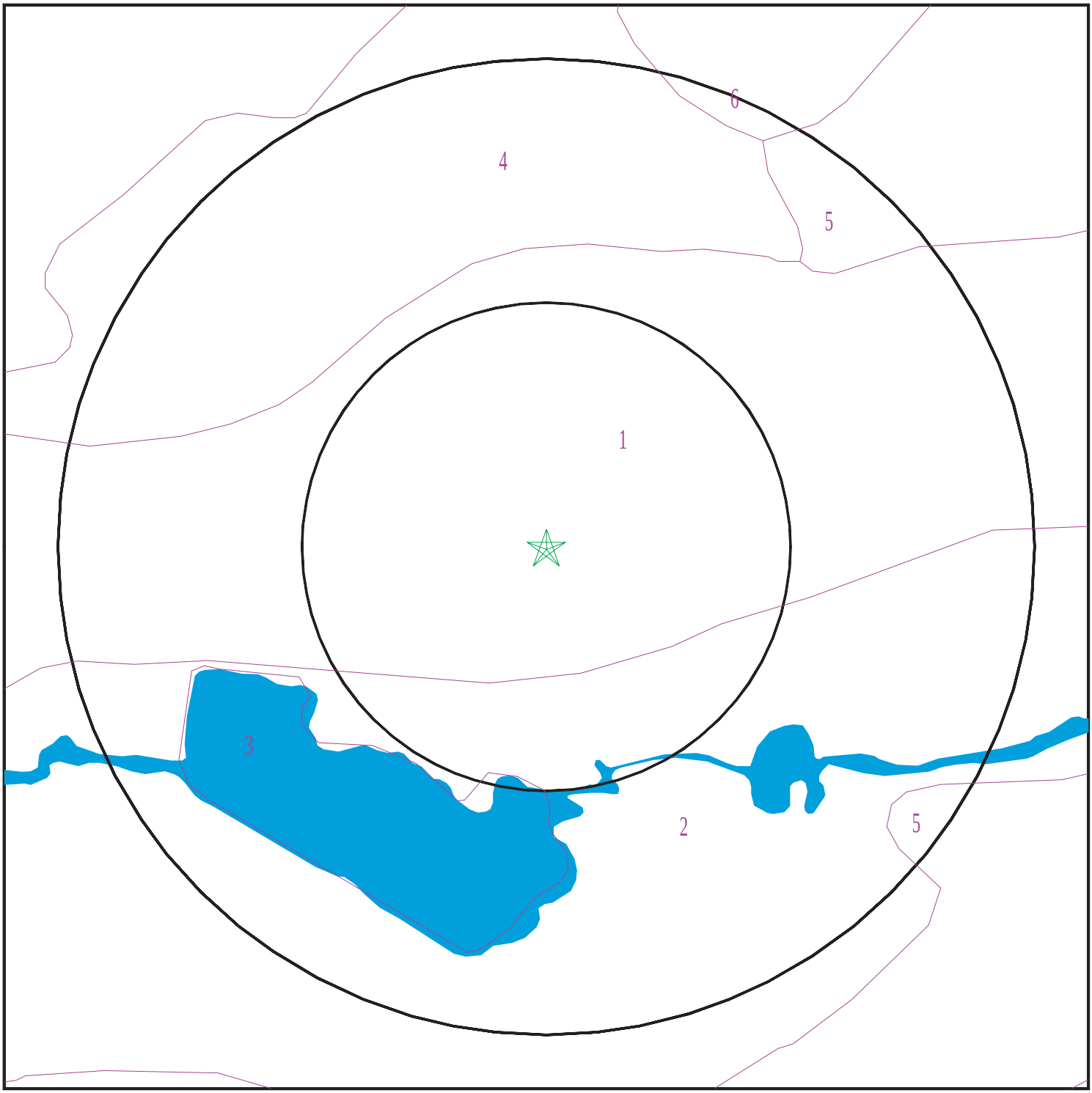
Era:	Mesozoic
System:	Cretaceous
Series:	Cretaceous granitic rocks
Code:	Kg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7493604.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Not Reported	CLIENT:	Stantec
ADDRESS:	Not Reported SANTEE CA 92071	CONTACT:	Alicia R Jansen
		INQUIRY #:	7493604.2s
LAT/LONG:	32.848446 / 116.975637	DATE:	November 09, 2023 3:20 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: TUJUNGA

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.6
2	14 inches	33 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.6
3	33 inches	59 inches	stratified gravelly sand to gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.6

Soil Map ID: 2

Soil Component Name: RIVERWASH

Soil Surface Texture: gravelly coarse sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Excessively drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 168 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	gravelly coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:
2	5 inches	59 inches	stratified extremely gravelly coarse sand to gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: gravelly coarse sand

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: SALINAS

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	22 inches	46 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
3	46 inches	64 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 5

Soil Component Name: VISALIA

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6.5 Min: 6.1
2	11 inches	40 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6.5 Min: 6.1
3	40 inches	59 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6.5 Min: 6.1

Soil Map ID: 6

Soil Component Name: PLACENTIA

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	12 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.9
2	12 inches	33 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D16	USGS40000129916	1/4 - 1/2 Mile ESE
H68	USGS40000129937	1/2 - 1 Mile NE
O130	USGS40000129898	1/2 - 1 Mile SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
66	CA3710037	1/2 - 1 Mile South

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADWR0000003997	1/8 - 1/4 Mile SSE
A2	CAEDF0000093974	1/8 - 1/4 Mile East
A3	CAEDF0000031702	1/8 - 1/4 Mile East
A4	CAEDF0000060710	1/8 - 1/4 Mile East
A5	CAEDF0000106144	1/8 - 1/4 Mile East
A6	CAEDF0000019468	1/8 - 1/4 Mile East
A7	CAEDF0000031787	1/8 - 1/4 Mile East
A8	CAEDF0000113145	1/8 - 1/4 Mile East
A9	CAEDF0000089199	1/8 - 1/4 Mile East
B10	CADWR0000018735	1/4 - 1/2 Mile ESE
B11	CADWR0000024386	1/4 - 1/2 Mile ESE
B12	CADWR0000018644	1/4 - 1/2 Mile ESE
C13	CAEDF0000070482	1/4 - 1/2 Mile North
C14	CAEDF0000104776	1/4 - 1/2 Mile North
C15	CAEDF0000060239	1/4 - 1/2 Mile North
C17	CAEDF0000100286	1/4 - 1/2 Mile North
C18	CAEDF0000102879	1/4 - 1/2 Mile North
D19	CAUSGSN00003066	1/4 - 1/2 Mile ESE
C20	CAEDF0000003858	1/4 - 1/2 Mile North
C21	CAEDF0000014109	1/4 - 1/2 Mile North
C22	CAEDF0000087991	1/4 - 1/2 Mile North
C23	CAEDF0000046896	1/4 - 1/2 Mile North
E24	CAEDF0000106149	1/4 - 1/2 Mile NNE
C25	CAEDF0000080398	1/4 - 1/2 Mile North
C26	CAEDF0000051770	1/4 - 1/2 Mile North
C27	CAEDF0000103694	1/4 - 1/2 Mile North
C28	CAEDF0000075043	1/4 - 1/2 Mile North
E29	CAEDF0000093811	1/4 - 1/2 Mile NE
C30	CAEDF0000022075	1/4 - 1/2 Mile North
C31	CAEDF0000017086	1/4 - 1/2 Mile North
C32	CAEDF0000138987	1/4 - 1/2 Mile North
C33	CAEDF0000049766	1/4 - 1/2 Mile North
C34	CAEDF0000078820	1/4 - 1/2 Mile North
E35	CAEDF0000006551	1/4 - 1/2 Mile NNE
F36	CADWR0000008714	1/4 - 1/2 Mile NE
F37	CADWR0000001600	1/4 - 1/2 Mile NE
E38	CAEDF0000131320	1/4 - 1/2 Mile NNE
E39	CAEDF0000033499	1/4 - 1/2 Mile NNE
E40	CAEDF0000134270	1/4 - 1/2 Mile NNE
E41	CAEDF0000101025	1/4 - 1/2 Mile NNE
E42	CAEDF0000117944	1/4 - 1/2 Mile NNE
E43	CAEDF0000120681	1/4 - 1/2 Mile NNE
E44	CAEDF0000065356	1/4 - 1/2 Mile NNE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

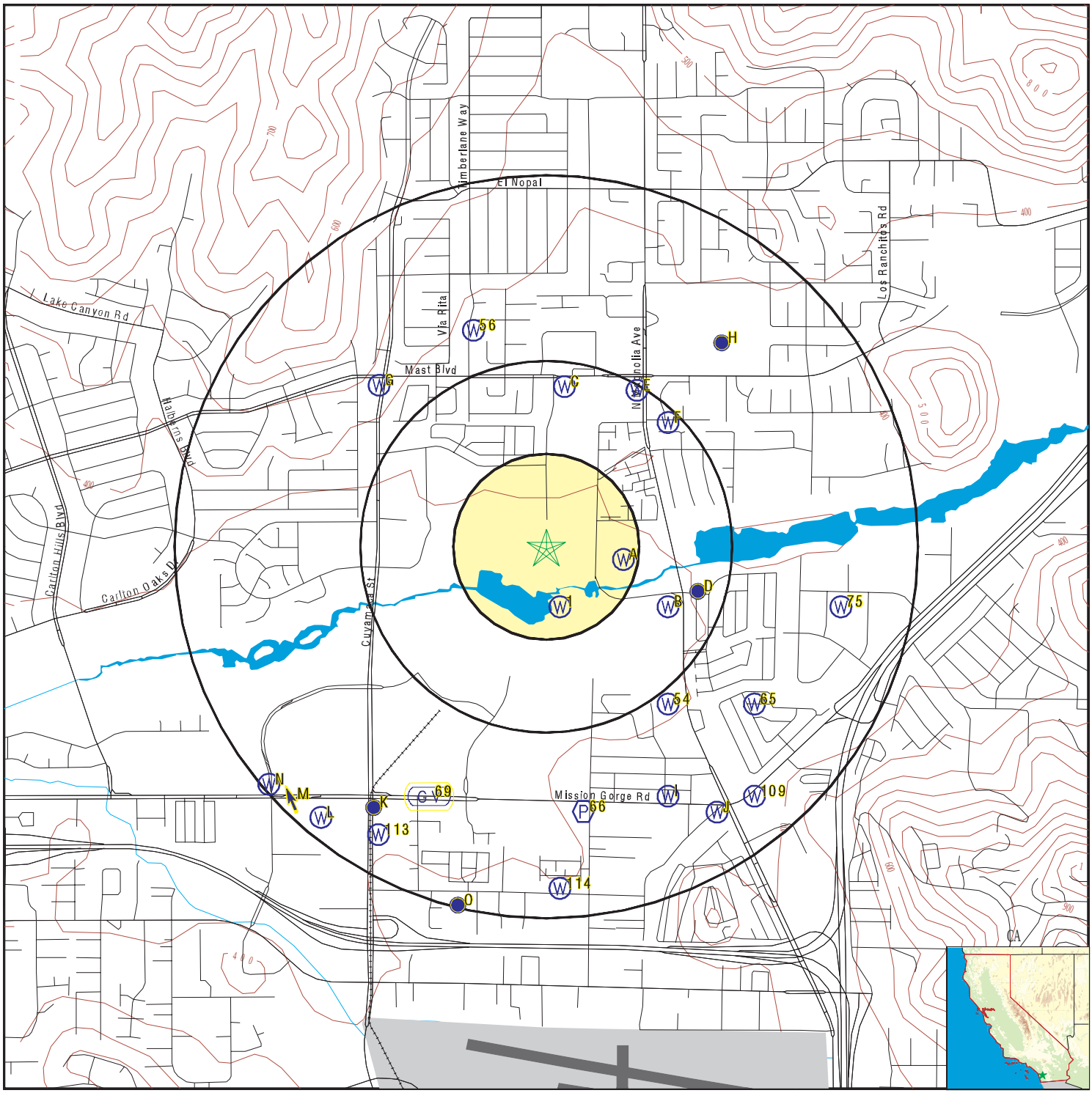
MAP ID	WELL ID	LOCATION FROM TP
E45	CAEDF0000120551	1/4 - 1/2 Mile NNE
E46	CAEDF0000100042	1/4 - 1/2 Mile NNE
E47	CAEDF0000116998	1/4 - 1/2 Mile NNE
E48	CAEDF0000046659	1/2 - 1 Mile NNE
E49	CAEDF0000052163	1/2 - 1 Mile NNE
E50	CAEDF0000083615	1/2 - 1 Mile NNE
E51	CAEDF0000052018	1/2 - 1 Mile NNE
E52	CAEDF0000099776	1/2 - 1 Mile NNE
E53	CAEDF0000021375	1/2 - 1 Mile NNE
54	CADWR0000007857	1/2 - 1 Mile SE
G55	CAEDF0000049461	1/2 - 1 Mile NW
56	CADWR0000004193	1/2 - 1 Mile NNW
G57	CAEDF0000136930	1/2 - 1 Mile NW
G58	CAEDF0000057002	1/2 - 1 Mile NW
G59	CAEDF0000048178	1/2 - 1 Mile NW
G60	CAEDF0000013617	1/2 - 1 Mile NW
G61	CAEDF0000079829	1/2 - 1 Mile NW
G62	CAEDF0000111516	1/2 - 1 Mile NW
G63	CAEDF0000075875	1/2 - 1 Mile NW
G64	CAEDF0000123696	1/2 - 1 Mile NW
65	CADWR0000002796	1/2 - 1 Mile SE
H67	CAUSGSN00015577	1/2 - 1 Mile NE
I70	CADWR0000019673	1/2 - 1 Mile SSE
I71	CADWR0000014893	1/2 - 1 Mile SSE
I72	CADWR0000026129	1/2 - 1 Mile SSE
I73	CADWR0000023171	1/2 - 1 Mile SSE
J74	CAEDF0000060825	1/2 - 1 Mile SSE
75	CADWR0000007719	1/2 - 1 Mile ESE
J76	CAEDF0000092105	1/2 - 1 Mile SSE
J77	CAEDF0000115243	1/2 - 1 Mile SSE
J78	CAEDF0000109451	1/2 - 1 Mile SSE
K79	CAEDF0000099670	1/2 - 1 Mile SSW
K80	CAEDF0000093837	1/2 - 1 Mile SSW
J81	CAEDF0000106266	1/2 - 1 Mile SSE
K82	CAEDF0000102248	1/2 - 1 Mile SSW
K83	CAEDF0000060472	1/2 - 1 Mile SSW
J84	CAEDF0000100627	1/2 - 1 Mile SSE
J85	CAEDF0000114839	1/2 - 1 Mile SSE
J87	CAEDF0000069424	1/2 - 1 Mile SSE
K88	CAEDF0000140458	1/2 - 1 Mile SSW
J89	CAEDF0000131478	1/2 - 1 Mile SSE
K90	CAEDF0000009833	1/2 - 1 Mile SW
J91	CAEDF0000034301	1/2 - 1 Mile SSE
K92	CAEDF0000041070	1/2 - 1 Mile SSW
J93	CAEDF0000115246	1/2 - 1 Mile SSE
J94	CAEDF0000030745	1/2 - 1 Mile SSE
K95	CAEDF0000114995	1/2 - 1 Mile SSW
J96	CAEDF0000084373	1/2 - 1 Mile SSE
J97	CAEDF0000042666	1/2 - 1 Mile SSE
K98	CAEDF0000012435	1/2 - 1 Mile SW
K99	CAEDF0000074175	1/2 - 1 Mile SSW
J100	CAEDF0000058938	1/2 - 1 Mile SE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
J101	CAEDF0000064558	1/2 - 1 Mile SSE
J102	CAEDF0000081592	1/2 - 1 Mile SSE
J103	CAEDF0000097166	1/2 - 1 Mile SE
J104	CAEDF0000107258	1/2 - 1 Mile SSE
K105	CAEDF0000059940	1/2 - 1 Mile SW
J106	CAEDF0000087777	1/2 - 1 Mile SSE
J107	CAEDF0000074976	1/2 - 1 Mile SE
J108	CAEDF0000099868	1/2 - 1 Mile SSE
109	CADWR0000004413	1/2 - 1 Mile SE
J110	CAEDF0000067998	1/2 - 1 Mile SSE
J111	CAEDF0000104365	1/2 - 1 Mile SE
J112	CAEDF0000038778	1/2 - 1 Mile SSE
113	CAEDF0000050860	1/2 - 1 Mile SSW
114	CADWR0000009465	1/2 - 1 Mile South
L115	CAEDF0000014240	1/2 - 1 Mile SW
L116	CAEDF0000076119	1/2 - 1 Mile SW
M117	CAEDF0000106139	1/2 - 1 Mile SW
L118	CAEDF0000126882	1/2 - 1 Mile SW
L119	CAEDF0000142465	1/2 - 1 Mile SW
L120	CAEDF0000035180	1/2 - 1 Mile SW
L121	CAEDF0000010536	1/2 - 1 Mile SW
M122	CAEDF0000118361	1/2 - 1 Mile SW
L123	CAEDF0000137654	1/2 - 1 Mile SW
M125	CAEDF0000095232	1/2 - 1 Mile SW
N126	CAEDF0000037794	1/2 - 1 Mile SW
N127	CAEDF0000035344	1/2 - 1 Mile SW
M128	CADWR0000025975	1/2 - 1 Mile SW
M129	CAEDF0000048880	1/2 - 1 Mile SW
N131	CAEDF0000137743	1/2 - 1 Mile SW
O132	CAUSGSN00015711	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 7493604.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Not Reported	CLIENT:	Stantec
ADDRESS:	Not Reported	CONTACT:	Alicia R Jansen
	SANTEE CA 92071	INQUIRY #:	7493604.2s
LAT/LONG:	32.848446 / 116.975637	DATE:	November 09, 2023 3:20 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
SSE
1/8 - 1/4 Mile
Higher

CA WELLS **CADWR0000003997**

Well ID:	15S01W22P001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22P001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22P001S&store_num=		
GeoTracker Data:	Not Reported		

A2
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000093974**

Well ID:	T0607399232-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-7		

A3
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000031702**

Well ID:	T0607399232-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-8		

A4
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000060710**

Well ID:	T0607399232-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-4		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A5
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000106144**

Well ID:	T0607399232-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-3		

A6
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000019468**

Well ID:	T0607399232-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-1		

A7
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000031787**

Well ID:	T0607399232-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-6		

A8
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000113145**

Well ID:	T0607399232-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-5		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A9
East
1/8 - 1/4 Mile
Higher

CA WELLS **CAEDF0000089199**

Well ID:	T0607399232-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607399232&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607399232&assigned_name=MW-2		

B10
ESE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000018735**

Well ID:	15S01W22Q002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22Q002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22Q002S&store_num=		
GeoTracker Data:	Not Reported		

B11
ESE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000024386**

Well ID:	15S01W22Q003S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22Q003S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22Q003S&store_num=		
GeoTracker Data:	Not Reported		

B12
ESE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000018644**

Well ID:	15S01W22Q001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22Q001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22Q001S&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C13
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000070482**

Well ID:	T0607302618-MW-16	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-16
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-16&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-16		

C14
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000104776**

Well ID:	T0607302618-MW-17	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-17
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-17&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-17		

C15
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000060239**

Well ID:	T0607302618-MW-18	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-18
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-18&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-18		

D16
ESE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000129916**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	015S001W22Q005S	Type:	Well
Description:	Not Reported	HUC:	18070304
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported

Well Hole Depth Units: Not Reported

C17
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000100286**

Well ID:	T0607302618-MW-13	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-13
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-13&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-13		

C18
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000102879**

Well ID:	T0607302618-MW-10	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-10
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-10&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-10		

D19
ESE
1/4 - 1/2 Mile
Higher

CA WELLS **CAUSGSN00003066**

Well ID:	USGS-325048116580401	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-325048116580401	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-325048116580401&store_num=		
GeoTracker Data:	Not Reported		

C20
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000003858**

Well ID:	T0607302618-MW-9	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-9		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C21
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000014109**

Well ID:	T0607302618-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-8		

C22
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000087991**

Well ID:	T0607302618-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-3		

C23
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000046896**

Well ID:	T0607302618-MW-15	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-15
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-15&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-15		

E24
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000106149**

Well ID:	T0607302280-MW-17	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-17
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-17&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-17		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C25
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000080398**

Well ID:	T0607302618-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-2		

C26
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000051770**

Well ID:	T0607302618-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-1		

C27
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000103694**

Well ID:	T0607302618-MW-14	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-14
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-14&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-14		

C28
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000075043**

Well ID:	T0607302618-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-5		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E29
NE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000093811**

Well ID:	T0607302280-MW-16	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-16
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-16&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-16		

C30
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000022075**

Well ID:	T0607302618-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-6		

C31
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000017086**

Well ID:	T0607302618-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-4		

C32
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000138987**

Well ID:	T0607302618-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-7		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C33
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000049766**

Well ID:	T0607302618-MW-11	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-11
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-11&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-11		

C34
North
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000078820**

Well ID:	T0607302618-MW-12	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-12
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302618&assigned_name=MW-12&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302618&assigned_name=MW-12		

E35
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000006551**

Well ID:	T0607302280-MW-10	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-10
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-10&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-10		

F36
NE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000008714**

Well ID:	15S01W22G002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22G002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22G002S&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F37
NE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000001600**

Well ID:	15S01W22G001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22G001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22G001S&store_num=		
GeoTracker Data:	Not Reported		

E38
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000131320**

Well ID:	T0607302280-MW-11	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-11
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-11&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-11		

E39
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000033499**

Well ID:	T0607302280-MW-9	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-9		

E40
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000134270**

Well ID:	T0607302280-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-7		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E41
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000101025**

Well ID:	T0607302280-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-5		

E42
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000117944**

Well ID:	T0607302280-EW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	EW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=EW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=EW-2		

E43
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000120681**

Well ID:	T0607302280-MW-14	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-14
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-14&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-14		

E44
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000065356**

Well ID:	T0607302280-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-8		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E45
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000120551**

Well ID:	T0607302280-MW-18	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-18
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-18&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-18		

E46
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000100042**

Well ID:	T0607302280-EW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	EW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=EW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=EW-1		

E47
NNE
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000116998**

Well ID:	T0607302280-MW-12	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-12
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-12&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-12		

E48
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000046659**

Well ID:	T0607302280-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-4		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E49
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000052163**

Well ID:	T0607302280-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-1		

E50
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000083615**

Well ID:	T0607302280-MW-15	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-15
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-15&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-15		

E51
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000052018**

Well ID:	T0607302280-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-3		

E52
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000099776**

Well ID:	T0607302280-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-2		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E53
NNE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000021375**

Well ID:	T0607302280-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302280&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302280&assigned_name=MW-6		

54
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000007857**

Well ID:	15S01W27B002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27B002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27B002S&store_num=		
GeoTracker Data:	Not Reported		

G55
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000049461**

Well ID:	T0607301535-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-8		

56
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000004193**

Well ID:	15S01W22D001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W22D001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W22D001S&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G57
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000136930**

Well ID:	T0607301535-MW-9	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-9		

G58
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000057002**

Well ID:	T0607301535-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-6		

G59
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000048178**

Well ID:	T0607301535-MW-10	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-10
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-10&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-10		

G60
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000013617**

Well ID:	T0607301535-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-7		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G61
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000079829**

Well ID:	T0607301535-VE-1	Well Type:	MONITORING
Source:	EDF	Other Name:	VE-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=VE-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=VE-1		

G62
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000111516**

Well ID:	T0607301535-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-5		

G63
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000075875**

Well ID:	T0607301535-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-4		

G64
NW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000123696**

Well ID:	T0607301535-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607301535&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607301535&assigned_name=MW-2		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

65
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000002796**

Well ID:	15S01W27A005S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27A005S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27A005S&store_num=		
GeoTracker Data:	Not Reported		

66
South
1/2 - 1 Mile
Higher

FRDS PWS **CA3710037**

Epa region:	09	State:	CA
Pwsid:	CA3710037	Pwsname:	PADRE DAM MWD
Cityserved:	Not Reported	Stateserved:	CA
Zipserved:	Not Reported	Fipscounty:	06073
Status:	Active	Retpopsrvd:	96589
Pwssvcconn:	23379	Psource longname:	Purch_surface_water
Pwstype:	CWS	Owner:	Local_Govt
Contact:	KOWALSKI, FRANK	Contactorgname:	KOWALSKI, FRANK
Contactphone:	619-258-4663	Contactaddress1:	PO BOX 719003
Contactaddress2:	Not Reported	Contactcity:	SANTEE
Contactstate:	CA	Contactzip:	92071
Pwsactivitycode:	A		
PWS ID:	CA3710037	PWS name:	PADRE DAM MWD
Address:	Not Reported	Care of:	Not Reported
City:	SANTEE	State:	CA
Zip:	920729003	Owner:	PADRE DAM MWD
Source code:	Purchases surface water	Population:	75000
PWS ID:	CA3710037	PWS type:	Not Reported
PWS name:	Not Reported	PWS address:	Not Reported
PWS city:	Not Reported	PWS state:	Not Reported
PWS zip:	Not Reported	PWS ID:	CA3710037
Activity status:	Active	Date system activated:	7706
Date system deactivated:	Not Reported	Retail population:	00117000
System name:	PADRE DAM MWD	System address:	Not Reported
System address:	PO BOX 70	System city:	SANTEE
System state:	CA	System zip:	920729003
County FIPS:	Not Reported	City served:	SANTEE-ALPINE V
County FIPS:	073	City served:	SANTEE-ALPINE V
Population served:	over 100,000 Persons	Treatment:	Mixed (treated and untreated)
Latitude:	325017	Longitude:	1165823
Violation ID:	Not Reported	Orig Code:	S
Enforcemnt FY:	2004	Enforcement Action:	10/27/2003
Enforcement Detail:	St Boil Water Order	Enforcement Category:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
H67 **NE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CAUSGSN00015577**

Well ID:	USGS-325123116580001	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-325123116580001	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-325123116580001&store_num=		
GeoTracker Data:	Not Reported		

	Database	EDR ID Number
H68 **NE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000129937**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	015S001W22G002S	Type:	Well
Description:	Not Reported	HUC:	18070304
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

			Database	EDR ID Number
69 **SSW** **1/2 - 1 Mile** **Lower**	Site ID:	Not Reported	**AQUIFLOW**	**33855**
	Groundwater Flow:	Varies		
	Shallow Water Depth:	10.5		
	Deep Water Depth:	13		
	Average Water Depth:	Not Reported		
	Date:	07/05/1995		

	Database	EDR ID Number
I70 **SSE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR0000019673**

Well ID:	15S01W27G005S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27G005S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27G005S&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I71
SSE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000014893**

Well ID:	15S01W27G007S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27G007S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27G007S&store_num=		
GeoTracker Data:	Not Reported		

I72
SSE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000026129**

Well ID:	15S01W27G006S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27G006S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27G006S&store_num=		
GeoTracker Data:	Not Reported		

I73
SSE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000023171**

Well ID:	15S01W27G001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27G001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27G001S&store_num=		
GeoTracker Data:	Not Reported		

J74
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000060825**

Well ID:	T0607303021-W-25	Well Type:	MONITORING
Source:	EDF	Other Name:	W-25
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-25&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-25		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

75
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000007719**

Well ID:	15S01W23N001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W23N001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W23N001S&store_num=		
GeoTracker Data:	Not Reported		

J76
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000092105**

Well ID:	T0607303021-W-22	Well Type:	MONITORING
Source:	EDF	Other Name:	W-22
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-22&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-22		

J77
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000115243**

Well ID:	T0607303021-27	Well Type:	MONITORING
Source:	EDF	Other Name:	27
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=27&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=27		

J78
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000109451**

Well ID:	T0607303021-W-18	Well Type:	MONITORING
Source:	EDF	Other Name:	W-18
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-18&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-18		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K79
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000099670**

Well ID:	T0607302332-MW-9	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-9		

K80
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000093837**

Well ID:	T0607302332-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-4		

J81
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000106266**

Well ID:	T0607303021-W-19	Well Type:	MONITORING
Source:	EDF	Other Name:	W-19
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-19&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-19		

K82
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000102248**

Well ID:	T0607302332-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-2		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K83
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000060472**

Well ID:	T0607302332-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-3		

J84
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000100627**

Well ID:	T0607303021-W-24	Well Type:	MONITORING
Source:	EDF	Other Name:	W-24
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-24&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-24		

J85
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000114839**

Well ID:	T0607303021-W-20	Well Type:	MONITORING
Source:	EDF	Other Name:	W-20
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-20&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-20		

K86
SW
1/2 - 1 Mile
Lower

AQUIFLOW **38759**

Site ID:	Not Reported
Groundwater Flow:	Not Reported
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	13
Date:	07/25/1988

J87
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000069424**

Well ID:	T0607303021-W-17	Well Type:	MONITORING
Source:	EDF	Other Name:	W-17

GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-17&store_num=
GeoTracker Data: https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-17

K88
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000140458**

Well ID: T0607302332-MW-10 Well Type: MONITORING
Source: EDF Other Name: MW-10
GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-10&store_num=
GeoTracker Data: https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-10

J89
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000131478**

Well ID: T0607303021-W-23 Well Type: MONITORING
Source: EDF Other Name: W-23
GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-23&store_num=
GeoTracker Data: https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-23

K90
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000009833**

Well ID: T0607302332-MW-5 Well Type: MONITORING
Source: EDF Other Name: MW-5
GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-5&store_num=
GeoTracker Data: https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-5

J91
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000034301**

Well ID: T0607303021-W-16 Well Type: MONITORING
Source: EDF Other Name: W-16
GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-16&store_num=

GeoTracker Data: https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-16

K92
SSW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000041070**

Well ID:	T0607302332-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-1		

J93
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000115246**

Well ID:	T0607303021-W-21	Well Type:	MONITORING
Source:	EDF	Other Name:	W-21
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-21&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-21		

J94
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000030745**

Well ID:	T0607303021-W-15	Well Type:	MONITORING
Source:	EDF	Other Name:	W-15
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-15&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-15		

K95
SSW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000114995**

Well ID:	T0607302332-MW-8	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-8
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-8&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-8		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J96
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000084373**

Well ID:	T0607303021-28	Well Type:	MONITORING
Source:	EDF	Other Name:	28
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=28&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=28		

J97
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000042666**

Well ID:	T0607303021-W-13	Well Type:	MONITORING
Source:	EDF	Other Name:	W-13
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-13&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-13		

K98
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000012435**

Well ID:	T0607302332-MW-11	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-11
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-11&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-11		

K99
SSW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000074175**

Well ID:	T0607302332-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-7		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J100
SE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000058938**

Well ID:	T0607303021-32	Well Type:	MONITORING
Source:	EDF	Other Name:	32
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=32&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=32		

J101
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000064558**

Well ID:	T0607303021-W-14	Well Type:	MONITORING
Source:	EDF	Other Name:	W-14
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-14&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-14		

J102
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000081592**

Well ID:	T0607303021-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=MW-4		

J103
SE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000097166**

Well ID:	T0607303021-31	Well Type:	MONITORING
Source:	EDF	Other Name:	31
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=31&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=31		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J104
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000107258**

Well ID:	T0607303021-26	Well Type:	MONITORING
Source:	EDF	Other Name:	26
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=26&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=26		

K105
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000059940**

Well ID:	T0607302332-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607302332&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607302332&assigned_name=MW-6		

J106
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000087777**

Well ID:	T0607303021-W-12	Well Type:	MONITORING
Source:	EDF	Other Name:	W-12
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=W-12&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=W-12		

J107
SE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000074976**

Well ID:	T0607303021-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=MW-2		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J108
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000099868**

Well ID:	T0607303021-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=MW-6		

109
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000004413**

Well ID:	15S01W27H001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27H001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27H001S&store_num=		
GeoTracker Data:	Not Reported		

J110
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000067998**

Well ID:	T0607303021-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=MW-3		

J111
SE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000104365**

Well ID:	T0607303021-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=MW-1		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J112
SSE
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000038778**

Well ID:	T0607303021-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0607303021&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0607303021&assigned_name=MW-5		

113
SSW
1/2 - 1 Mile
Higher

CA WELLS **CAEDF0000050860**

Well ID:	T06019785894-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T06019785894&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T06019785894&assigned_name=MW-1		

114
South
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000009465**

Well ID:	15S01W27L001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W27L001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W27L001S&store_num=		
GeoTracker Data:	Not Reported		

L115
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000014240**

Well ID:	SL209164191-MW-6	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-6
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-6&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-6		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L116
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000076119**

Well ID:	SL209164191-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-3		

M117
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000106139**

Well ID:	SL209164191-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-5		

L118
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000126882**

Well ID:	SL209164191-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-4		

L119
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000142465**

Well ID:	SL209164191-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-2		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L120
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000035180**

Well ID:	SL209164191-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-1		

L121
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000010536**

Well ID:	SL209164191-MW-7	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-7
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-7&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-7		

M122
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000118361**

Well ID:	SL209164191-MW-12	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-12
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-12&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-12		

L123
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000137654**

Well ID:	SL209164191-MW-9	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-9
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-9&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-9		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

			Database	EDR ID Number
M124 **SW** **1/2 - 1 Mile** **Lower**	Site ID:	Not Reported	**AQUIFLOW**	**38454**
	Groundwater Flow:	NNW		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	10		
	Date:	09/09/1988		

M125
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000095232**

Well ID:	SL209164191-MW-10	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-10
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-10&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-10		

N126
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000037794**

Well ID:	SL209164191-MW-14	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-14
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-14&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-14		

N127
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000035344**

Well ID:	SL209164191-MW-13	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-13
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-13&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-13		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M128
SW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000025975**

Well ID:	15S01W28G001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	15S01W28G001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=15S01W28G001S&store_num=		
GeoTracker Data:	Not Reported		

M129
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000048880**

Well ID:	SL209164191-MW-11	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-11
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-11&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-11		

O130
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000129898**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	015S001W28R005S	Type:	Well
Description:	Not Reported	HUC:	18070304
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

N131
SW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000137743**

Well ID:	SL209164191-MW-15	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-15
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL209164191&assigned_name=MW-15&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL209164191&assigned_name=MW-15		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation				Database	EDR ID Number
O132 **SSW** **1/2 - 1 Mile** **Higher**				**CA WELLS**	**CAUSGSN00015711**
Well ID:	USGS-325004116584401	Well Type:	UNK		
Source:	United States Geological Survey				
Other Name:	USGS-325004116584401	GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-325004116584401&store_num=				
GeoTracker Data:	Not Reported				

1G **SW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported NNW Not Reported Not Reported 10 09/09/1988	**AQUIFLOW**	**38454**

2G **SW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported Not Reported Not Reported Not Reported 13 07/25/1988	**AQUIFLOW**	**38759**

3G **SSW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported Varies 10.5 13 Not Reported 07/05/1995	**AQUIFLOW**	**33855**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92071	27	2

Federal EPA Radon Zone for SAN DIEGO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 92071

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	-0.100 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX E
HISTORICAL RECORDS

Not Reported

Not Reported

SANTEE, CA 92071

Inquiry Number: 7493604.3

November 09, 2023

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/09/23

Site Name:	Client Name:
Not Reported	Stantec
Not Reported	735 E. Carnegie Drive, Suite 280
SANTEE, CA 92071	SAN BERNARDINO, CA 92408
EDR Inquiry # 7493604.3	Contact: Alicia R Jansen

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Stantec were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 4D6B-4777-BFC9

PO # NA

Project CV Santee 3

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 4D6B-4777-BFC9

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Not Reported

Not Reported

SANTEE, CA 92071

Inquiry Number: 7493604.4

November 09, 2023

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/09/23

Site Name:	Client Name:
Not Reported	Stantec
Not Reported	735 E. Carnegie Drive, Suite 280
SANTEE, CA 92071	SAN BERNARDINO, CA 92408
EDR Inquiry # 7493604.4	Contact: Alicia R Jansen

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Stantec were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA

Project: CV Santee 3

Coordinates:

Latitude:	32.848446 32° 50' 54" North
Longitude:	-116.975637 -116° 58' 32" West
UTM Zone:	Zone 11 North
UTM X Meters:	502279.77
UTM Y Meters:	3634486.12
Elevation:	343.00' above sea level

Maps Provided:

2018	1947
2015	1942
2012	1939
1996	1903
1975	1901
1967	1893
1955	
1948	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2018 Source Sheets

El Cajon
2018
7.5-minute, 24000

La Mesa
2018
7.5-minute, 24000

2015 Source Sheets

El Cajon
2015
7.5-minute, 24000

La Mesa
2015
7.5-minute, 24000

2012 Source Sheets

El Cajon
2012
7.5-minute, 24000

La Mesa
2012
7.5-minute, 24000

1996 Source Sheets

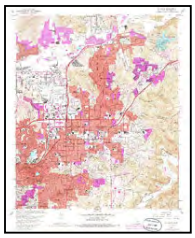
El Cajon
1996
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1975 Source Sheets

La Mesa
1975
7.5-minute, 24000
Aerial Photo Revised 1975



El Cajon
1975
7.5-minute, 24000
Aerial Photo Revised 1975

1967 Source Sheets

El Cajon
1967
7.5-minute, 24000
Aerial Photo Revised 1966

La Mesa
1967
7.5-minute, 24000
Aerial Photo Revised 1966

1955 Source Sheets

El Cajon
1955
7.5-minute, 24000
Aerial Photo Revised 1953

1948 Source Sheets

EL CAJON
1948
15-minute, 50000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1947 Source Sheets

El Cajon
1947
15-minute, 62500

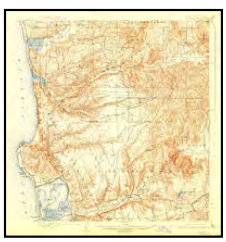
1942 Source Sheets

El Cajon
1942
15-minute, 62500

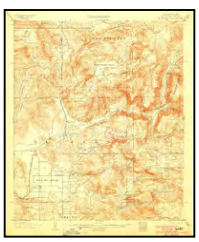
1939 Source Sheets

El Cajon
1939
15-minute, 62500

1903 Source Sheets



La Jolla
1903
15-minute, 62500



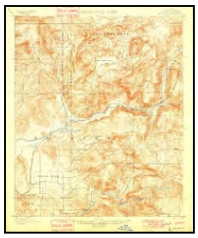
Elcajon
1903
15-minute, 62500

El Cajon
1903
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1901 Source Sheets



Elcajon
1901
15-minute, 62500

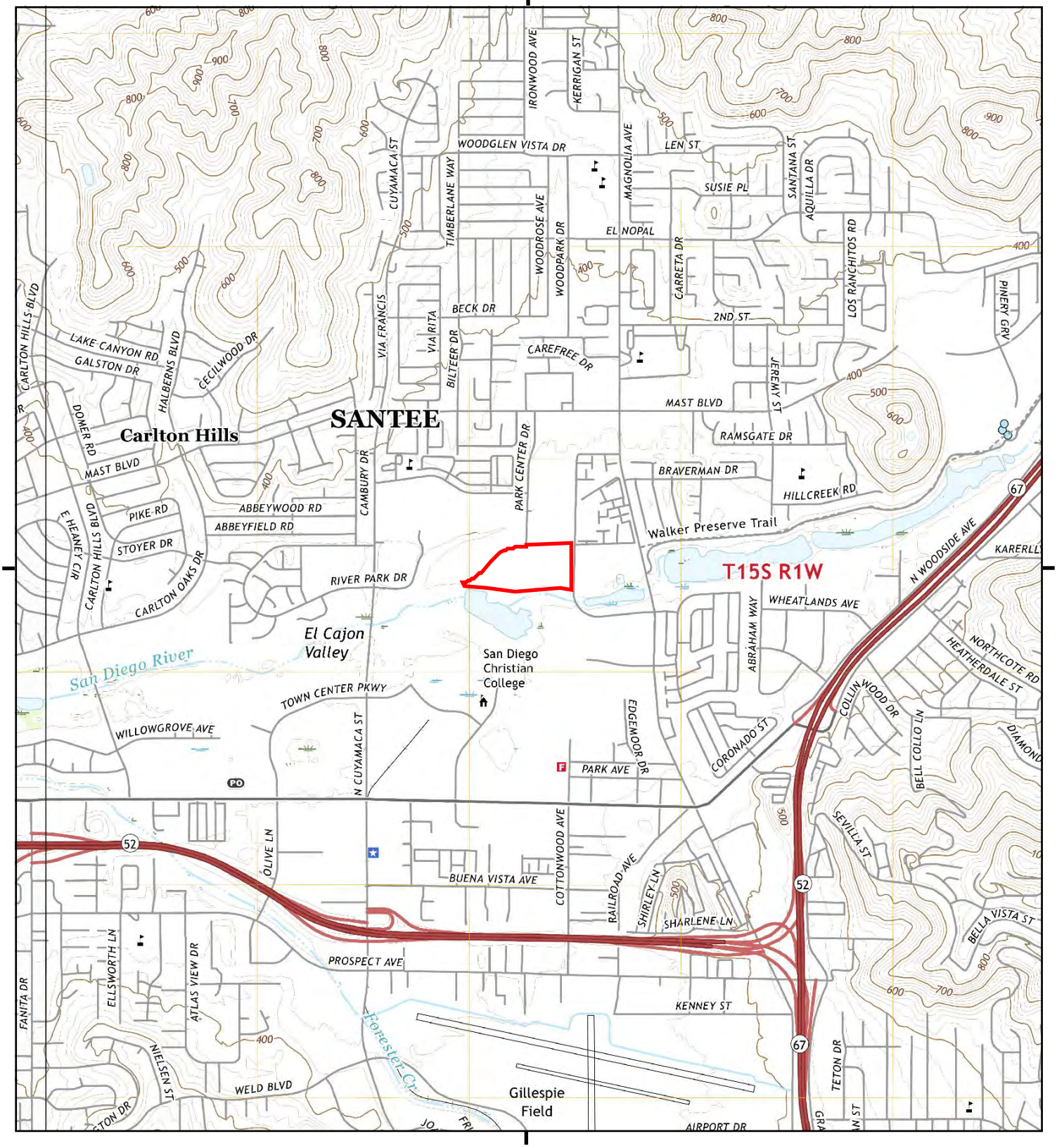
1893 Source Sheets

El Cajon
1893
15-minute, 62500

Elcajon
1893
15-minute, 62500

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

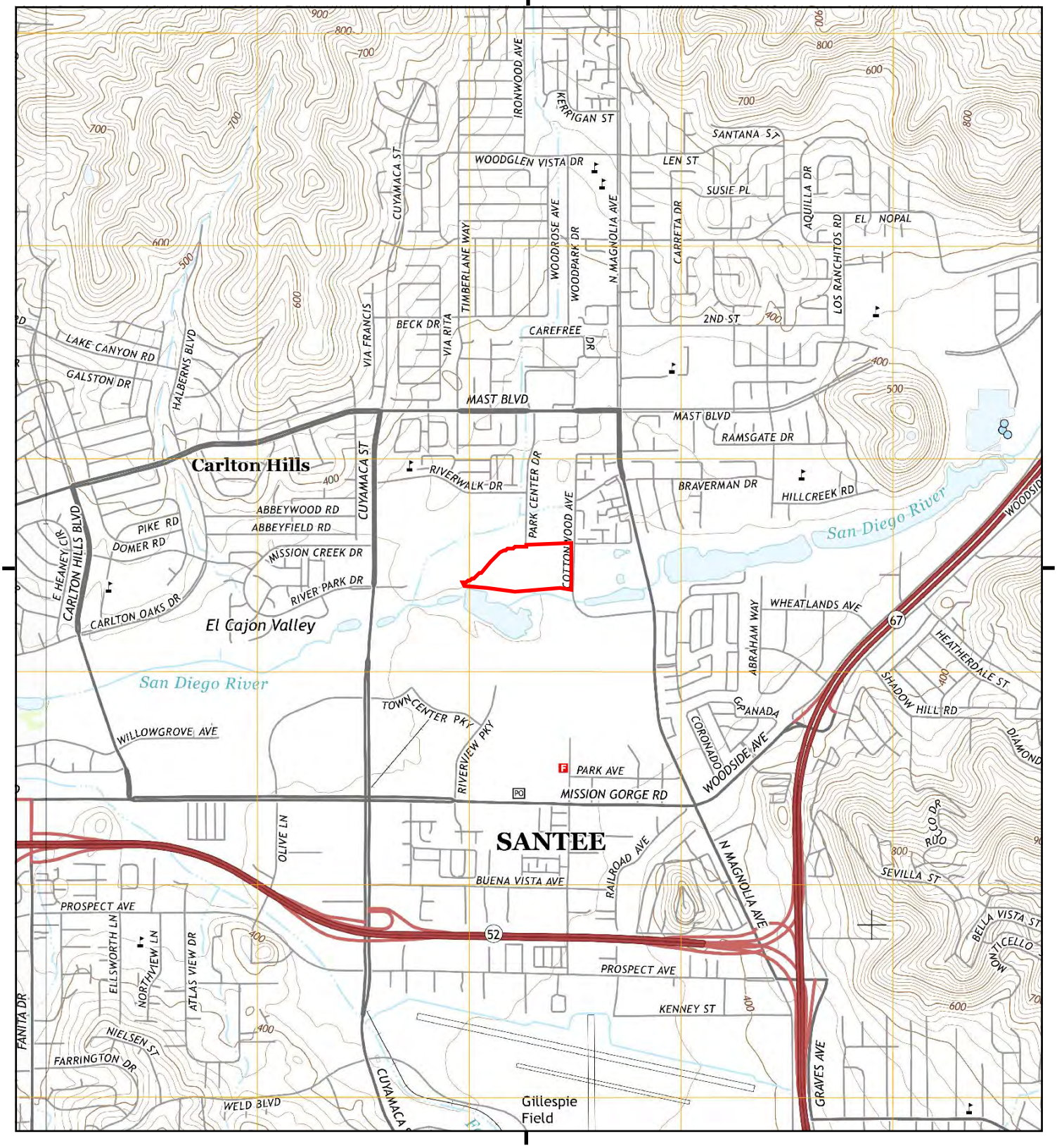
TP, El Cajon, 2018, 7.5-minute
SW, La Mesa, 2018, 7.5-minute

SITE NAME: Not Reported
ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

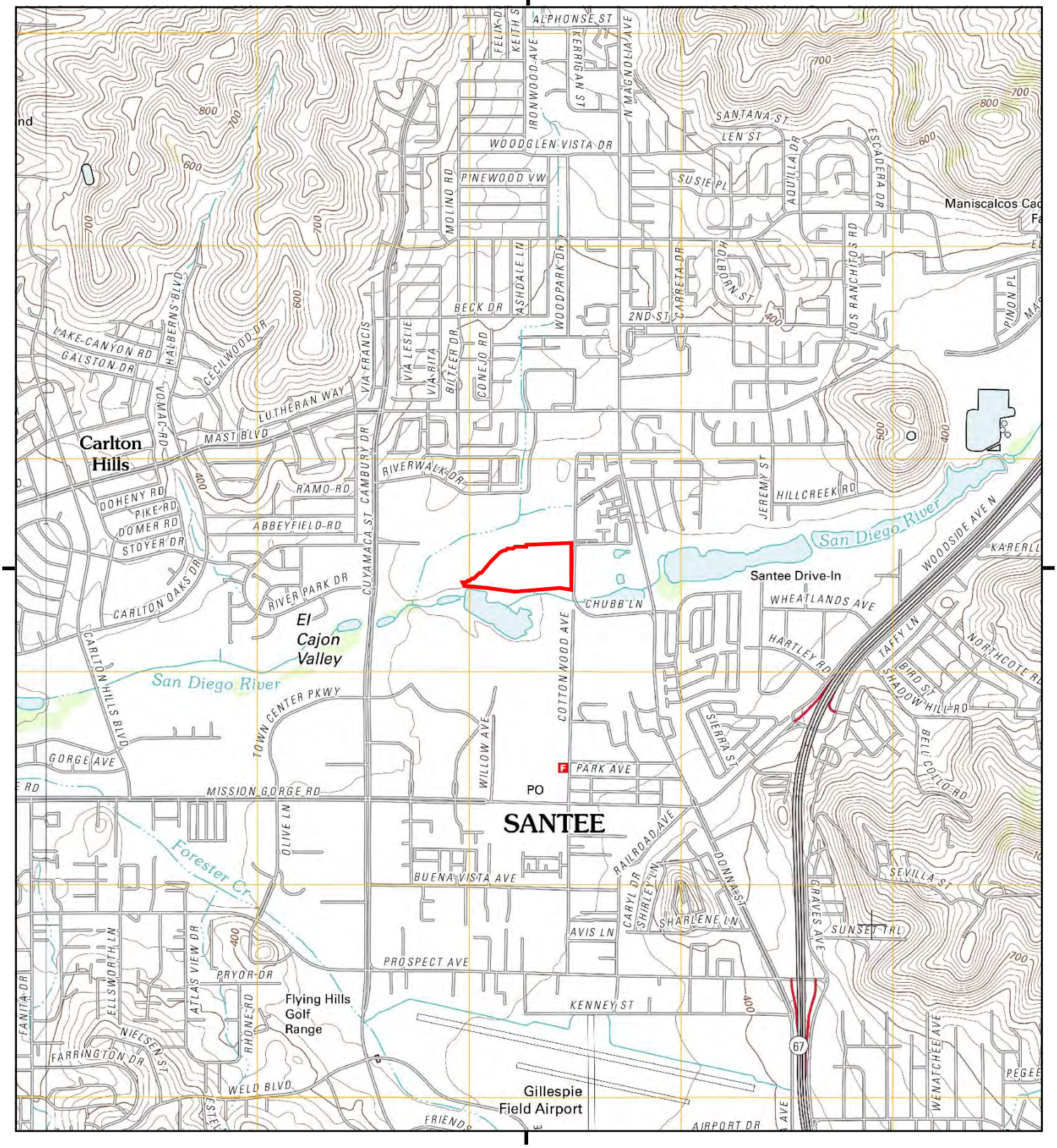
TP, El Cajon, 2015, 7.5-minute
SW, La Mesa, 2015, 7.5-minute

SITE NAME: Not Reported
ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

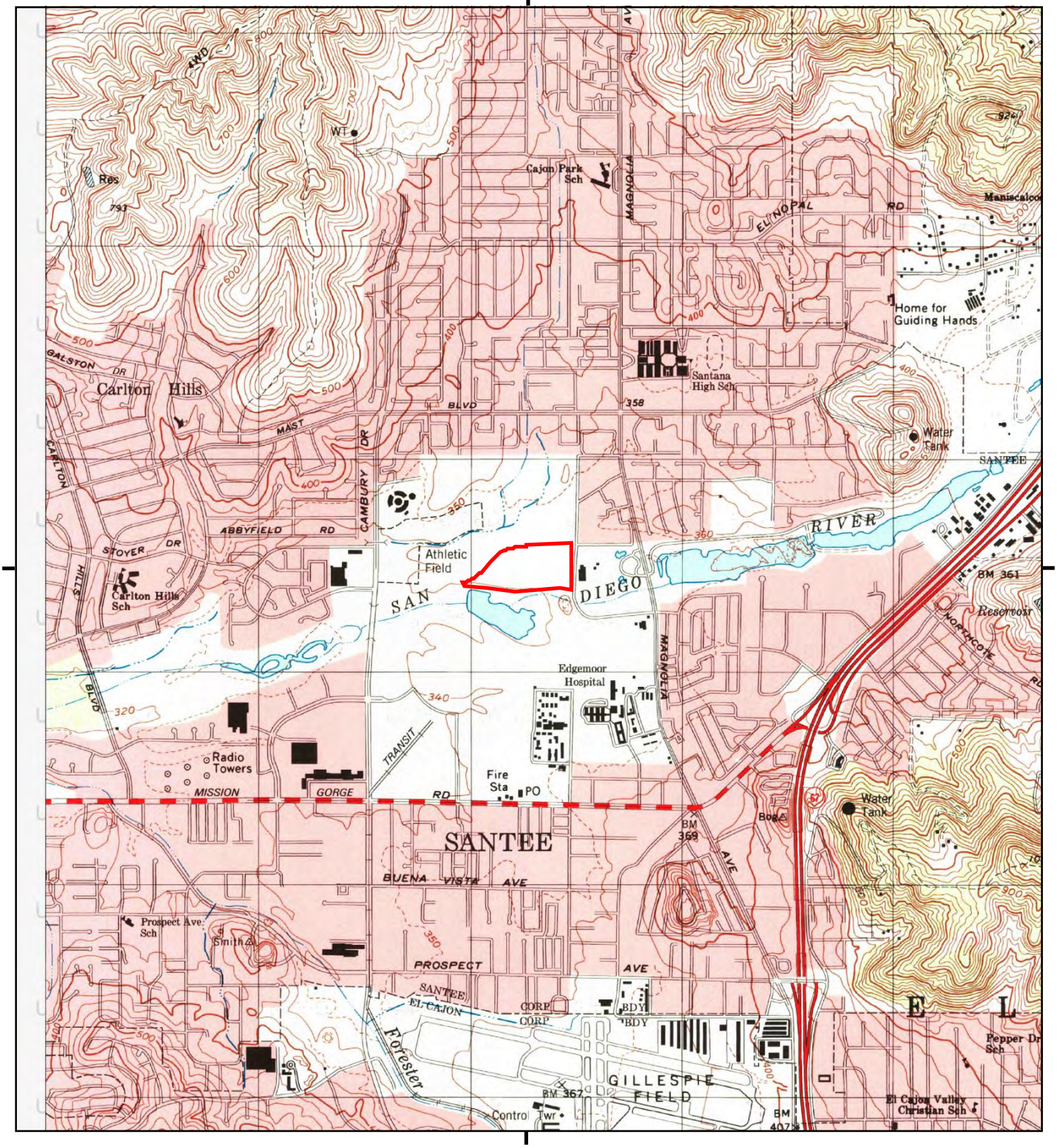
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Cajon, 2012, 7.5-minute
SW, La Mesa, 2012, 7.5-minute

SITE NAME: Not Reported
ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

N



This report includes information from the following map sheet(s).

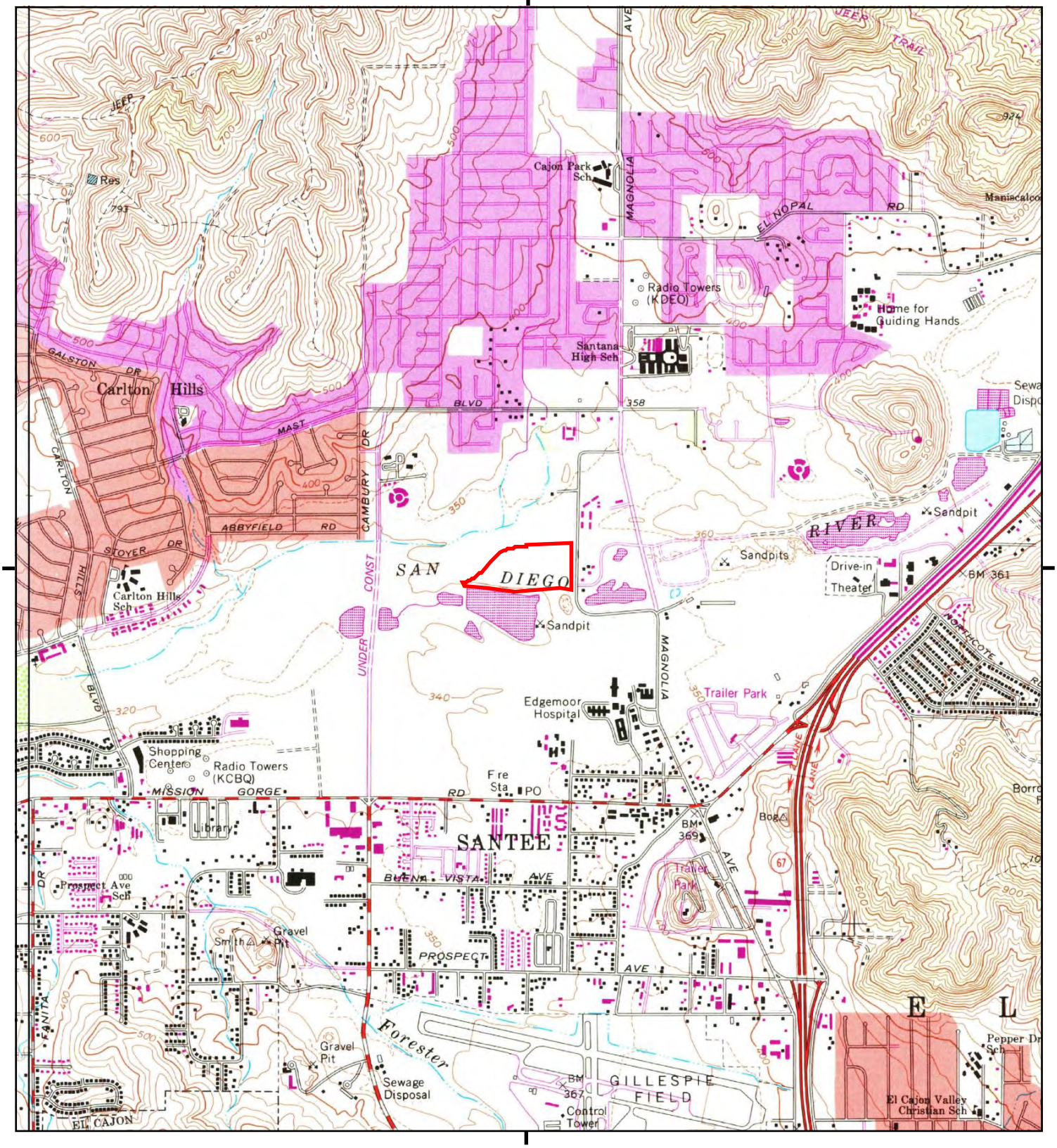
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, El Cajon, 1996, 7.5-minute

SITE NAME: Not Reported
ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

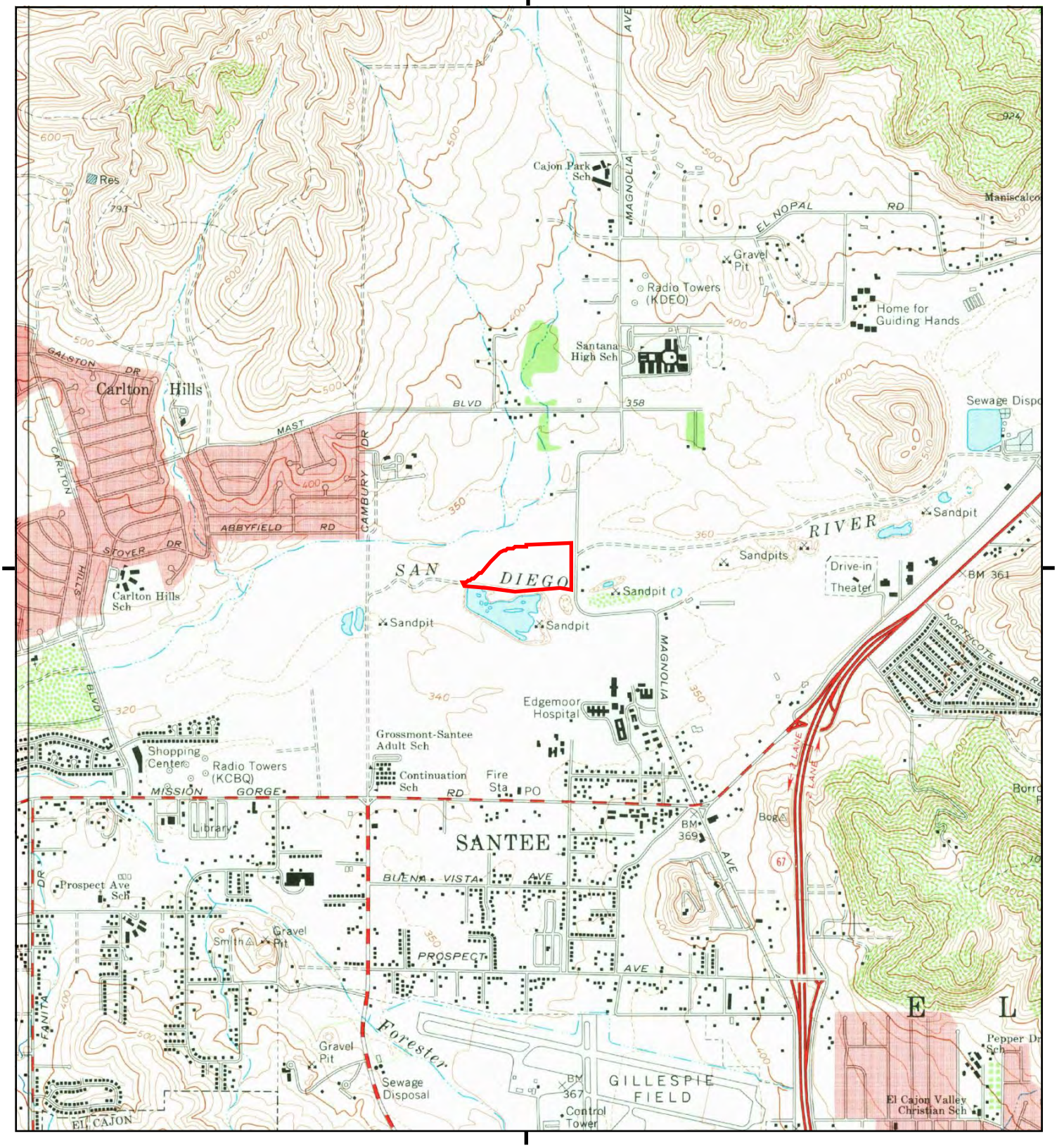
TP, El Cajon, 1975, 7.5-minute
SW, La Mesa, 1975, 7.5-minute

SITE NAME: Not Reported
ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

N

Historical Topo Map

1967



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W E
SW S SE

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SW, La Mesa, 1967, 7.5-minute

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ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

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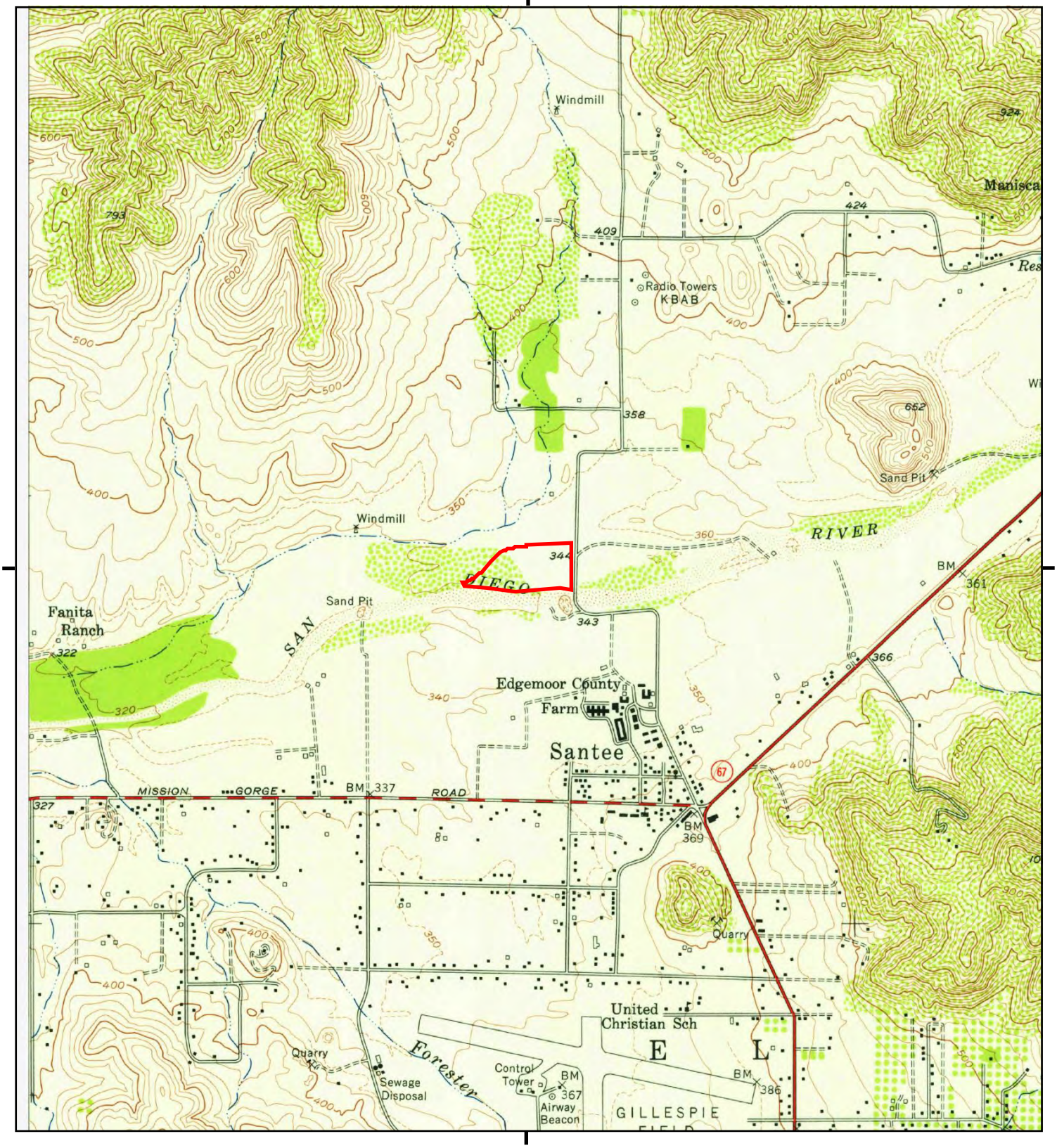

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SANTEE, CA 92071
CLIENT: Stantec

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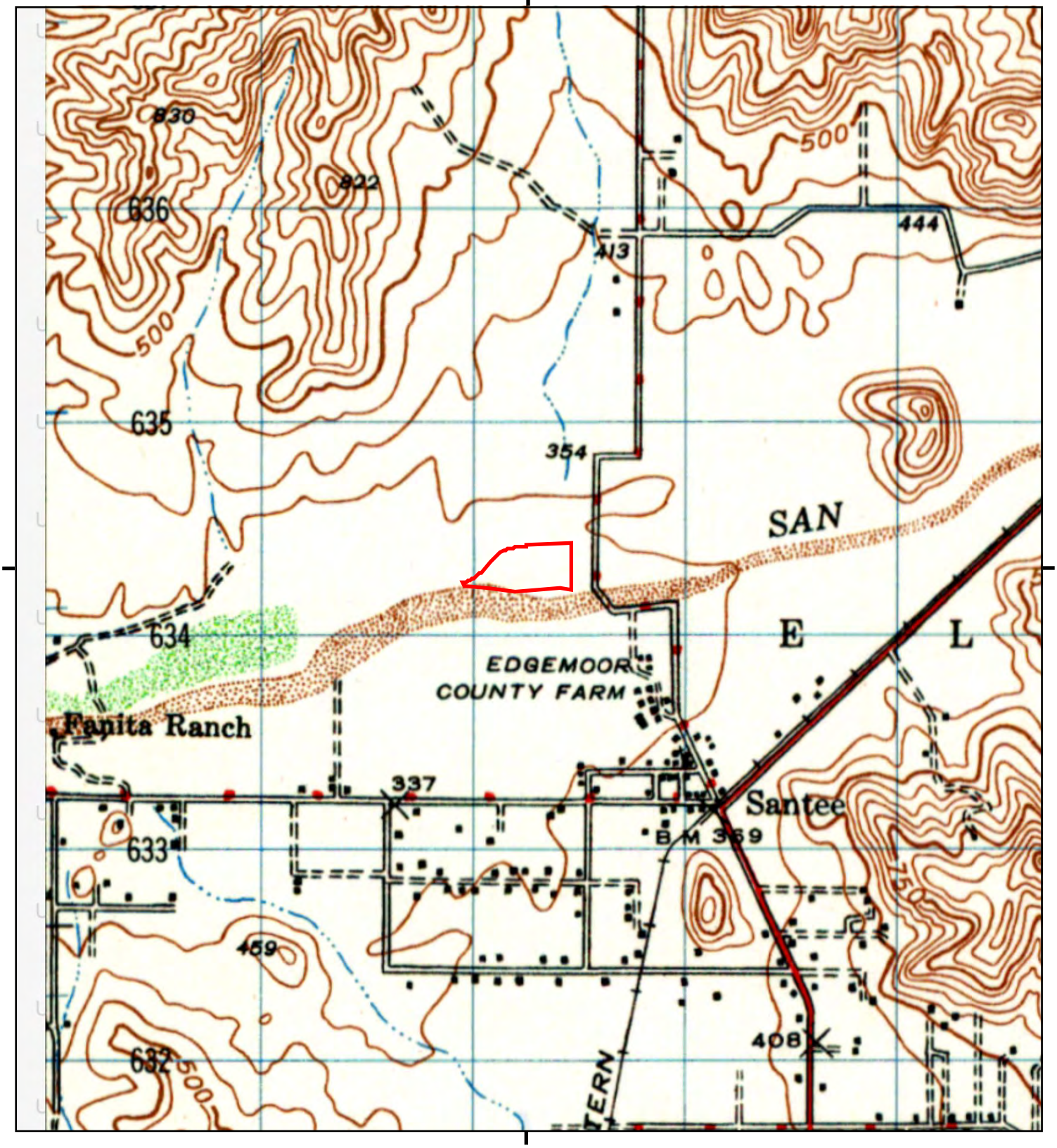

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SW S SE

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ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

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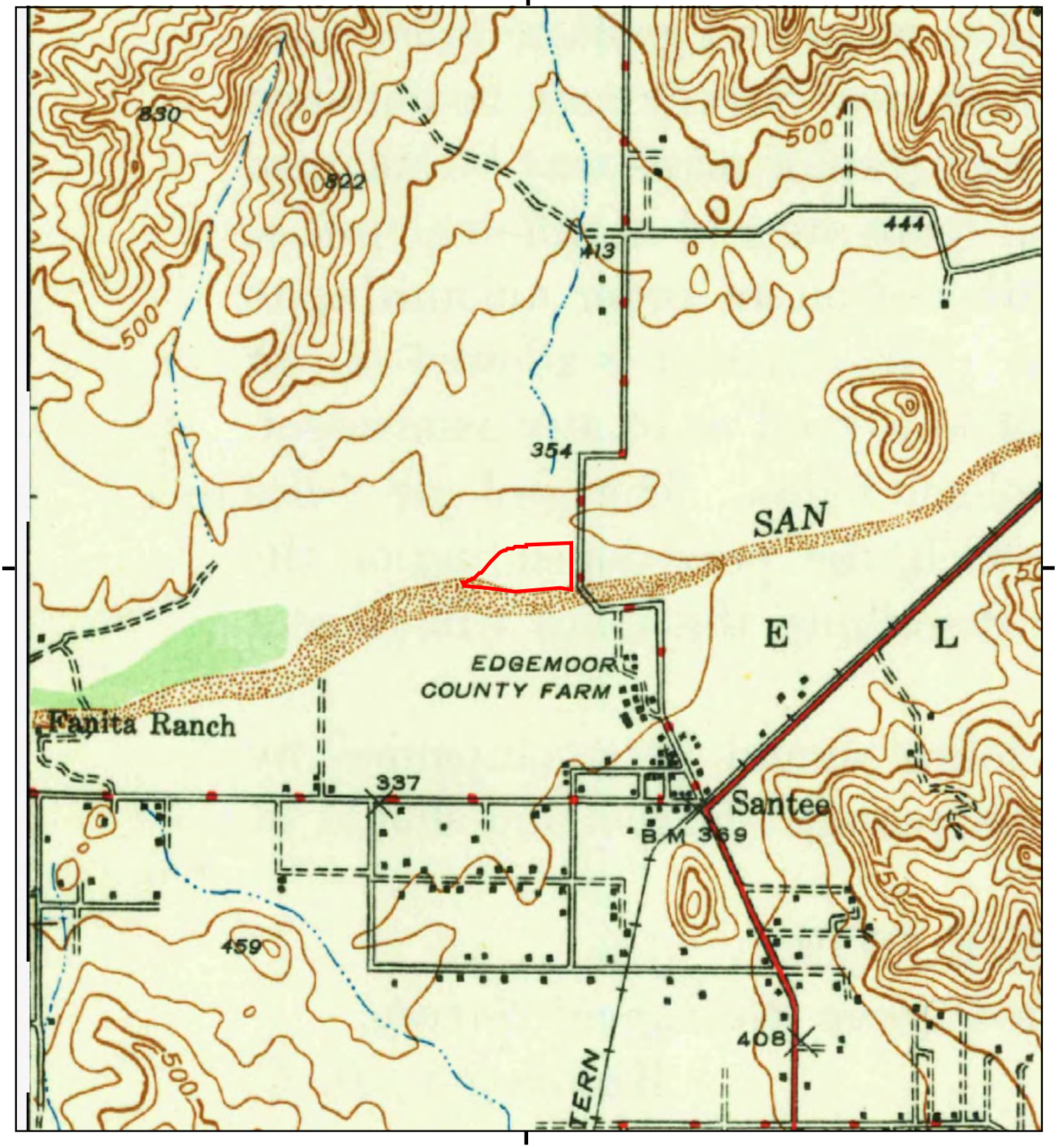

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CLIENT: Stantec

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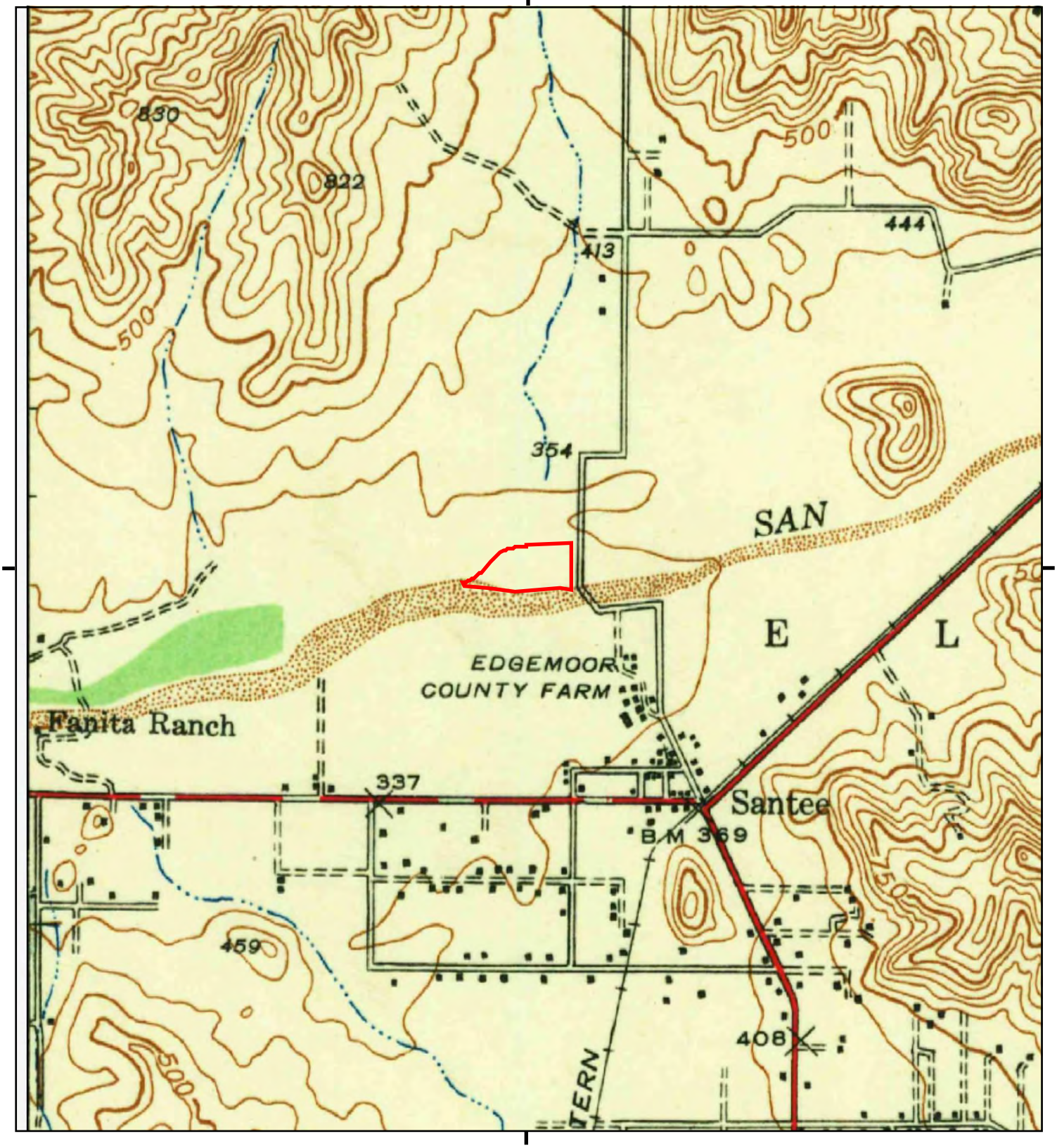

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SANTEE, CA 92071
CLIENT: Stantec

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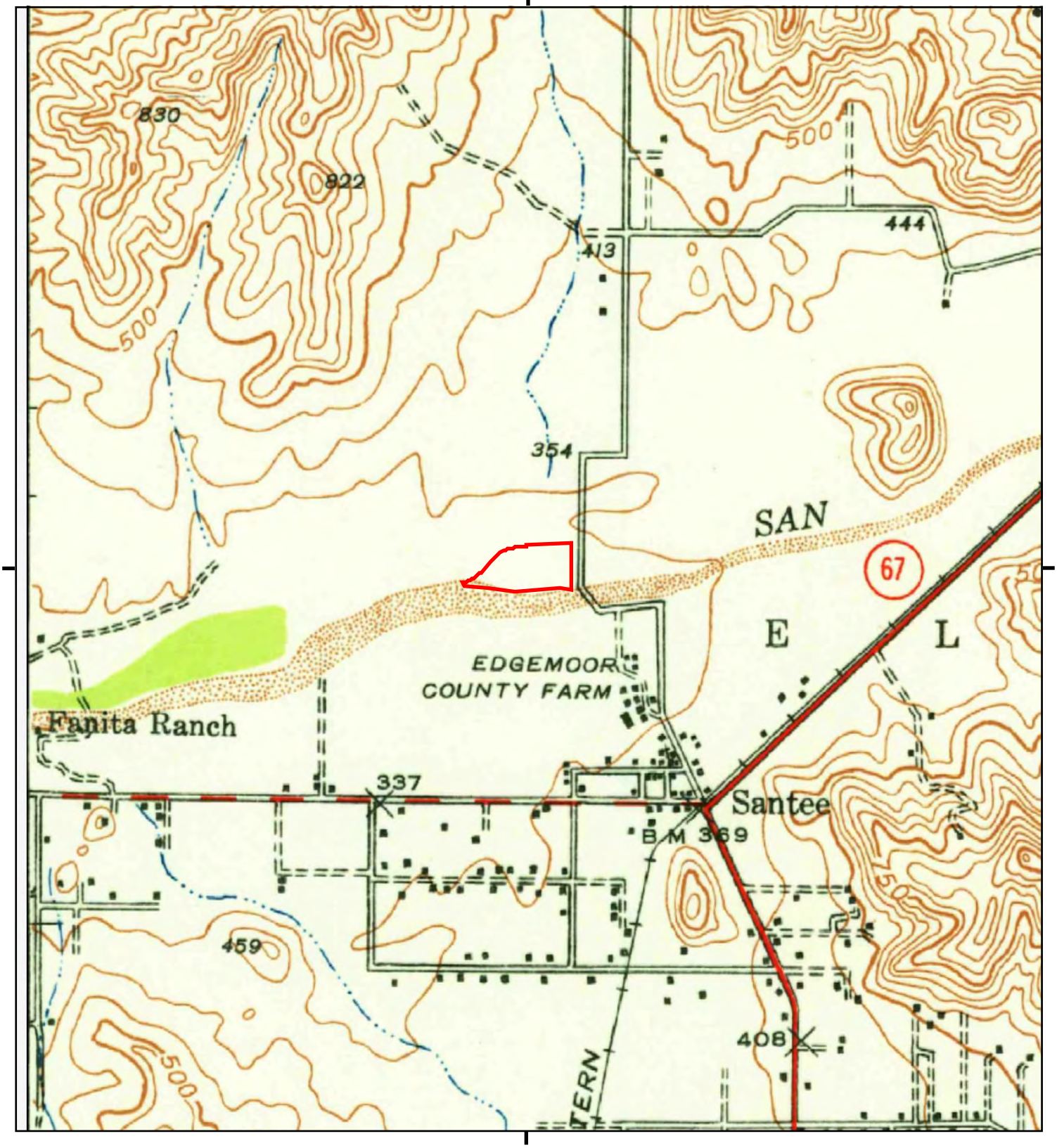

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CLIENT: Stantec

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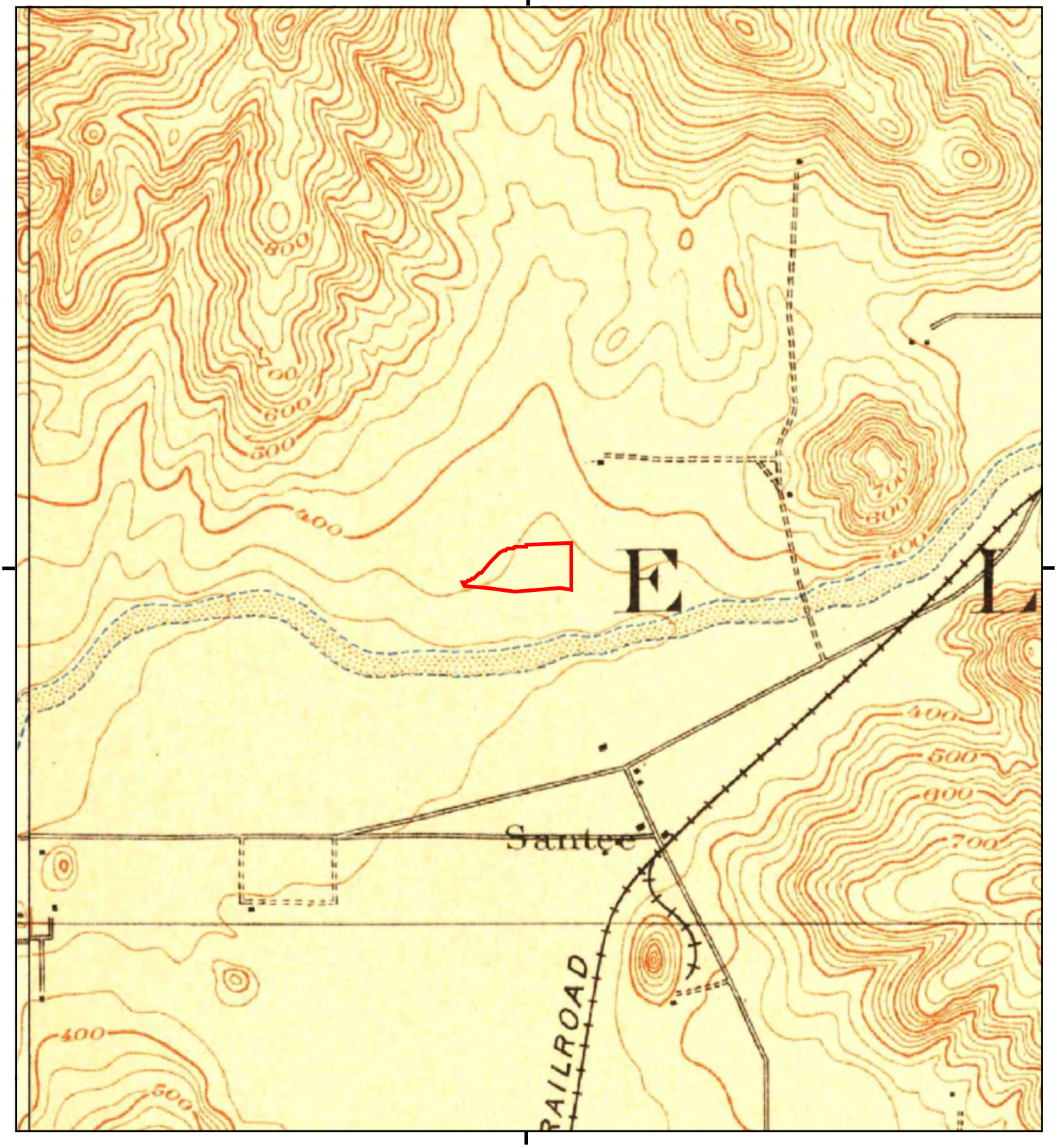

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W, La Jolla, 1903, 15-minute
TP, El Cajon, 1903, 15-minute

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CLIENT: Stantec

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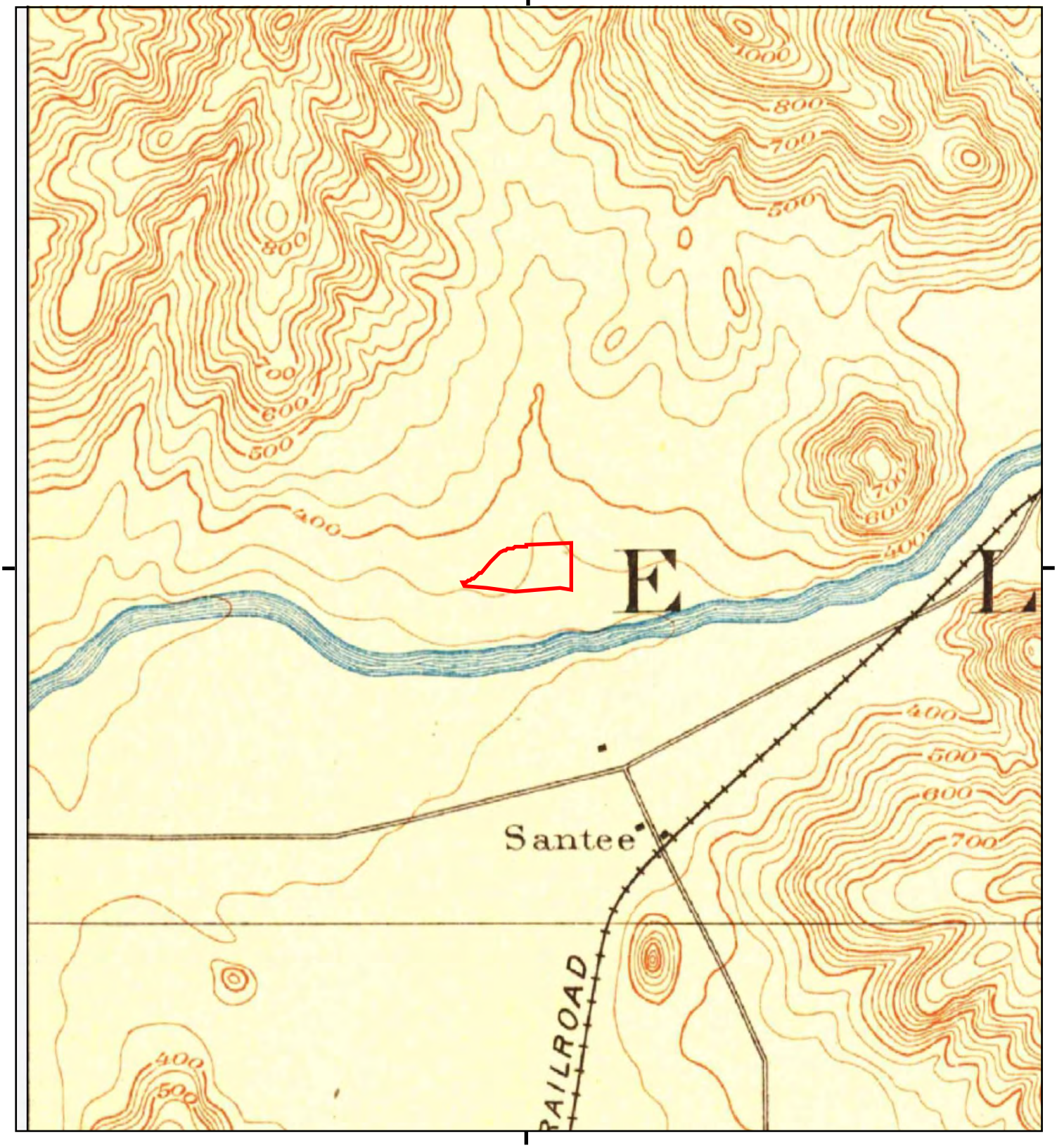

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W E
SW S SE

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ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

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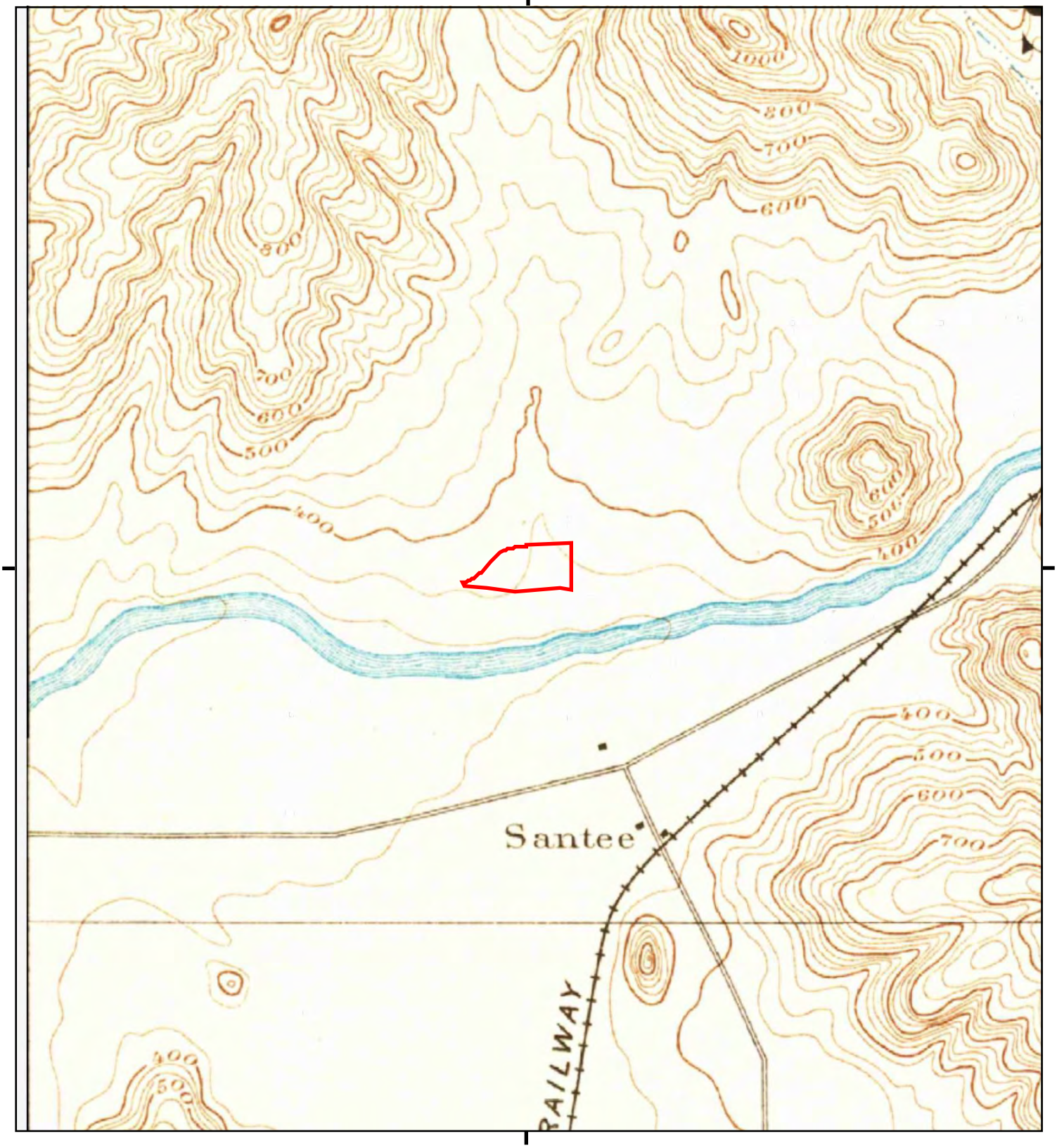

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SW S SE

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SITE NAME: Not Reported
ADDRESS: Not Reported
SANTEE, CA 92071
CLIENT: Stantec

N

Not Reported

Not Reported

SANTEE, CA 92071

Inquiry Number: 7493604.8

November 10, 2023

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
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EDR Aerial Photo Decade Package

11/10/23

Site Name:

Not Reported
Not Reported
SANTEE, CA 92071
EDR Inquiry # 7493604.8

Client Name:

Stantec
735 E. Carnegie Drive, Suite 280
SAN BERNARDINO, CA 92408
Contact: Alicia R Jansen

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Search Results:

Year	Scale	Details	Source
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
2002	1"=500'	Acquisition Date: January 01, 2002	USGS/DOQQ
1996	1"=500'	Acquisition Date: January 01, 1996	USGS/DOQQ
1994	1"=500'	Acquisition Date: January 01, 1994	USGS/DOQQ
1989	1"=500'	Flight Date: August 14, 1989	USDA
1985	1"=500'	Flight Date: July 29, 1985	USDA
1979	1"=500'	Flight Date: January 27, 1979	EDR Proprietary Landiscor
1970	1"=500'	Flight Date: March 06, 1970	EDR Proprietary Landiscor
1966	1"=500'	Flight Date: November 02, 1966	USGS
1964	1"=500'	Flight Date: April 08, 1964	USDA
1953	1"=500'	Flight Date: April 14, 1953	USDA
1949	1"=500'	Flight Date: February 16, 1949	USDA

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EDR

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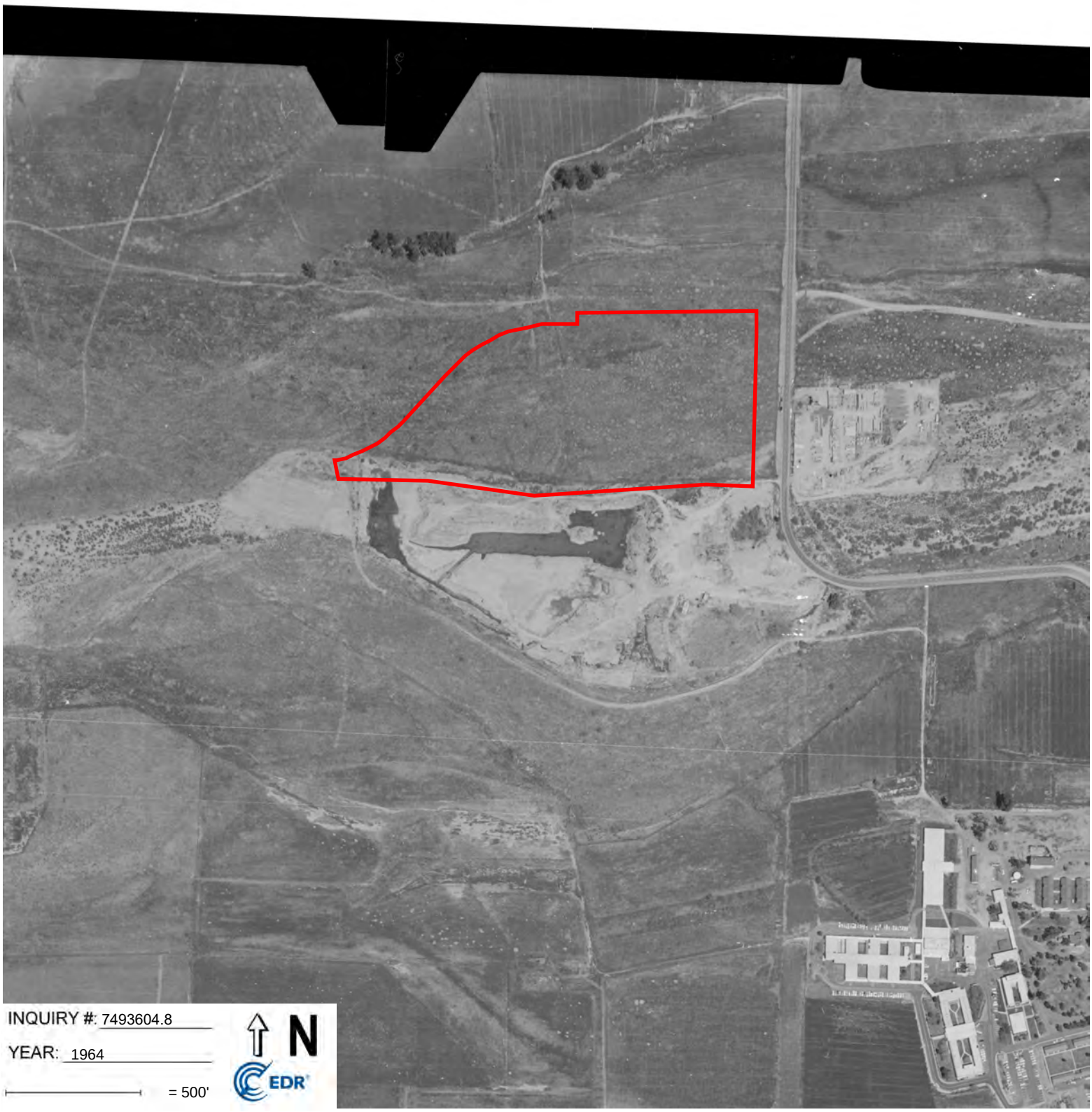
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YEAR: 1949
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EDR

Not Reported
Not Reported
SANTEE, CA 92071

Inquiry Number: 7493604.5
November 14, 2023

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☑	☐	EDR Digital Archive
2017	☑	☐	Cole Information
2014	☑	☐	Cole Information
2010	☐	☐	Cole Information
2005	☐	☐	Cole Information
2000	☐	☐	Cole Information
1995	☐	☐	Cole Information
1992	☐	☐	Cole Information
1986	☐	☐	Haines Criss-Cross Directory
1982	☐	☐	Haines Criss-Cross Directory
1979	☐	☐	Haines Criss-Cross Directory
1975	☐	☐	Haines Criss-Cross Directory
1971	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Not Reported
SANTEE, CA 92071

Year	*CD Image*	*Source*	

PARK CENTER

2020	pg A1	EDR Digital Archive	

PARK CENTER DR

2017	pg A2	Cole Information	
2014	pg A3	Cole Information	
2010	-	Cole Information	Street not listed in Source
2005	-	Cole Information	Street not listed in Source
2000	-	Cole Information	Street not listed in Source
1995	-	Cole Information	Street not listed in Source
1992	-	Cole Information	Street not listed in Source
1986	-	Haines Criss-Cross Directory	Street not listed in Source
1982	-	Haines Criss-Cross Directory	Street not listed in Source
1979	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARK CENTER 2020

655	BRIAN PENNINGS
	DAVE SPISAK
	DAVID LEASK
	ERIC GERHARDT
	GINA ANDERSON
	GWEN HILLEARY
	LAKE EVERS
	LEI ZHANG
	LESLIE COULTER
	MARIA HEWETT
	MARTHA CAMOU
	MARY ESTRADA
	PAMELA STERNAMAN
	RENE BAHL
	SAN DIEGO
	VERNIE HILLIGAS
	VIOLETA MARTEL

Target Street	Cross Street	Source
✓	-	Cole Information

PARK CENTER DR 2017

655 COUNTY OF SAN DIEGO
SANTEE HISTORICAL SOCIETY

Target Street	Cross Street	Source
✓	-	Cole Information

PARK CENTER DR 2014

655 COUNTY OF SAN DIEGO
SANTEE HISTORICAL SOCIETY

Appendix D-1

Preliminary Geotechnical Investigation
Santee 3 Residential Development

PRELIMINARY GEOTECHNICAL INVESTIGATION
SANTEE 3 RESIDENTIAL DEVELOPMENT
APN 181-151-018
SANTEE, CALIFORNIA

Prepared For

SANTEE 3 INV, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CALIFORNIA 92612

Prepared By

LEIGHTON AND ASSOCIATES, INC.
3934 MURPHY CANYON ROAD, SUITE B-205
SAN DIEGO, CALIFORNIA 92123

Project No. 11832.002

February 5, 2024

Leighton and Associates, Inc.
A Leighton Group Company

February 5, 2024

Project No. 11832.002

Santee 3 Inv, LLC
3121 Michelson Drive, Suite 150
Irvine, California 92612

Attention: Ms. Karen Alves

Subject: Preliminary Geotechnical Investigation
Santee 3 Development
APN: 181-051-018
Santee, California

In accordance with your request and authorization, we have conducted a preliminary geotechnical investigation of the property for the design and construction of the proposed residential development project. Based on the results of our study, it is our professional opinion that the site is suitable to receive the proposed improvements provided mitigation of the underlying liquefiable soils is implemented prior to construction. The accompanying report presents a summary of our investigation and provides geotechnical conclusions and recommendations relative to the proposed site development.

If you have any questions regarding our report, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,
LEIGHTON AND ASSOCIATES, INC.

CERTIFIED ENGINEERING GEOLOGIST · TODD C. SCHMITZ · No. 2510 · STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER · NICHOLAS JAMES TRACY · G-3058 · GEOTECHNICAL · STATE OF CALIFORNIA

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Robert Stroh, CEG 2099
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Distribution: Client via email

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Appendix D - Liquefaction Analyses
Appendix E - General Earthwork and Grading Specifications for Rough Grading

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
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1.0 INTRODUCTION

We recommend that all individuals utilizing this report read the preceding information sheet prepared by ASFE (the Association of Engineering Firms Practicing in the Geosciences) and the Limitations, Section 7.0, located at the end of this report.

1.1 Purpose and Scope

This report presents the results of our preliminary geotechnical investigation for the undeveloped site located to the North of the San Diego River, to the south and east of Town Center Community Park, and to the west of Chubb Lane in the City of Santee, California (Figure 1). The intent of this report is to provide specific geotechnical conclusions and recommendations for the currently proposed project. Specifically, our scope of services included:

- Review of available pertinent, published and unpublished geotechnical literature and maps. References cited are listed in Appendix A;
- Field reconnaissance of the existing on-site geotechnical conditions;
- Subsurface exploration consisting of the excavation, of six cone penetration tests (CPTs). Our previous subsurface exploration at the site (2017) consisted of the excavation of 7 CPT's. Additionally, three field percolation tests were performed at the site as part of the recent subsurface exploration. The exploration logs and field percolation test data sheets of the current and previously performed exploratory excavations are presented in Appendix B. The approximate exploration locations are shown on Figure 2;
- Laboratory testing of representative soil samples obtained from the subsurface exploration program. Results of these tests are provided in Appendix C;
- Assessment of geologic hazards;
- Development of seismic design parameters based on the 2022 California Building Code (CBC);
- Compilation and analysis of the geotechnical data obtained from the field investigation and laboratory testing; and

- Preparation of this report presenting our findings, conclusions, and geotechnical recommendations with respect to the proposed geotechnical design, and general construction considerations.

1.2 Site Location and Description

The site is located as vacant property to the north of the San Diego River, to the south and east of Town Center Community Park, and to the west of Chubb Lane in the City of Santee, California (Figure 1). The site encompasses approximately 22 acres of undeveloped land.

Site topography in general slopes from the north down to the south toward the San Diego River with elevations ranging between approximately 345 feet above mean sea level (msl) to 330 feet msl.

Site Latitude and Longitude
32.8485º N
-116.9751º W

1.3 Proposed Development

We understand that plans for the development of the site are not complete. Conceptual development for the site is understood to be for multi-family housing construction. Appurtenant improvements may include concrete and asphalt hardscape, utilities, and landscaping. We further understand that grading plans have not yet been developed, however site grades are assumed to not have significant changes from existing elevations. Once conceptual plans with elevations are available, they should be sent to our office so that we can verify that the recommendations provided in our report are still valid with respect to the proposed improvements.

2.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

2.1 Current Site Investigation

Our recent subsurface exploration of the site was performed on April 24, 2023. We advanced six cone penetration tests (CPTs) to characterize the onsite soils for the purpose of evaluating liquefaction potential. In addition, seven CPTs were advanced during our previous subsurface evaluation performed on October 26, 2017. The purpose of our subsurface exploration was to evaluate the underlying stratigraphy, physical characteristics, and specific engineering properties of the soils within the area of the proposed improvements. Bulk samples of the subgrade soils were collected for laboratory testing and evaluation. After logging, the CPTs were backfilled with bentonite and capped to match the existing finished surface.

The CPT's were advanced to a maximum depth of approximately 51.5 feet bgs with a truck mounted rig utilizing an integrated, electronic, metal alloy cone. Subsurface data was obtained at 2.5 cm intervals and in general accordance to ASTM method D 5778. CPT analysis correlates in-situ soil classification behavior to a physical soil classification (by interactions between the CPT cone and soil interface) and is substantiated by a well-studied and accepted soil classification to soil behavior library.

In addition, three percolation tests were excavated to a depth of approximately 3 feet below the existing ground surface. The percolation test well locations were presoaked overnight, and the testing was performed the following day by the falling head method.

The CPT logs and field percolation test results are provided in Appendix B. The approximate exploration locations are depicted on Figure 2.

2.2 Previous Site Investigation

As part of our study, we reviewed one study pertinent to the subject site. Specifically, we reviewed a report by Law Crandall titled Report of Preliminary Geotechnical Investigation for Rough Grading, Proposed Santee Town Center, Edgemoor Property, dated May 7, 1999. A portion of the field investigation for that report included two borings adjacent to and within this current study area. Field

exploration locations from that study are shown on Figure 2 and the logs are presented in Appendix B.

2.3 Laboratory Testing

Laboratory testing was performed on representative soil samples to evaluate expansion index and geochemical analysis for corrosion. A discussion of the laboratory tests performed and a summary of the laboratory test results are presented in Appendix C.

3.0 SUMMARY OF GEOTECHNICAL CONDITIONS

3.1 Regional Geologic Setting

The project area is situated in the Peninsular Ranges Geomorphic Province of California. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California, and varies in width from approximately 30 to 100 miles (Norris and Webb, 1990). The province is characterized by mountainous terrain on the east composed mostly of Mesozoic igneous and metamorphic rocks, and relatively low-lying coastal terraces to the west underlain by late Cretaceous-age, Tertiary-age, and Quaternary-age sedimentary units. Most of the coastal region of the County of San Diego, including the site, occurs within this coastal region and is underlain by sedimentary units. More locally, the site generally consists of alluvial soils underlain at depth by granitic bedrock.

3.2 Site-Specific Geology

Based on our subsurface exploration and review of geologic literature and maps (Appendix A), the geologic units underlying the property consist of Quaternary-aged Young Alluvial Floodplain Deposits. The approximate aerial distributions of those units are shown on the Geotechnical Map (Figure 3). A brief description of the geologic units encountered on the site is presented below.

3.2.1 Quaternary Young Alluvial Flood-Plain Deposits (Qya)

Holocene-aged Young Alluvial Flood-Plain Deposits underlie the entire site. As encountered, the young alluvial flood-plain deposits consist of interbedded zones of unconsolidated silty sand and sandy silt with varying amounts of gravel. It should be noted that the CPT's encountered refusal on very dense gravel and potentially granitic materials at depths ranging from approximately 25 to 51 feet bgs.

3.3 Surface and Groundwater

Groundwater was observed in Boring 5-1 by others (Law Crandall, 1999) at 13 feet below the ground surface (bgs); i.e. 331 feet mean sea level (msl). In general, the depth to groundwater is anticipated to correspond to the water level within the adjacent San Diego River. It should be noted that perched groundwater levels

may develop and fluctuate during periods of precipitation or increased landscape irrigation. We anticipate that conventional foundations will be located above the existing static groundwater table at the site. However, it should be noted that any deep foundations will likely encounter groundwater underlying the site.

3.4 Geologic Structure

The site is located to the north of the San Diego River. Based on our recent subsurface exploration, the project site is underlain by compressible and potentially liquefiable soils. Recommendations to mitigate the potential liquefaction and associated dynamic settlement are provided in this report.

3.5 Engineering Characteristics of On-site Soils

Based on the results of our laboratory testing of representative on-site soils, and our professional experience on similar sites with similar soils conditions, the engineering characteristics of the on-site soils are discussed below.

3.5.1 Expansion Potential

Based on our visual observations performed during our site reconnaissance, subsurface investigation, laboratory testing, and similar projects in the site vicinity, we anticipate the near surface soils to have a generally very low expansion potential. However, soils with greater expansion potential may be encountered during grading and additional testing may be warranted. Nevertheless, expansive soils are not anticipated to impact the proposed site development.

3.5.2 Compressible Soils

Based on the results of our subsurface explorations at the site, and review of previous geotechnical explorations, the site is underlain by alluvial deposits which are considered compressible. These soils are not considered suitable for support of foundation loads in their present condition. Recommendations for ground improvement of these soils are provided in Section 6 of this report.

3.5.3 Soil Corrosivity

A preliminary corrosive soil screening for the on-site materials was completed to evaluate their potential effect on concrete and ferrous metals. The corrosion potential was evaluated using the results of laboratory testing on one representative soil sample obtained during our subsurface evaluation.

Laboratory testing was performed to evaluate pH, minimum electrical resistivity, and chloride and soluble sulfate content. The sample tested had maximum measured pH value of 7.1, and a measured minimum electrical resistivity of 12,100 ohm-cm. Test results also indicated that the sample had a chloride content of 10 parts per million (ppm), and a soluble sulfate content of less than 150 ppm.

3.5.4 Excavation Characteristics

The site is underlain by Young Alluvial Floodplain Deposits generally consisting of silty to clayey sands with gravel. With regards to the proposed project, it is anticipated these on-site soils can be excavated with conventional heavy-duty construction equipment. Oversize cobble material, if encountered, should be placed in non-structural areas or hauled off-site.

3.5.5 Infiltration

Field percolation tests were performed during our investigation in general accordance with the County of San Diego BMP Design Manual (2020). Based on our field percolation testing, the in-situ percolation rates and calculated infiltration rates at tested locations and depths are summarized in Table 2 below. It should be noted that we have used the following equation based upon the Porchet Method to convert measured percolation rates to infiltration rates in accordance with County of San Diego Standards. In addition, we have included a recommended infiltration rate with a minimum factor of safety of 2 for the preliminary design of potential infiltration systems:

$$I_t = \frac{\Delta H * 60 * r}{\Delta t(r+2H_{AVG})}$$

Where:

I_t = calculated infiltration rate, inches/hour
ΔH = change in head over the time interval, inches
Δt = time interval, minutes
r = radius of test hole
H_{AVG} = average head over the time interval, inches

The field percolation test locations are shown on the Geotechnical Map (Figur 2). Field data and measured percolation rates are presented in Appendix B.

Table 1. Percolation and Infiltration Rates

Test No.	Depth (ft)	Soil Type	Measured Percolation Rate (mins/in)	Calculated Infiltration Rate (inches/hr)	Recommended Infiltration Rate w/ FS of 2 (inches/hr)
P-1	3.0	SM	1.1	2.35	1.17
P-2	3.0	SM	0.95	3.04	1.52
P-3	3.0	SM	1.0	2.86	1.43

Based on the field percolation testing, the tested locations are categorized as "Partial Infiltration" conditions. Design of proposed infiltration basins should account for the shallow groundwater table which presents a potential for mounding and an appropriate factor of safety should be applied to the above infiltration rates to account for the vertical separation to the groundwater table. In addition, design of the basins should also consider the proximity of the San Diego River to ensure downstream water rights are not violated.

It is important to note that percolation rates are not equal to infiltration rates. As a result, we have made a distinction between percolation rates where water movement is considered laterally and vertically versus infiltration rates where only the vertical direction is considered. It should also be noted that the above percolation test results are representative of the tested locations and depths where they were performed, and that percolation test field measurements are accurate to 0.01 feet. Varying subsurface

conditions may exist outside of the test locations, which could alter the calculated percolation rate indicated below.

It is also possible that the long-term rate of transmissivity of permeable soil strata may be lower than the values obtained by testing. Infiltration may be influenced by a combination of factors including but not limited to a highly variable vertical permeability and limited lateral extent of permeable soil strata, a reduction of permeability rates over time due to silting of the soil pore spaces, and other unknown factors. Accordingly, the possibility of future surface ponding of water, as well as shallow groundwater impacts on subterranean structures such as basements and underground utilities should be anticipated as possible future conditions in all design aspects of the site.

4.0 SEISMIC AND GEOLOGIC HAZARDS

4.1 Regional Tectonic Setting and Seismicity

The site is located within the Peninsular Ranges Geomorphic Province, which is traversed by several major active faults. The Whittier-Elsinore, San Jacinto, and the San Andreas faults are major active fault systems located east of the site, and the Rose Canyon, Newport-Inglewood (offshore), and Coronado Bank are active faults located west to southwest of the site (Jennings, 2010).

The Rose Canyon fault zone consists predominantly of right-lateral strike-slip faults that extend south-southeast bisecting the San Diego metropolitan area. Various fault strands display strike-slip, normal, oblique, or reverse components of displacement. The Rose Canyon fault zone extends offshore at La Jolla and continues north-northwest subparallel to the coastline. The offshore segments are poorly constrained regarding location and character. South of downtown, the fault zone splits into several splays that underlie San Diego Bay, Coronado, and the ocean floor south of Coronado (Treiman, 1993 and 2000; Kennedy and Clarke, 1999). Portions of the fault zone in the Mount Soledad, Rose Canyon, and downtown San Diego areas have been designated by the State of California (CGS, 2021) as being Earthquake Fault Zones.

4.2 Local Faulting

The California Geologic Survey (CGS, 2018) defines a Holocene-active fault as a fault which has “had surface displacement within Holocene time (about the last 11,700 years).” Our review of available geologic literature (Appendix A) indicates that there are no known pre-Holocene or Holocene-active faults transecting the site. The site is also not located within any State mapped Earthquake Fault Zones or County of San Diego mapped fault zones. The nearest active fault is the Rose Canyon fault zone located approximately 14.0 miles southwest of the site (USGS, 2008).

4.3 Seismic Hazards

Severe ground shaking is most likely to occur during an earthquake on one of the regional active faults in Southern California that are mentioned above. The effect

of seismic shaking may be mitigated by adhering to the California Building Code or state-of-the-art seismic design parameters of the Structural Engineers Association of California.

4.3.1 Shallow Ground Rupture

As mentioned above, no pre-Holocene or Holocene-active faults are mapped crossing or projecting toward the site. Due to the absence of faults at the site, surface rupture from faulting is considered low.

4.3.2 Mapped Seismic Hazard Zones

The site is not located within a State mapped Earthquake Fault Zone (EFZ), nor is it located within a County of San Diego fault zone.

4.3.3 Site Class

Utilizing 2022 California Building Code (CBC) procedures, we have characterized the site soil profile to be a Site Class D based on our experience with similar sites in the project area and the results of our subsurface evaluation. It should be noted, per Section 11.4.8 of ASCE 7-16, a ground motion hazard analysis shall be performed in accordance with Section 21.2 for structures having a fundamental period of vibration greater than 0.5s on Site Class D sites where S1 is greater than or equal to 0.2g. However, although S1 is greater than 0.2g at the site, it is anticipated that the proposed residential structures will have a fundamental period of vibration of less than 0.5s based on our current understanding. Therefore, a site-specific ground motion analysis is assumed to be not required according to ASCE 7-16 Section 11.4.8; however, the project structural engineer needs to confirm this assumption.

4.3.4 Building Code Mapped Spectral Acceleration Parameters

The effect of seismic shaking may be mitigated by adhering to the California Building Code and state-of-the-art seismic design practices of the Structural Engineers Association of California. Provided in Table 2 are the spectral acceleration parameters for the project determined in accordance with the 2022 CBC (CBSC, 2022) and SEAOC/OSHPD Seismic Design Maps Web

Application (2020). Since the site has an S_1 value greater than 0.2g and site specific ground motion hazard analysis has not been performed, increased values of C_s are required for analysis as summarized in EXCEPTION 2 of ASCE 7-16 Section 11.4.8.

Table 1 - 2022 CBC Mapped Spectral Acceleration Parameters

Site Class	D		
Site Coefficients	F_a	=	1.192
	F_v	=	2.034
Mapped MCE Spectral Accelerations	S_S	=	0.769g
	S_1	=	0.283g
Site Modified MCE Spectral Accelerations	S_{MS}	=	0.917g
	S_{M1}	=	0.576g
Design Spectral Accelerations	S_{DS}	=	0.612g
	S_{D1}	=	0.384g

If the requirements of EXCEPTION 2 are found to be a significant design constraint, we recommend using the shear wave velocity measurements be at the site for use in performing site specific ground motion analysis.

Utilizing ASCE Standard 7-16, in accordance with Section 11.8.3, the following additional parameters for the peak horizontal ground acceleration are associated with the Geometric Mean Maximum Considered Earthquake (MCE_G). The mapped MCE_G peak ground acceleration (PGA) is 0.33g for the site. For a Site Class D, the F_{PGA} is 1.27 and the mapped peak ground acceleration adjusted for Site Class effects (PGA_M) is 0.419g for the site.

4.4 Secondary Seismic Hazards

In general, secondary seismic hazards can include soil liquefaction, seismically-induced settlement, lateral displacement, surface manifestations of liquefaction, landsliding, seiches, and tsunamis. The potential for secondary seismic hazards at the subject site is discussed below.

4.4.1 Liquefaction and Dynamic Settlement

Liquefaction and dynamic settlement of soils can be caused by strong vibratory motion due to earthquakes. Granular soils tend to densify when subjected to shear strains induced by ground shaking during earthquakes. Research and historical data indicate that loose granular soils underlain by a near surface ground water table are most susceptible to liquefaction, while the most clayey materials are not susceptible to liquefaction. Liquefaction is characterized by a loss of shear strength in the affected soil layer, thereby causing the soil to behave as a viscous liquid. This effect may be manifested at the ground surface by settlement and, possibly, sand boils where insufficient confining overburden is present over liquefied layers. Where sloping ground conditions are present, liquefaction-induced instability can result.

The project site is underlain by unconsolidated sandy materials with a groundwater table at approximately 13 feet bgs. These subsurface conditions present a potential for liquefaction. Therefore, we performed a liquefaction analysis utilizing the computer program CLiq Version 1.7.6.34, considering the Maximum Considered Earthquake event with a mean magnitude M6.4 (i.e., associated with the Design Earthquake Ground Motion). The analysis considered the mapped peak ground acceleration adjusted for Site Class effects (PGA_M) of 0.42g. Based on the results of the liquefaction analysis, several discontinuous and variable thickness liquefiable layers of saturated alluvial materials are considered susceptible to liquefaction at the design earthquake ground motion.

Total dynamic settlement at the site as a result of the Design Earthquake Ground Motion is roughly estimated at between approximately 0.9 to 7.1 inches. Differential dynamic settlement at the site is anticipated to be on the order of 4 inches over 50 feet considering the depth and nature of the liquefied zones. A summary plot showing idealized profile, relevant CPT data, calculated cyclic stress and resistance ratio, factor of safety, and liquefaction-induced settlement is provided in Appendix D.

4.4.2 Lateral Spread

Empirical relationships have been derived (Youd et al., 1999) to estimate the magnitude of lateral spread due to liquefaction. These relationships include parameters such as earthquake magnitude, distance of the earthquake from the site, slope height and angle, the thickness of liquefiable soil, and gradation characteristics of the soil.

The susceptibility to earthquake-induced lateral spread is considered to be moderate for the site because of the nature of the underlying liquefiable layers and sloping topography of the bank of the adjacent San Diego River. The potential for lateral spread was evaluated using the computer program CLiq Version 1.7.6.34, considering the Maximum Considered Earthquake event with a mean magnitude M6.4 and the mapped peak ground acceleration adjusted for Site Class effects (PGA_M) of 0.42g. Based on our analysis, lateral spreading of up to approximately 30 inches could occur due to a design-level earthquake. Lateral spreading can be mitigated through implementation of a recommended ground improvement program covered in Section 6 of this report.

4.4.3 Tsunamis and Seiches

Based upon the California Emergency Management Agency Tsunami Inundation Map (CalEMA, 2009), the site is not located within a tsunami inundation area. In addition, based on the generally strike-slip character of off-shore faulting and proposed elevation of the site with respect to sea level, the possibility of seiches and/or tsunamis is considered to be low.

4.5 Landslides

Several formations within the San Diego region are particularly prone to landsliding. These formations generally have high clay content and mobilize when they become saturated with water. Other factors, such as steeply dipping bedding that project out of the face of the slope and/or the presence of fracture planes, will also increase the potential for landsliding.

No landslides or indications of deep-seated landsliding were indicated at the site during our field exploration or our review of available geologic literature,

topographic maps, and stereoscopic aerial photographs. Therefore, the potential for significant landslides or large-scale slope instability at the site is considered low.

4.6 Flood Hazard

According to a Federal Emergency Management Agency (FEMA) flood insurance rate map (FEMA, 2023); portions of the site are located within the 100-Year Flood Plain (Figure 5). Based on this review and our site reconnaissance, the potential for flooding of the site is considered moderate. Planning for development of the site should consider raising grades in the potential flood zones.

5.0 CONCLUSIONS

Based on the results of our geotechnical investigation of the site, it is our opinion that the proposed development is feasible from a geotechnical standpoint, provided the following conclusions and recommendations are incorporated into the project plans and specifications.

- Generally loose surficial soils consisting of alluvium underlie the site and are considered compressible. Therefore, in their present condition, these soils are not considered suitable for the support of structural loads or the support of engineered fill soils and settlement sensitive site improvements. Section 6.1.2 of this report provides specific recommendations regarding mitigation of these soil materials.
- The underlying alluvial deposits to depths of up approximately 51 feet are subject to localized liquefaction, seismic settlement, and lateral spreading. Total dynamic settlement at the site as a result of the Design Earthquake Ground Motion is roughly estimated at between approximately 0.9 to 7.1 inches. Differential dynamic settlement at the site is anticipated to be on the order of 4 inches over 50 feet considering the depth and nature of the liquefied zones. Lateral spreading up to approximately 30 inches is also anticipated. The potential for seismic settlement and lateral spreading can be mitigated by following the recommendations provided in Section 6 of this report.
- Based on the results of our subsurface explorations and available geologic references, groundwater is not anticipated to be a constraint during site construction, and we do not anticipate that temporary dewatering will be necessary. However, at the time of a previous field investigation by others, groundwater was observed in 13 feet below the ground surface (bgs); i.e. 331 feet mean sea level (msl). Groundwater depth is anticipated to correspond to the water level of the adjacent San Diego River. It should be noted that groundwater will be encountered during the construction of ground improvements.
- Based on the results of our subsurface investigation, we anticipate that the onsite materials should be generally rippable with conventional heavy-duty earthwork equipment. The existing onsite soils are suitable for reuse as engineered fill provided they are relatively free of organic material, debris, and rock fragments larger than 6 inches in maximum dimension.

- Based on laboratory testing, materials derived from the on-site soil materials possess a very low expansion potential, although locally more expansive materials may be encountered.

- Although Leighton does not practice corrosion engineering, laboratory test results indicate the soils present on the site have a negligible potential for sulfate attack on normal concrete. The onsite soils are not considered to be corrosive to buried uncoated ferrous metals.

- Based on the results of our geotechnical study, the site is considered to be a “Partial Infiltration” site. BMP design should consider depth to ground water and the proximity to the adjacent San Diego River.

- Portions of the site are located within a zone mapped as a 100-Year Flood Plain. Planning of the site should consider raising the grades within these portions above the flood elevation.

6.0 RECOMMENDATIONS

Plans for the development of the site were not available at the time of this report. Once grading and structural plans are complete, they should be sent to our office so that we can verify that the recommendations provided in our report are still valid with respect to the proposed improvements. Based on our geotechnical evaluation, the primary geotechnical concern at the site is the existing compressible undocumented fill and alluvial materials which are susceptible to seismically induced liquefaction in their current condition. Remediation of the potential for static and seismic settlements include performing ground improvement, deep foundations, or mat foundations designed to accommodate differential settlement in accordance with 2022 CBC and ASCE 7-16. General recommendations for these approaches are provided in the following sections.

6.1 Earthwork

We anticipate that earthwork at the site will consist of site preparation, excavation and fill operations, and ground improvement. We recommend that earthwork on the site be performed in accordance with the following recommendations and the General Earthwork and Grading Specifications for Rough Grading included in Appendix E. In case of conflict, the following recommendations supersede those in Appendix E.

6.1.1 Site Preparation

Prior to grading, all areas to receive structural fill, engineered structures, or hardscape should be stripped of vegetation and cleared of surface and subsurface obstructions, including any existing debris and undocumented, loose, compressible, or unsuitable soils. Removed vegetation and debris should be properly disposed off site. All areas to receive fill and/or other surface improvements should be scarified to a minimum depth of 8 inches, brought to optimum or above-optimum moisture conditions, and recompacted to at least 90 percent relative compaction based on ASTM Test Method D1557.

6.1.2 Removal of Compressible Soils

Potentially compressible undocumented fill and surficial alluvial soils at the site may settle as a result of wetting or settle under the surcharge of

engineered fill and/or structural loads supported on conventional foundations. These soils should be removed to a minimum depth of 2 feet below bottom of foundation footings. The lateral limits of the removal bottom should extend a length equal to the removal depth where possible. If the recommended lateral removal limits cannot be accommodated, temporary shoring or slot removals may be necessary. The bottom of all removals should be evaluated by a Certified Engineering Geologist to confirm conditions are as anticipated. Note that deeper alluvial soils are compressible as well. Section 6.1.4 of this report provides specific recommendations regarding mitigation of seismic settlement using ground improvement for the deeper alluvial soils.

In areas of proposed pavements, hardscape and landscaping features, removals should be performed to a depth of 2 feet below proposed subgrade elevation and extend at least 2 feet beyond the limits of the proposed improvements. The bottom of all removals should be evaluated by a Certified Engineering Geologist to confirm conditions are as anticipated.

In general, the soil that is removed may be reused and placed as engineered fill provided the material is moisture conditioned to above optimum moisture content, and then recompacted prior to additional fill placement or construction. Soil with an expansion index greater than 50 should not be used within 5 feet of finish grade in the building pad. The actual depth and extent of the required removals should be confirmed during grading operations by the geotechnical consultant.

6.1.3 Excavations and Oversize Material

Excavations of the onsite materials may generally be accomplished with conventional heavy-duty earthwork equipment. Due to the generally friable nature of the fill and alluvium, temporary excavations, such as utility trenches with vertical sides, may slough over time.

In accordance with OSHA requirements, excavations deeper than 5 feet should be shored or be laid back if workers are to enter such excavations. Temporary sloping gradients should be determined in the field by a “competent person” as defined by OSHA. For preliminary planning, sloping

of fill soils at 1:1 (horizontal to vertical) may be assumed. Excavations supporting structures greater than 20 feet in height will require an alternative sloping plan or shoring plan prepared by a California registered civil engineer.

6.1.4 Ground Improvement

The alluvial soils are considered compressible and susceptible to seismically induced settlement resulting from potential liquefaction in their current condition. Ground improvement is recommended beneath the proposed structures to help densify the soils and improve bearing capacity where shallow foundations are planned and do not meet the thresholds for ASCE 7-16 Section 12.13. Various methods of ground improvement may be considered for the site; including stone columns, deep soil mixing, rammed aggregate piers, and compaction grouting. The selection of the appropriate ground improvement method should be based on demands of the proposed improvements, the proximity of nearby buildings and structures, and general logistics and/or limitations associated with each method.

We recommend that a site-specific ground improvement plan be drafted by a specialty contractor that will contain the location of ground improvement including design diameter and spacing. The ground improvement program should be designed with the goal of mitigating liquefaction and reducing anticipated settlements to a level that is acceptable to the project structural engineer. The plan should include the ground improvement installation equipment and specifications for the materials being used (i.e. aggregate, cement). Based on the results of the CPTs, ground improvement depths are anticipated to extend to depths ranging from approximately 43 to 51 feet bgs.

Note that the proposed ground improvement may be terminated a few feet below the bottom of the foundation level. The cutoff elevation should allow placement of a minimum of 2 feet of engineered/compacted fill immediately below the foundation level. The onsite soil or concrete generated from the demolition of the existing buildings may be used as fill. If the onsite concrete is used, the gradation of the crushed concrete should conform to the gradation of Caltrans Crushed Miscellaneous Base.

A field verification program using CPTs is recommended to provide data to estimate the post ground improvement settlement. CPTs should be used prior to placement of ground improvement and following ground improvement. If the total static and seismic settlement after ground improvement is determined to be greater than 1.5 inches, a mat foundation may be required. Otherwise, conventional foundations may be used. Field verification procedures should be reviewed by and be acceptable to the Geotechnical Engineer.

In addition, a field test or trial installation program is recommended to verify the ground improvement success (i.e., verified by ASTM D1586 (SPT) and/or ASTM D3441 (CPT)). Field test or trial installation procedures should be reviewed by and be acceptable to the Geotechnical Engineer.

6.1.5 Engineered Fill

In areas proposed to receive engineered fill, the existing upper 8 inches of subgrade soils should be scarified then moisture conditioned to moisture content at or above the optimum content and compacted to 90 percent or more relative to the maximum laboratory dry density, as evaluated by ASTM D 1557. Soil materials utilized as fill should be free of oversized rock, organic materials, and deleterious debris. Rocks greater than 6 inches in diameter should not be placed within 2 feet of finished grade. Fill should be moisture conditioned to at least 2 percent above the optimum moisture content and compacted to 90 percent or more relative to the maximum laboratory dry density, as evaluated by ASTM D 1557. Although the optimum lift thickness for fill soils will be dependent on the type of compaction equipment utilized, fill should generally be placed in uniform lifts not exceeding approximately 8 inches in loose thickness.

In vehicle pavement and trash enclosure areas the upper 12 inches of subgrade soils should be scarified then moisture conditioned to a moisture content above optimum content and compacted to 95 percent or more relative to the maximum laboratory dry density, as evaluated by ASTM D 1557.

Placement and compaction of fill should be performed in general accordance with current County of San Diego grading ordinances, California Building Code, sound construction practice, these recommendations and the General Earthwork and Grading Specifications for Rough Grading presented in Appendix E.

6.1.6 Earthwork Shrinkage/Bulking

The volume change of excavated onsite materials upon recompaction as fill is expected to vary with material and location. Typically, the surficial soils vary significantly in natural and compacted density, and therefore, accurate earthwork shrinkage/bulking estimates cannot be determined. However, based on our experience, a 5 to 10 percent shrinkage factor is considered appropriate for the alluvium at the site.

6.1.7 Import Soils

If import soils are necessary to bring the site up to the proposed grades, these soils should be granular in nature, environmentally clean, have an expansion index less than 50 (per ASTM Test Method D4829) and have a low corrosion impact to the proposed improvements. Import soils and/or the borrow site location should be evaluated by the geotechnical consultant prior to import.

6.1.8 Expansive Soils and Selective Grading

Based on our laboratory testing and observations, we anticipate the onsite soil materials possess a very low expansion potential (Appendix C). Selective grading to provide low expansion materials below foundations is not anticipated.

6.2 Foundation and Slab Considerations

At the time of drafting this report, foundation loads and types were not known. Recommendations for various foundation systems are provided for structural engineering consideration. These recommendations assume that the soils encountered within 5 feet of pad grade have a low potential for expansion (EI<50).

If more expansive materials are encountered and selective grading cannot be accomplished, revised foundation recommendations may be necessary.

6.2.1 Conventional Foundations

Proposed structures may be supported by spread footings founded in properly compacted engineered fill if underlain by properly compacted engineered fill in accordance with Section 6.1.5 and ground improvement has been performed. Footings should extend a minimum of 24 inches beneath the lowest adjacent finish subgrade. At these depths, footings may be designed for a maximum allowable (FS >3) bearing pressure of 3,000 pounds per square foot. This capacity may also be increased by 500 psf per each additional foot of embedment up to a maximum of 4,000 psf. The allowable pressures may be increased by one-third when considering loads of short duration such as wind or seismic forces. The minimum recommended width of footings is 18 inches for continuous footings and 24 inches for square or round footings. Continuous footings should be designed in accordance with the structural engineer's requirements and have a minimum reinforcement of four No. 5 reinforcing bars (two top and two bottom). Reinforcement of individual column footings should be per the structural requirements.

The recommended allowable-bearing capacity is based on a maximum total settlement of 1 inch and a differential of 3/4-inch. Since settlement is a function of footing size and contact bearing pressures, some differential settlement can be expected where a large differential loading condition exists. The settlement estimates assume that ground improvement has been performed.

6.2.2 Drilled Pile Foundations

As an alternative to performing ground improvement within building areas, deep foundations may be used for structural support. The piles should extend at least 2 feet into competent bedrock materials which are estimated at depths ranging from approximately 43 to 51 feet bgs. The foundation depths will need to be further evaluated by the geotechnical consultant and structural engineer during the design based on anticipated axial and lateral loading.

Due to the potential for caving soils, liquefaction, and downdrag, we recommend the piles be constructed with a smooth permanent casing to below the zone of the anticipated liquefiable layers. Based on the information from our CPTs, this zone ranges from the surface to approximately 20 to 43 feet bgs. Note that the proposed grades will change and the structure locations are currently unknown so further coordination between the structural engineer and geotechnical engineer will be required. For preliminary analysis and development of the vertical capacity of CIDH friction piles, an allowable skin friction of 200 psf and 400 psf may be utilized for the alluvial and bedrock materials, respectively.

Static pile settlement is anticipated to be less than ¾-inch under design loads and normal service conditions where capacity is based solely on pile skin friction. The design skin friction is based on center-to-center pile spacing of at least 3 pile diameters. Where piles are spaced more closely, a reduction in pile capacity is necessary unless post-grouting is used (micropiles). Construction of piles should be sequenced such that the concrete of constructed piles is allowed to setup prior to construction of piles within 5 diameters.

To resist lateral loads, if any, CIDH piles can be designed in accordance with Section 1807.3 of the 2022 CBC. For level ground conditions, we recommend lateral soil bearing pressures determined from Table 1806.2 of 150 psf per foot of depth below the finish grade be used for determination of parameters S1 and S3, in the Non-constrained and Constrained design criteria, respectively. These pressures assume piles spaced at least eight diameters center-to-center. Where sloping ground is present or piles are more closely spaced, revised parameters should be provided. No increase for short term lateral loading is recommended. For seismic conditions, lateral resistance from the liquefied layers should be neglected. Once grades and structure locations are known, the elevations of the layers to neglect can be provided.

In addition to resistance to lateral loads induced in the structure from seismic shaking, lateral slope displacement is also a consideration for the piles. Lateral displacement of up to 30 inches may be experienced at the site as a result of the modal MCE_G event. Piles subjected to lateral

displacement should be designed to comply with the requirements of Section 12.13.9.3.4 of ASCE 7-16.

6.2.3 CIDH Pile Installation

All CIDH pile installation should be performed under the observation of the geotechnical consultant and consistent with standard practice. Drilling equipment should be powerful enough to drill through the young alluvium materials and underlying bedrock to the design penetration depths. Once a pile excavation has been started, construction should be completed within 8 hours, which includes inspection, placement of the reinforcement, and placement of the concrete.

Caving of friable, soft or loose soils may occur where open excavations are made. Therefore, a temporary starter casing may be considered to protect the top of the borehole to mitigate caving conditions. In addition, the specialty contractor should also be prepared to employ casing or other methods of advancing the drilled pile excavation to mitigate caving, if needed. Use of temporary casing should be at the contractor's discretion. To the extent practical within saturated conditions, loose materials should be removed from the bottom of the pile excavation prior to concrete placement.

If pile excavations become bell-shaped and cannot be advanced due to severe caving, the caved region may be filled with a sand/cement slurry and redrilled. Redrilling may continue when the slurry has reached suitable set and strength. In this case, it may be prudent to utilize casing or other special methods to facilitate continued drilling after the slurry has set.

6.2.4 Mat Foundations

The proposed structures may also be founded on a mat foundation provided the differential settlement thresholds of ASCE 7-16 are met. Mat foundations should be supported on properly compacted fill material using a static allowable bearing capacity not to exceed 2,500 pounds per square foot. This value may be increased by one-third for short-term wind or seismic loads. Based on our experience, local static and seismic bearing pressures below the mat may exceed these values and should be reviewed

by the geotechnical consultant. Thickness and reinforcement of the mat foundation should be in accordance with the design of the project structural engineer. The mat should be founded within properly compacted fill prepared in accordance with the earthwork recommendations provided herein. If any of the soils exposed at foundation grades are disturbed during the excavation process, they should be excavated to suitable materials.

Mat foundations typically experience some deflection due to loads placed and the reaction of the soils underlying the foundations. A design coefficient of subgrade reaction of K_1, of 150 pounds per cubic inch (pci) may be used for evaluating such deflections at the site. This value is based on support by engineered fill soils and is considered as applied to a unit square foot area. The value should be adjusted for the design foundation size. The coefficient of subgrade reaction K_b for a footing of specific width may be evaluated using the following equation.

$$K_b = K_1 [(b+1)/2b]^2$$

where b is the least width of the foundation in feet

Based on our preliminary evaluation and the net increase in the effective stress on the foundation soils, the anticipated total settlement for a mat foundation should be less than approximately ½-inch. Anticipated maximum differential settlements of approximately 50 percent of the total settlement will likely occur between the most heavily loaded areas of the structure and the areas supporting the lightest loads. More detailed analysis to evaluate total and differential settlement should be carried out by the structural engineer and reviewed by this office after bearing pressures are determined.

6.2.5 Post-Tensioned Foundation Design Recommendations

For post-tensioned foundations, we recommend using the geotechnical parameters presented in table below and criteria of the 2022 California Building Code and the Third Edition of Post-Tension Institute Manual. The parameters provided are based on subgrade soils with a low expansion potential (EI<50). A post-tensioned foundation system designed and constructed in accordance with these recommendations is expected to be

structurally adequate for the support of the at-grade residential buildings provided our recommendations for ground improvement are implemented. Based on an evaluation of the anticipated post ground improvement settlement, Table 3 presents the recommended post-tension foundation design parameters.

Table 3 – Minimum Foundation Setback

Design Criteria		At-Grade Residential Building
Edge Moisture Variation, e_m	Center Lift:	9.0 feet
	Edge Lift:	4.8 feet
Differential Swell, y_m	Center Lift:	0.46 inches
	Edge Lift:	0.65 inches
Perimeter Footing Depth:		24 inches
Allowable Bearing Capacity		2,500 psf

The post-tensioned (PT) foundation and slab should also be designed in accordance with structural considerations. For a PT foundation, the concrete slabs section should be at least 5 inches thick. Continuous footings (ribs or thickened edges) with a minimum width of 12 inches and a minimum depth of 24 inches below lowest adjacent soil grade may be designed for a maximum allowable bearing pressure of 2,500 pounds per square foot. For a uniform thickness “mat” PT foundation, the perimeter cut off wall should be at least 8 inches below the lowest adjacent grade. However, note that where a foundation footing or perimeter cut off wall is within 3 feet (horizontally) of adjacent drainage swales, the adjacent footing should be embedded a minimum depth of 12 inches below the swale flow line. The allowable bearing capacity may be increased by one-third for short-term loading. For post-tension foundation, the anticipated maximum total and differential static settlement is 1-inch and ¾-inch, respectively, based on a successful ground improvement program.

The PT slab should be underlain by a moisture barrier consisting of 2 inches sand over a 10-mil plastic sheeting over 2 inches of sand. Note that

moisture barriers can retard, but not eliminate moisture vapor movement from the underlying soils up through the slabs. We recommend that the floor covering installer test the moisture vapor flux rate prior to attempting applications of the flooring. "Breathable" floor coverings should be considered if the vapor flux rates are high. A slip-sheet or equivalent should be utilized above the concrete slab if crack-sensitive floor coverings (such as ceramic tiles, etc.) are to be placed directly on the concrete slab. Additional guidance is provided in ACI Publications 302.1R-04 Guide for Concrete Floor and Slab Construction and 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.

6.2.6 Foundation Setback

We recommend a minimum horizontal setback distance from retaining walls or slopes for all structural foundations, footings, and other settlement-sensitive structures as indicated on the Table 4 below. The minimum recommended setback distance from the most proximal foundation of retaining wall is equal to the height of the retaining wall. This distance is measured from the outside bottom edge of the structural footing, horizontally to the slope or retaining wall rear face, and is based on the slope or wall height. However, the foundation setback distance may be revised by the geotechnical consultant on a case-by-case basis if the geotechnical conditions are different than anticipated.

Table 4 – Minimum Foundation Setback

Slope/Wall Height	Minimum Recommended Foundation Setback
Less than 5 feet	5 feet
5 to 15 feet	7 feet
Greater than 20 feet	H/2, where H is slope height; not to exceed 50 feet

Please note that the soils within the structural setback area possess poor lateral stability, and improvements (such as retaining walls, sidewalks, fences, pavements, etc.) constructed within this setback area may be subject to lateral movement and/or differential settlement. Potential distress to such

improvements may be mitigated by providing a deepened footing or a grade beam foundation system to support the improvement.

In addition, open or backfilled utility trenches that parallel or nearly parallel structure footings should not encroach within an imaginary 1:1 (horizontal to vertical) downward sloping line starting from the bottom edge of the footing and should also not be located closer than 18 inches from the face of the footing. Deepened footings should meet the setbacks as described above. Also, over-excavation should be accomplished such that deepening of footings to accomplish the setback will not introduce a cut/fill transition bearing condition.

Where pipes cross under footings, the footings should be specially designed. Pipe sleeves should be provided where pipes cross through footings or footing walls and sleeve clearances should provide for possible footing settlement, but not less than 1 inch around the pipe.

6.2.7 Floor Slabs

Slabs-on-grade should be at least 5 inches thick and be reinforced with No. 4 rebars 18 inches on center each way (minimum) placed at mid-height in the slab. We recommend control joints be provided across the slab at appropriate intervals as designed by the project architect.

For slab areas where vapor control is appropriate, a minimum 15-mil vapor barrier should be provided between the underslab and gravel capillary break. The vapor barrier should have a permeance of less than 0.01 perms across the entire slab area in the final constructed condition. Measures to protect the barrier should be implemented throughout the installation and slab construction process to prevent damage (ASTM E1643). Vapor barrier materials should conform to ASTM E1745 Class A. The gravel capillary break should consist of a layer of uniform 3/8-inch to 1/2-inch gravel that is at least 4-inches thick. The mix design of the slab concrete should be proportioned to control bleeding, shrinkage and curling.

Moisture barriers can retard, but not eliminate moisture vapor movement from the underlying soils up through the slabs. Moisture barriers can also prolong the timeframe needed for slabs to fully cure. We recommend that

the floor covering/insulation installer test the moisture vapor flux rate prior to flooring installation. "Breathable" floor coverings should be considered if the vapor flux rates are high. Additional guidance is provided in ACI Publications 302.1R-15 Guide for Concrete Floor and Slab Construction and 302.2R-06 Guide for Concrete Slab that Receive Moisture-Sensitive Floor Materials.

The potential for slab cracking may be reduced by careful control of water/cement ratios. The contractor should take appropriate curing precautions during the pouring of concrete in hot weather to minimize cracking of the slabs. We recommend that a slipsheet (or equivalent) be utilized if grouted tile, marble tile, or other crack-sensitive floor covering is planned directly on concrete slabs. All slabs should be designed in accordance with structural considerations. If heavy vehicle or equipment loading is proposed for the slabs, greater thickness and increased reinforcing may be required. The additional measures should be designed by the structural engineer using a modulus of subgrade reaction of 150 pounds per cubic inch. Additional moisture/waterproofing measures that may be needed to accomplish desired serviceability of the building finishes and should be designed by the project architect.

6.3 Temporary Excavations

Sloping excavations may be utilized when adequate space allows. Based on the results of our evaluation, we provide the following recommendations for sloped excavations in alluvium without seepage conditions.

Table 5 - Maximum Slope Ratios

Excavation Depth (feet)	Maximum Slope Ratio In Alluvium
0 to 5	1:1 (Horizontal to Vertical)
5 to 20	1.5:1 (Horizontal to Vertical)

The above values are based on the assumption that no surcharge loading or equipment is present within 10 feet of the top of slope. Care should be taken during design of excavations adjacent to the existing structures so that foundation support is preserved. A "competent person" should observe the slope on a daily

basis for signs of instability. All excavations should comply with current OSHA requirements.

6.4 Lateral Earth Pressures and Retaining Wall Design

Retaining walls should be designed for the lateral soil pressures exerted on them, the magnitude of which depends primarily on the type of soil used as backfill and the amount of deformation the wall can yield under the lateral load. If a retaining wall can yield enough to mobilize the full shear strength of the soil, it can be designed for the 'active' pressure condition. Walls that are under restrained conditions and cannot yield under the applied load (e.g., basement walls) should be designed for the 'at-rest' pressure condition. If a wall tends to move towards the soils, the resulting resistance developed by the soil is the 'passive' resistance.

For design purposes, the following lateral earth pressure values for level or sloping backfill are recommended for walls backfilled with onsite soils of very low to low (EI<50) expansion potential or undisturbed in-place materials.

Table 6 - Static Equivalent Fluid Weight (pcf)

Conditions	Level	2:1 Slope
Active	35	65
At-Rest	55	80
Passive	300 (Maximum of 3 ksf)	150 (sloping down)

Walls up to 10 feet in height should be designed for the applicable equivalent fluid unit weight values provided above. If conditions other than those covered herein are anticipated, the equivalent fluid unit weight values should be provided on an individual case-by-case basis by the geotechnical engineer. A surcharge load for a restrained or unrestrained wall resulting from automobile traffic may be assumed to be equivalent to a uniform lateral pressure of 75 psf which is in addition to the equivalent fluid pressure given above. For other uniform surcharge loads, a uniform pressure equal to 0.35q should be applied to the wall. The wall pressures assume walls are backfilled with free draining materials and water is not allowed to accumulate behind walls. A typical drainage design is contained in Appendix E. Wall backfill should be compacted by mechanical methods to at least 90 percent relative compaction (based on ASTM D 1557). If foundations are planned over the

wall backfill, the wall backfill should be compacted to 95 percent. Wall footings should be designed in accordance with the foundation design recommendations and reinforced in accordance with structural considerations. For all retaining walls, we recommend a minimum horizontal distance from the outside base of the footing to daylight as outlined in Section 6.2.3.

Lateral soil resistance developed against lateral structural movement can be obtained from the passive pressure value provided above. Further, for sliding resistance, the friction coefficient of 0.35 may be used at the concrete and soil interface. These values may be increased by one-third when considering loads of short duration including wind or seismic loads. The total resistance may be taken as the sum of the frictional and passive resistance provided that the passive portion does not exceed two-thirds of the total resistance. The passive resistance and frictional coefficients are allowable values with a factor of safety of 1.5. The passive value for level ground assumes level conditions extend horizontally at least eight times the height of the surface imposing the horizontal loading.

To account for potential redistribution of forces during a seismic event, retaining walls providing lateral support where exterior grades on opposites sides differ by more than 6 feet fall under the requirements of 2022 CBC Section 1803.5.12 and/or ASCE 7-16 Section 15.6.1 and should also be analyzed for seismic loading. For that analysis, an additional uniform lateral seismic force of 8H should be considered for the design of the retaining walls with level backfill, where H is the height of the wall. This value does not need to be increased for restrained walls.

6.5 Geochemical Considerations

Concrete in direct contact with soil or water that contains a high concentration of soluble sulfates can be subject to chemical deterioration commonly known as “sulfate attack.” Soluble sulfate results (Appendix C) indicated a negligible soluble sulfate content. We recommend that concrete in contact with earth materials be designed in accordance with Section 4 of ACI 318-19 (ACI, 2019). In addition, the electrical resistivity characteristics of the tested soil sample indicate a low corrosive site environment to ferrous materials in contact with earth materials. A corrosion consultant may be contacted for further recommendations.

6.6 Concrete Flatwork

Concrete sidewalks and other flatwork (including construction joints) should be designed by the project civil engineer and should have a minimum thickness of 4 inches. For all concrete flatwork, the upper 12 inches of subgrade soils should be moisture conditioned to at least 2 percent above optimum moisture content and compacted to at least 90 percent relative compaction based on ASTM Test Method D1557 prior to the concrete placement.

6.7 Preliminary Pavement Design

The pavement section design below is based on an assumed Traffic Index (TI), our visual classification of the subject site soils, and our limited laboratory testing (we have estimated an R-value of 20). The TI values were chosen based on our experience with similar projects. Actual pavement recommendations should be based on R-value tests performed on bulk samples of the soils that are exposed at the finished subgrade elevations across the site at the completion of the mass grading operations. Flexible pavement sections have been evaluated in general accordance with the Caltrans method for flexible pavement design. The recommended flexible pavement section for this condition is given in Table 7 below:

Table 7 - Preliminary Pavement Sections

Assumed Traffic Index (TI)	Asphalt Concrete (inches)	Aggregate Base (inches)
4.5	3.0	5.0
5.0	3.0	6.5
6.0	4.0	8.5

Flexible pavements should be constructed in accordance with current Caltrans Standard Specifications. Aggregate base should comply with the Caltrans Standard Specifications of Section 26. Aggregate base should be compacted to a minimum of 95 percent relative compaction based on ASTM Method D 1557.

For areas subject to regular truck loading (i.e., trash truck apron), we recommend a full depth of Portland Cement Concrete (P.C.C.) section of 7 inches with appropriate steel reinforcement and crack-control joints as designed by the project structural

engineer. We recommend that sections be as nearly square as possible. A 3,500-psi mix that produces a 550-psi modulus of rupture should be utilized.

All pavement section materials conform to and be placed in accordance with the latest revision of the California Department of Transportation Standard Specifications (Caltrans) and American Concrete Institute (ACI) codes. The upper 12 inches of subgrade soil and all aggregate base should be compacted to a relative compaction of at least 95 percent (based on ASTM Test Method D1557).

If pavement areas are adjacent to heavily watered landscape areas, we recommend some measure of moisture control be taken to prevent the subgrade soils from becoming saturated. It is recommended that the concrete curing separating the landscaping area from the pavement extend below the aggregate base to help seal the ends of the sections where heavy landscape watering may have access to the aggregate base. Concrete swales should be designed in roadway or parking areas subject to concentrated surface runoff.

6.8 Control of Ground Water and Surface Waters

Regarding Low Impact Development (LID) measures, we are of the opinion that infiltration basins, and other onsite storm water retention and infiltration systems can potentially create adverse perched ground water conditions when not installed using proper design recommendations (such as the use of liners) and infiltration design parameters. Based on our evaluation, the site is considered a “partial infiltration” site.

Surface drainage should be controlled at all times and carefully taken into consideration during precise grading, landscaping, and construction of site improvements. Positive drainage (e.g., roof gutters, downspouts, area drains, etc.) should be provided to direct surface water away from structures and improvements and towards the street or suitable drainage devices. Ponding of water adjacent to structures or pavements should be avoided. Roof gutters, downspouts, and area drains should be aligned so as to transport surface water to a minimum distance of 5 feet away from structures. The performance of structural foundations is dependent upon maintaining adequate surface drainage away from structures.

Water should be transported off the site in approved drainage devices or unobstructed swales. We recommend a minimum flow gradient for unpaved drainage within 5 feet of structures of 2 percent sloping away.

The impact of heavy irrigation or inadequate runoff gradient can create perched water conditions, resulting in seepage or shallow ground water conditions where previously none existed. Maintaining adequate surface drainage and controlled irrigation will significantly reduce the potential for nuisance-type moisture problems. To reduce differential earth movements such as heaving and shrinkage due to the change in moisture content of foundation soils, which may cause distress to a structure and improvements, moisture content of the soils surrounding the structure should be kept as relatively constant as possible. Below grade planters should not be situated adjacent to structures or pavements unless provisions for drainage such as catch basins and drains are made.

All area drain inlets should be maintained and kept clear of debris in order to function properly. In addition, landscaping should not cause any obstruction to site drainage. Rerouting of drainage patterns and/or installation of area drains should be performed, if necessary, by a qualified civil engineer or a landscape architect.

6.9 Construction Observation

The recommendations provided in this report are based on preliminary design information and subsurface conditions disclosed by widely spaced excavations. The interpolated subsurface conditions should be checked by Leighton in the field during construction. Construction observation of all onsite excavations and field density testing of all compacted fill should be performed by a representative of this office. We recommend that all excavations be mapped by the geotechnical consultant during grading to determine if any potentially adverse geologic conditions exist at the site.

6.10 Plan Review

Final project grading and foundation plans should be reviewed by Leighton as part of the design development process to ensure that recommendations in this report are incorporated in project plans.

7.0 LIMITATIONS

The conclusions and recommendations presented in this report are based in part upon data that were obtained from a limited number of observations, site visits, excavations, samples, and tests. Such information is by necessity incomplete. The nature of many sites is such that differing geotechnical or geological conditions can occur within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if Leighton has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site.

FIGURES

Project: 11832.002	Eng/Geol: NJT/RNB
Scale: 1 " = 2,000 '	Date: April 2023

Reference: © 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus

Author: (mmurphy)

SITE LOCATION MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 1

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F01_SLM_2022-04-20.mxd on 4/20/2023 11:23:16 AM

Legend

CPT-13 — Approximate Location of Cone Penetrometer (CPT) (Leighton, This Study)

P-3 — Approximate Location of Percolation Test (Leighton, This Study)

CPT-7 — Approximate Location of Cone Penetrometer (CPT) (Leighton, 2017)

4-2 — Approximate Location of Boring (Law Crandall, 1999)

Approximate Site Boundary

Geologic Units

Qya — Quaternary-aged Young Allulvium

Park Center Dr

Cottonwood Ave

Chubb Ln

Qya

CPT-1 CPT-2 CPT-3 CPT-4 CPT-5 CPT-6 CPT-7 CPT-8 CPT-9 CPT-10 CPT-11 CPT-12 CPT-13

4-2 5-1

P-1 P-2 P-3

N

0 150 300

Feet

Project: 11832.002	Eng/Geol: NJT/TCS
Scale: 1 " = 150 '	Date: May 2023
Base Map: Google Earth, 2023.	
Author: (mmurphy)	

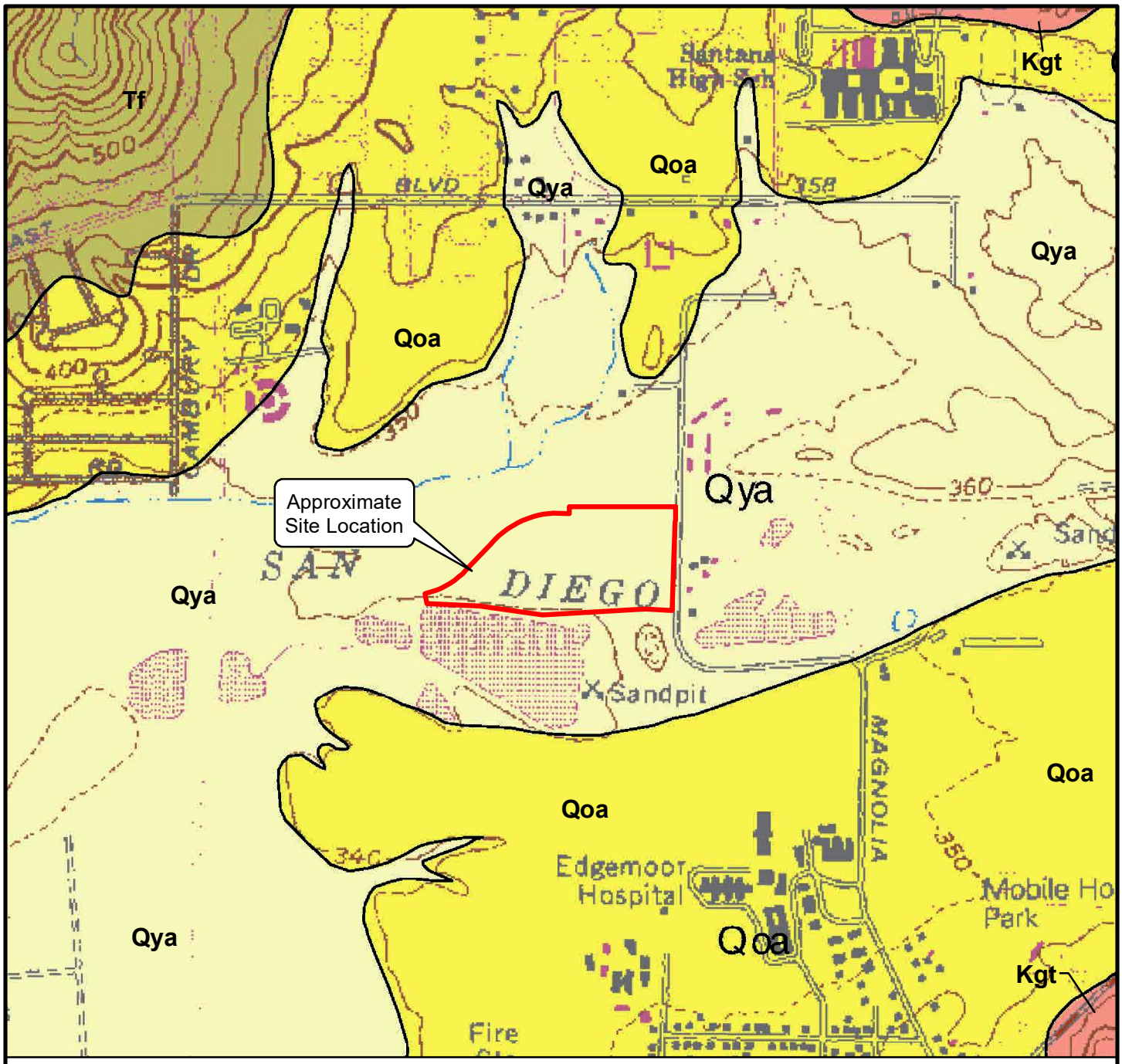
GEOTECHNICAL MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 2

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F02_GM_2022-04-20.mxd on 5/5/2023 9:19:10 AM



Legend

Qya Holocence alluvial deposits unconsolidated to poorly consolidated silt, clay, sand and gravel. Includes sediments along small, active drainage channels.

Qoa Late Pleistocene alluvial deposits; moderately consolidated, poorly-sorted flood plain deposits consisting of gravelly, sandy silt and clay.

Tf Friars Formation (middle Eocene); poorly indurated, non-marine claystone and sandstone, with lenses of cobble conglomerate. The formation contains many landslides.

Kgt Tonalite (Cretaceous); includes some granodiorite and quartz diorite; medium-grained; generally dark colored and severely weathered.

N

0 1,000 2,000

Feet

Project: 11832.002	Eng/Geol: NJT/TCS
Scale: 1 " = 1,000 '	Date: April 2023

Base Map: Geologic Map of the El Cajon 7.5' Quadrangle San Diego County, California by Siang S. Tan, 2002.

Author: (mmurphy)

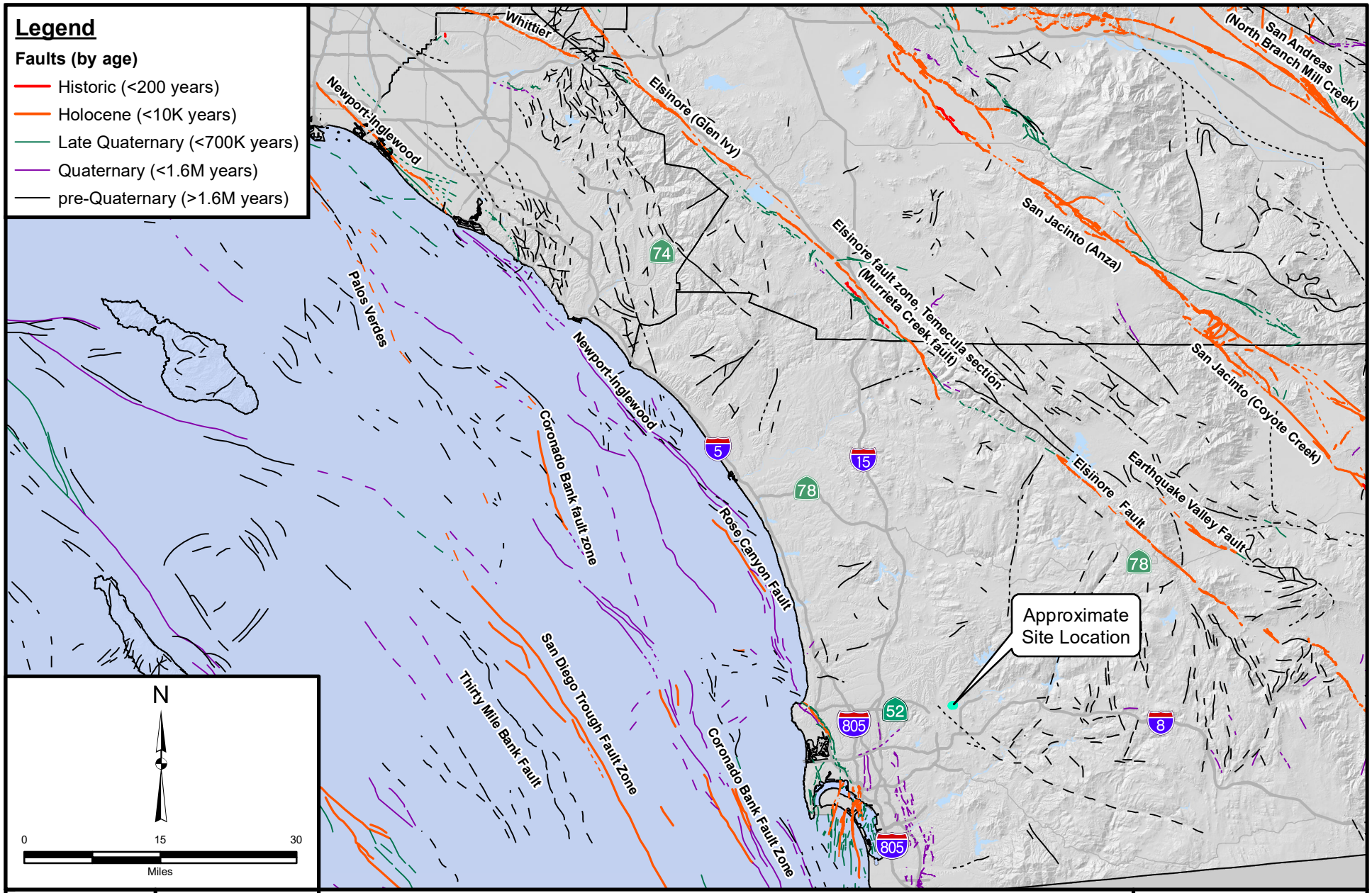
GEOLOGIC MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 3

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F03_GM_2022-04-20.mxd on 4/20/2023 11:51:24 AM



Project: 11832.002	Eng/Geol: NJT/TCS
Scale: 1 " = 15 miles	Date: April 2023
Faults: Bryant, Bryant CGS 2010 Author: Leighton Geomatics (mmurphy)	

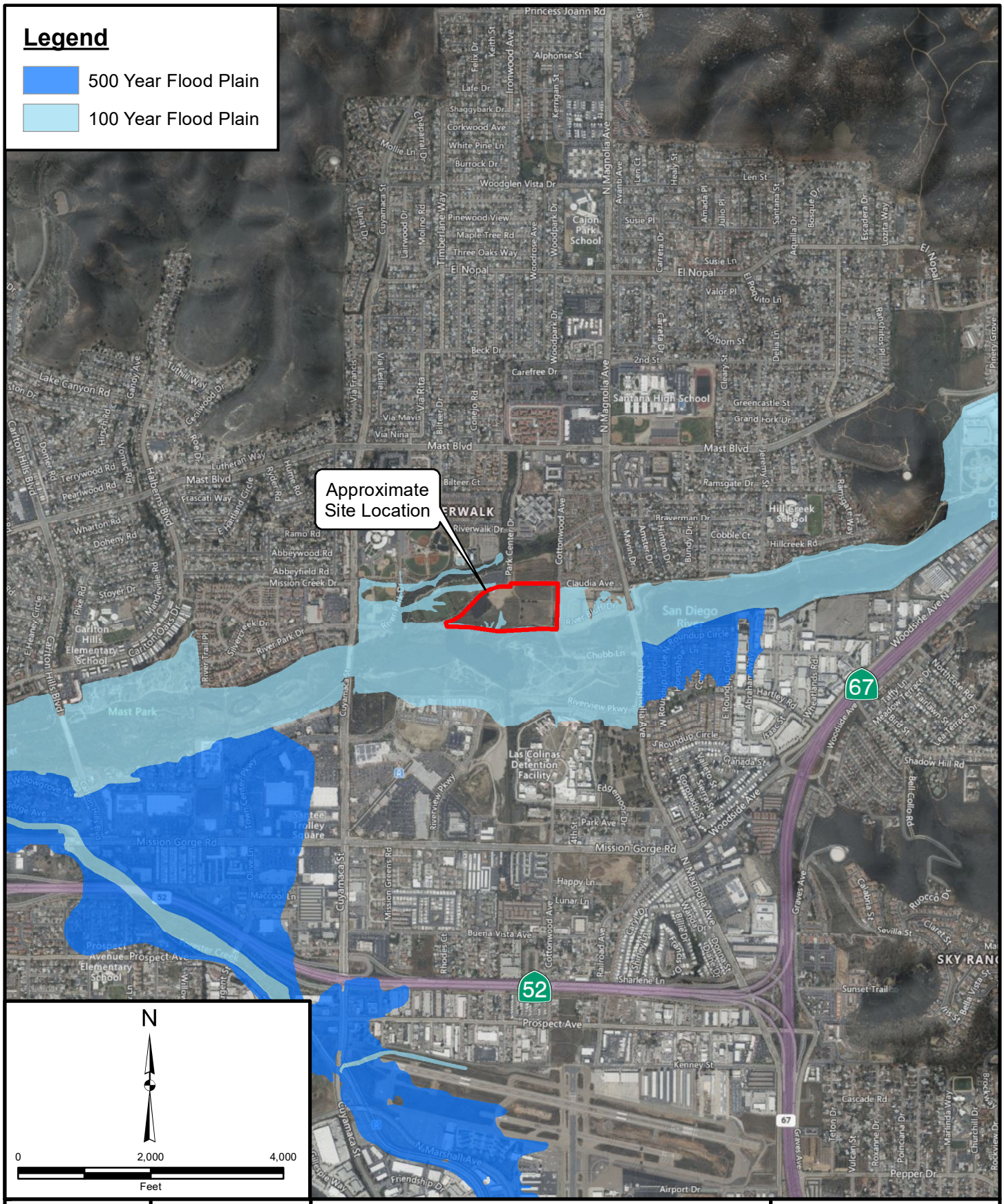
REGIONAL FAULT MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 4

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F04_RFM_2022-04-20.mxd on 4/20/2023 12:07:27 PM



Project: 11832.002	Eng/Geol: NJT/RNB
Scale: 1 " = 2,000 '	Date: May 2023

Base Map: © 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus
Reference: FEMA, DWR
Author: (mmurphy)

FLOOD HAZARD ZONE MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 5

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F05_FHZM_2023-05-05.mxd on 5/5/2023 9:12:21 AM

APPENDIX A

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APPENDIX A

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APPENDIX A

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APPENDIX B

Field Exploration Logs

SUMMARY

OF

CONE PENETRATION TEST DATA

Project:

City Ventures – Santee 3 Geoinv
Cottonwood Avenue & Claudia Avenue
Santee, CA
April 24, 2023

Prepared for:

Mr. Nick Tracy
Leighton & Associates
3934 Murphy Canyon Road, B205
San Diego, CA 92123-4425
Office (800) 447-2626 / Fax (858) 292-0771

Prepared by:

KEHOE TESTING & ENGINEERING
5415 Industrial Drive
Huntington Beach, CA 92649-1518
Office (714) 901-7270 / Fax (714) 901-7289
www.kehoetesting.com

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1. **INTRODUCTION**
2. **SUMMARY OF FIELD WORK**
3. **FIELD EQUIPMENT & PROCEDURES**
4. **CONE PENETRATION TEST DATA & INTERPRETATION**

APPENDIX

- CPT Plots
- CPT Classification/Soil Behavior Chart
- CPT Data Files (sent via email)

SUMMARY
OF
CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the City Ventures – Santee 3 Geoinv project located at Cottonwood Avenue & Claudia Avenue in Santee, California. The work was performed by Kehoe Testing & Engineering (KTE) on April 24, 2023. The scope of work was performed as directed by Leighton & Associates personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at six locations to determine the soil lithology. A summary is provided in **TABLE 2.1**.

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-8	46	Refusal
CPT-9	47	Refusal
CPT-10	38	Refusal
CPT-11	36	Refusal
CPT-12	38	Refusal
CPT-13	50	

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm^2 cone with a cone net area ratio of 0.83. The following parameters were recorded at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed

The above parameters were recorded and viewed in real time using a laptop computer. Data is stored at the KTE office for up to 2 years for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. These plots were generated using the CPeT-IT program. Penetration depths are referenced to ground surface. The soil behavior type on the CPT plots is derived from the attached CPT SBT plot (Robertson, "Interpretation of Cone Penetration Test…", 2009) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used along with cone resistance to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

The CPT data files have also been provided. These files can be imported in CPeT-IT (software by GeoLogismiki) and other programs to calculate various geotechnical parameters.

It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgement and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING

Steven P. Kehoe
President

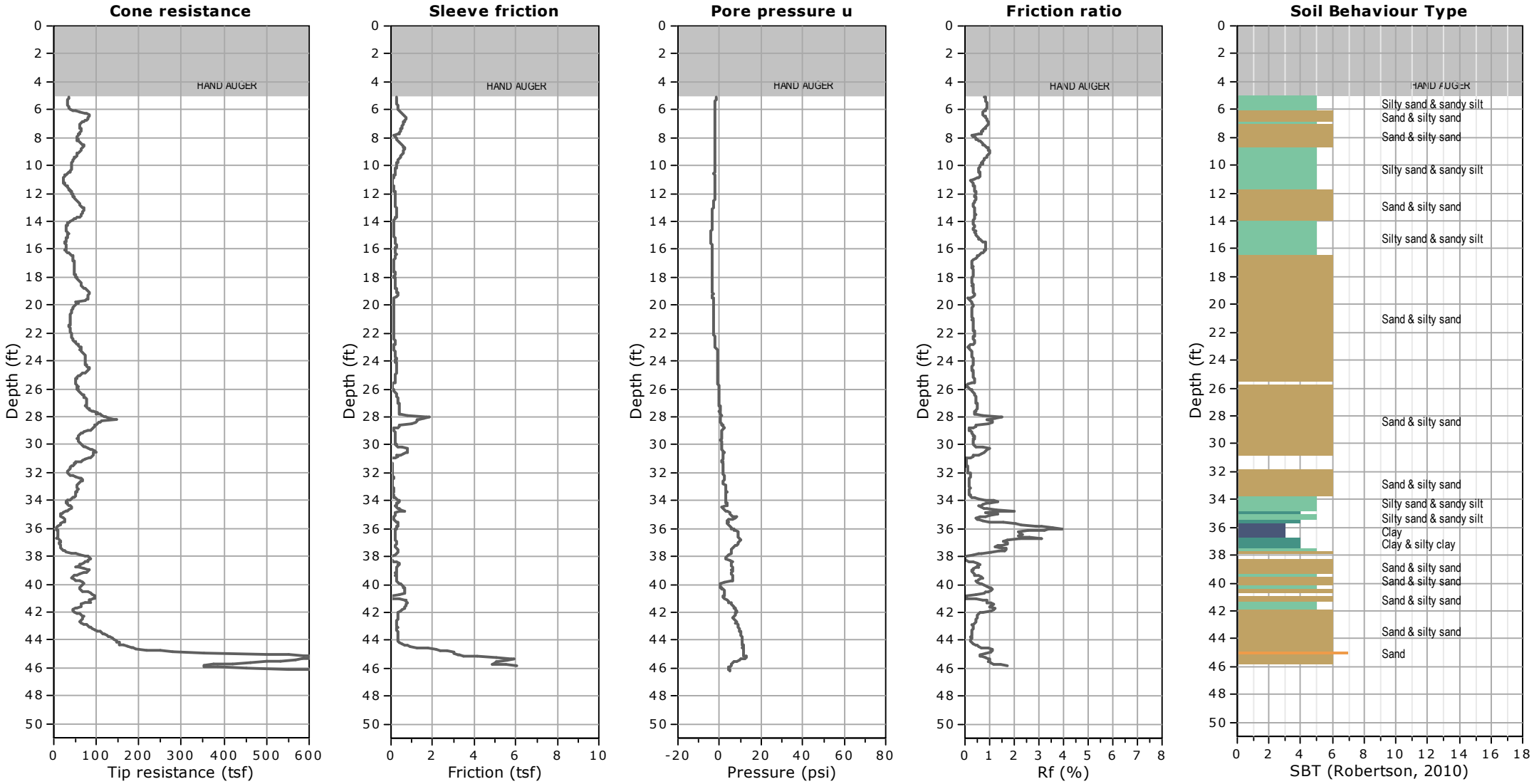
04/27/23-aga-5234

APPENDIX

Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Leighton & Associates / City Ventures - Santee 3 Geoinv**
Location: **Cottonwood Ave & Claudia Ave, Santee, CA**

CPT-8
Total depth: 46.20 ft, Date: 4/24/2023



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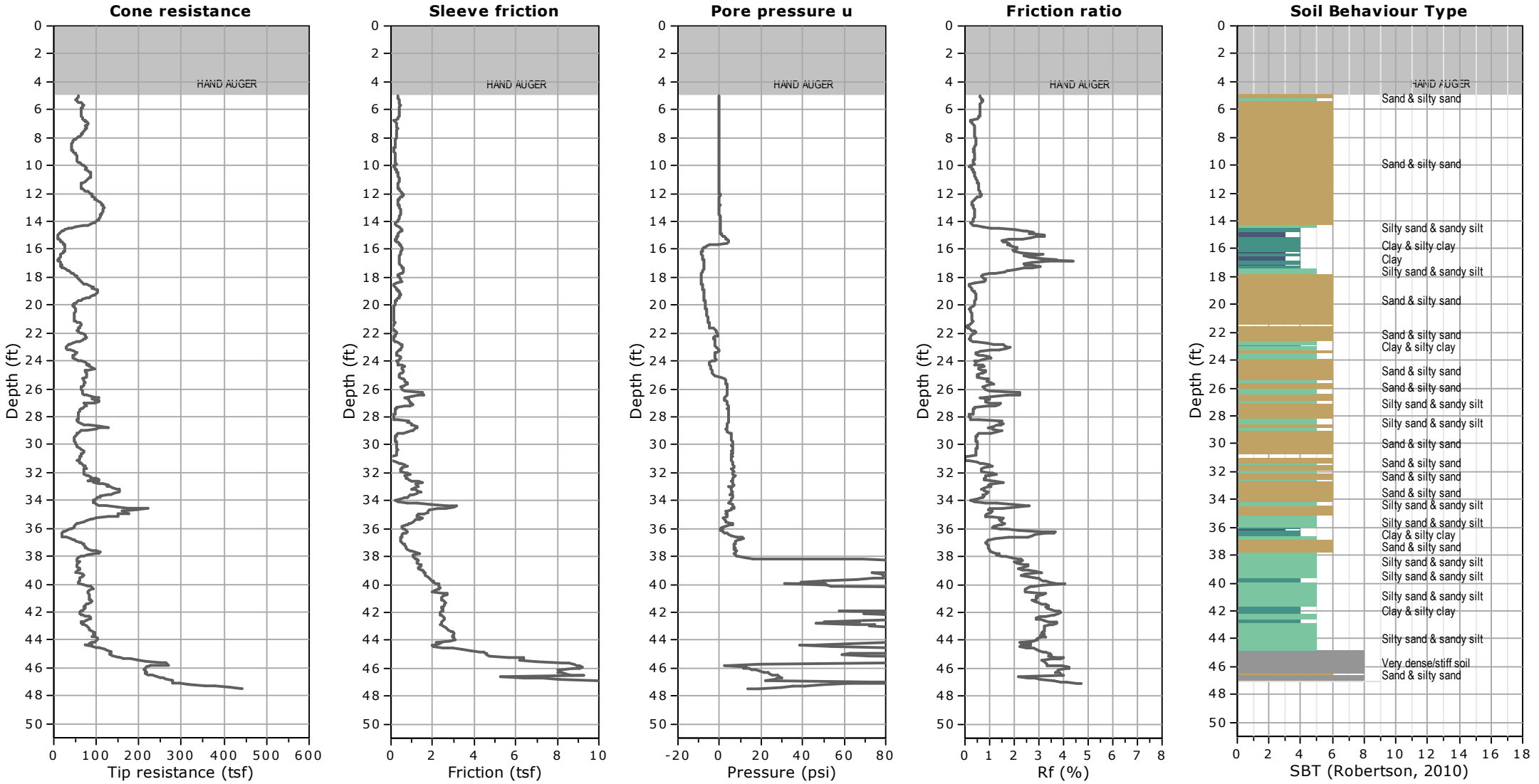
Project: **Leighton & Associates / City Ventures - Santee 3 Geoinv**
Location: **Cottonwood Ave & Claudia Ave, Santee, CA**

CPT-9
Total depth: 47.51 ft, Date: 4/24/2023



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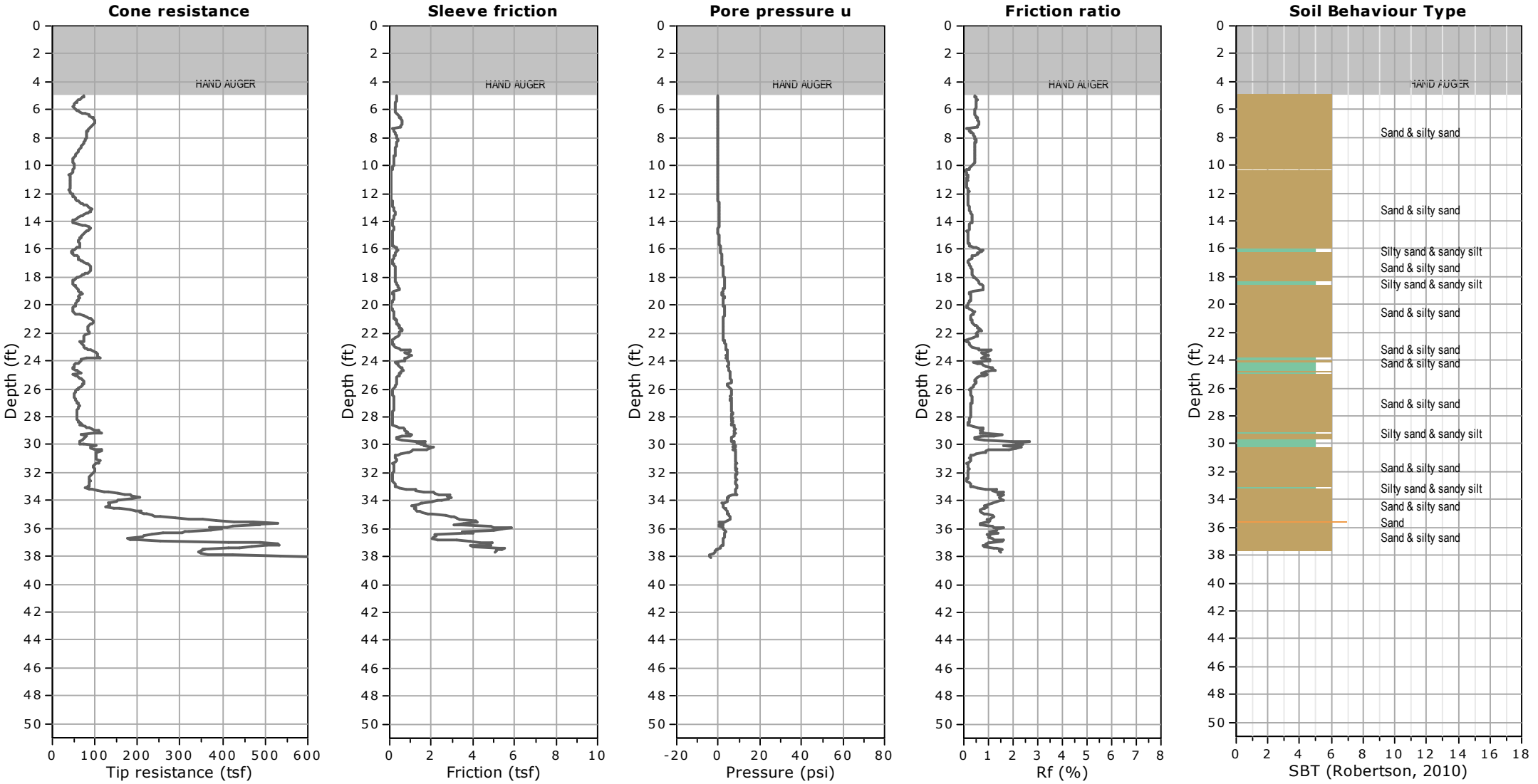
Project: **Leighton & Associates / City Ventures - Santee 3 Geoinv**
Location: **Cottonwood Ave & Claudia Ave, Santee, CA**

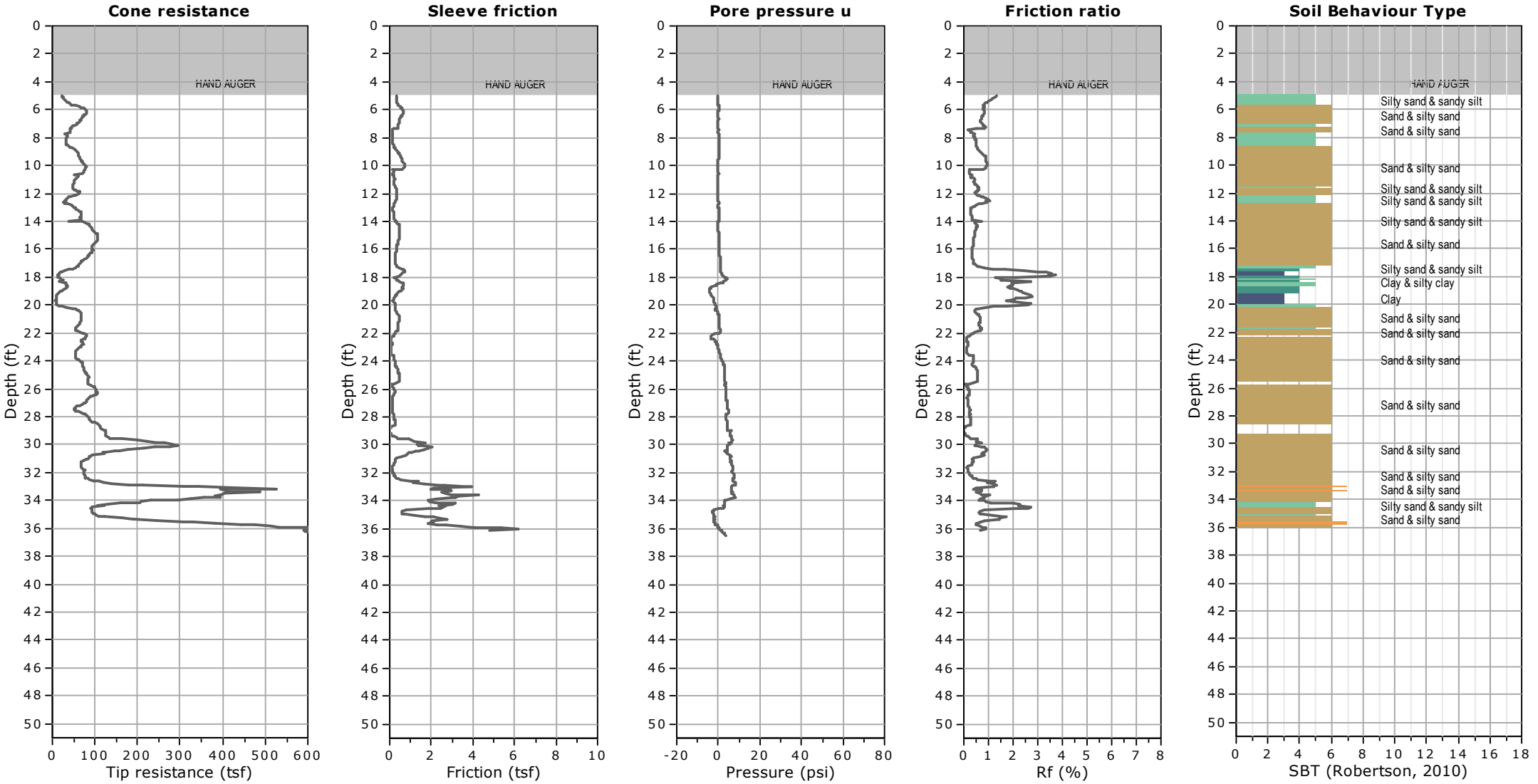
CPT-10
Total depth: 38.06 ft, Date: 4/24/2023



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Leighton & Associates / City Ventures - Santee 3 Geoinv**
Location: **Cottonwood Ave & Claudia Ave, Santee, CA**

CPT-11
Total depth: 36.49 ft, Date: 4/24/2023



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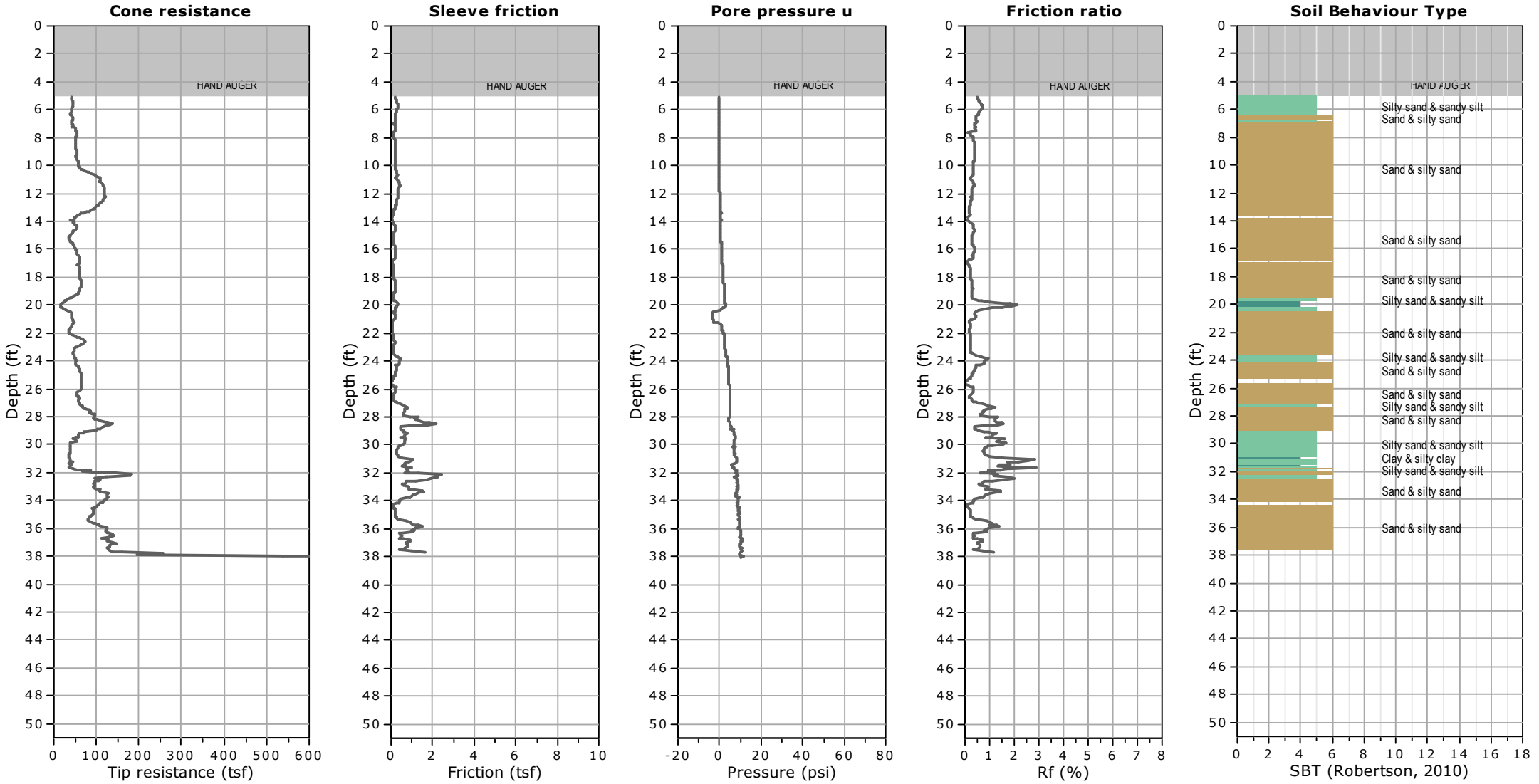
Project: **Leighton & Associates / City Ventures - Santee 3 Geoinv**
Location: **Cottonwood Ave & Claudia Ave, Santee, CA**

CPT-12
Total depth: 38.06 ft, Date: 4/24/2023



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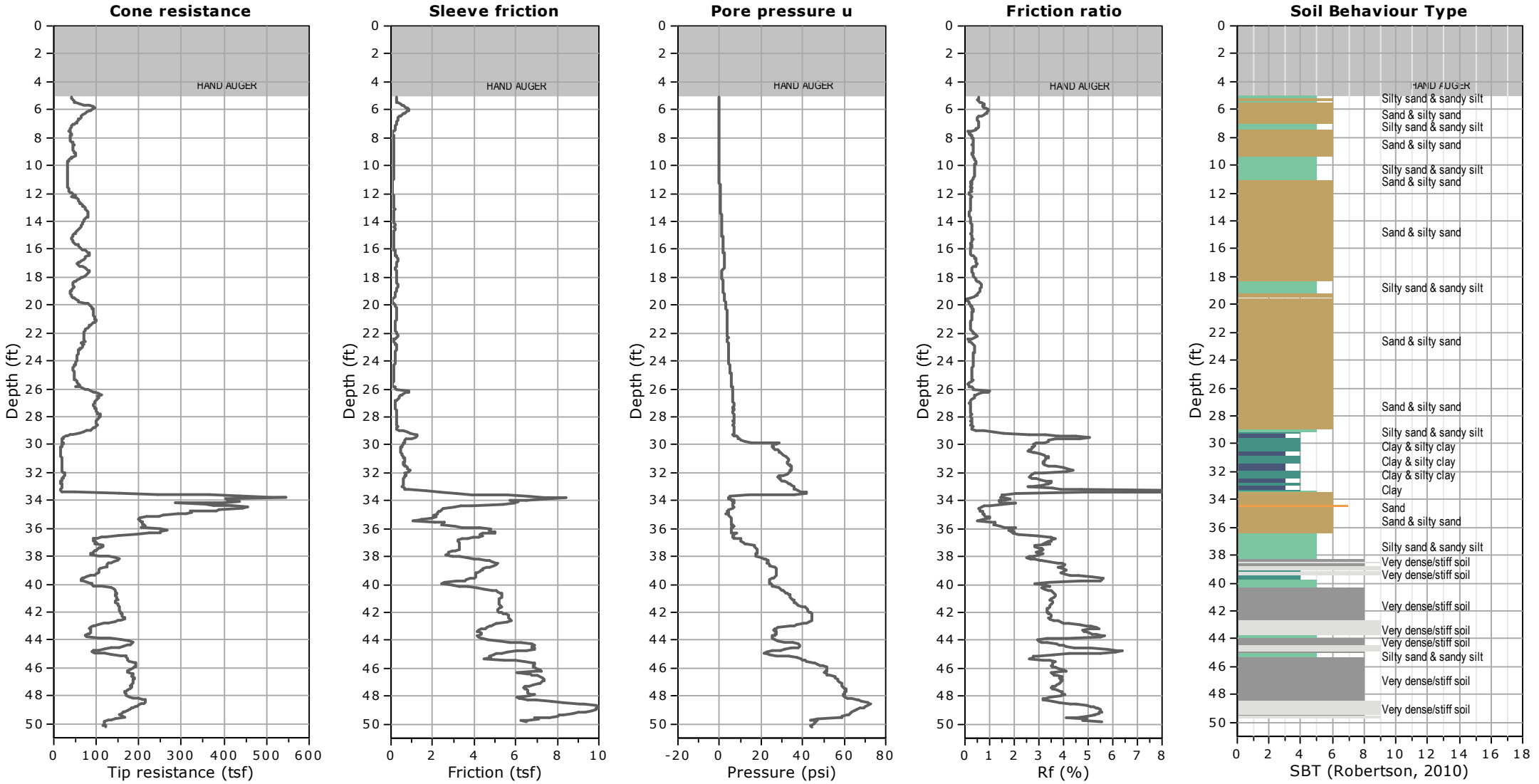
www.kehoetesting.com

Project: **Leighton & Associates / City Ventures - Santee 3 Geoinv**
Location: **Cottonwood Ave & Claudia Ave, Santee, CA**

CPT-13
Total depth: 50.22 ft, Date: 4/24/2023



Kehoe Testing and Engineering
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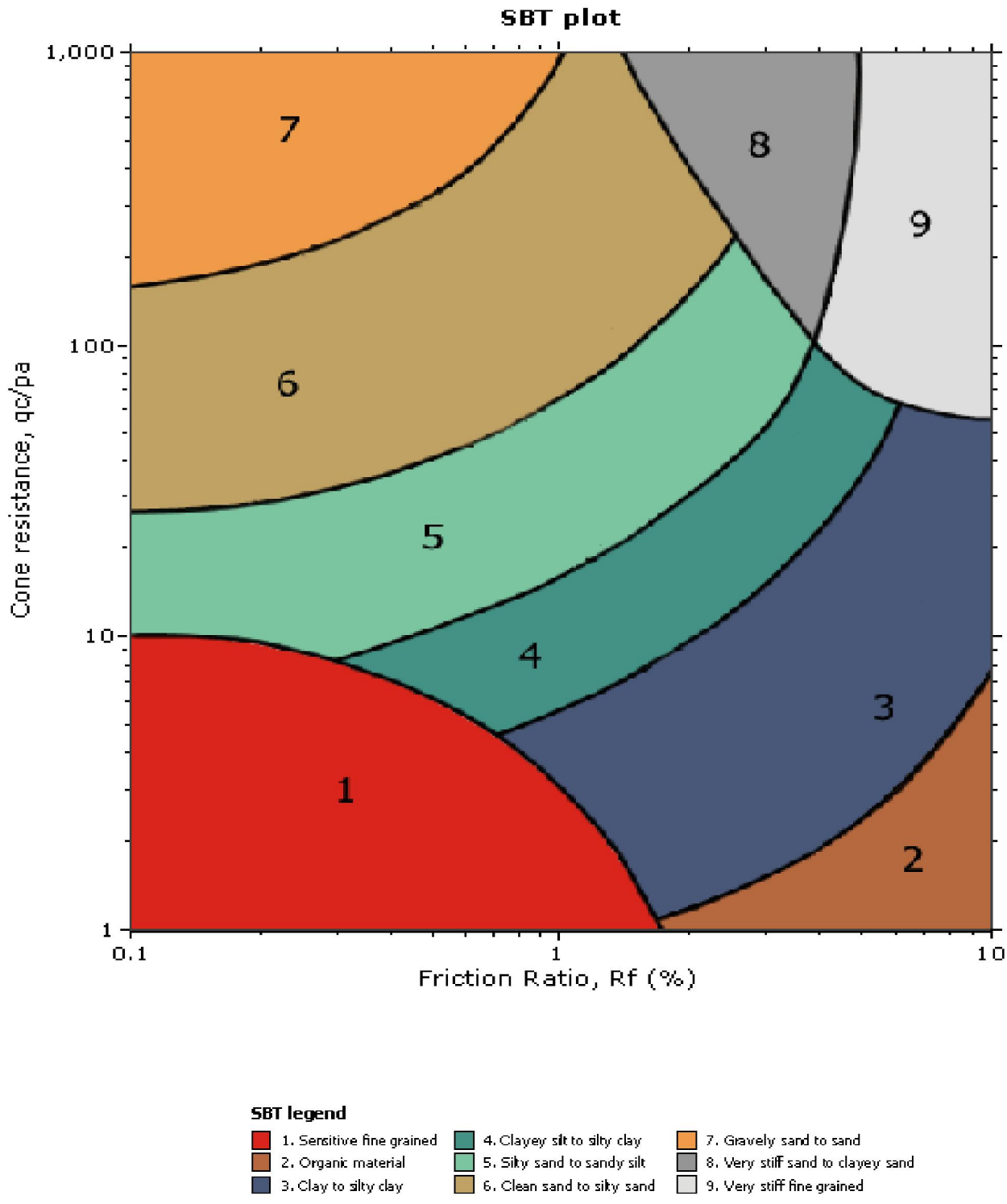

10/27/17

Leighton and Associates
Attn: Mike Jensen

Subject: CPT Site Investigation
City Ventures/Santee B
Santee, California
GREGG Project Number: 17-638SH

Dear Mr. Jensen:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☐
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	UVOST Laser Induced Fluorescence	(UVOST)	☐
5	Groundwater Sampling	(GWS)	☐
6	Soil Sampling	(SS)	☐
7	Vapor Sampling	(VS)	☐
8	Pressuremeter Testing	(PMT)	☐
9	Vane Shear Testing	(VST)	☐
10	Dilatometer Testing	(DMT)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG Drilling & Testing, Inc.

Frank Stolfi
HRSC Division Manager, Gregg Drilling & Testing, Inc.

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (feet)	Depth of Groundwater Samples (feet)	Depth of Soil Samples (feet)	Depth of Pore Pressure Dissipation Tests (feet)
CPT-1	10/26/17	43	-	-	-
CPT-2	10/26/17	43	-	-	-
CPT-3	10/26/17	46	-	-	-
CPT-4	10/26/17	51	-	-	-
CPT-5	10/26/17	46	-	-	-
CPT-6	10/26/17	25	-	-	-
CPT-7	10/26/17	32	-	-	-

Bibliography

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Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

Cone Penetration Testing Procedure (CPT)

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*.

The cone takes measurements of tip resistance (q_c), sleeve resistance (f_s), and penetration pore water pressure (u_2). Measurements are taken at either 2.5 or 5 cm intervals during penetration to provide a nearly continuous profile. CPT data reduction and basic interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored electronically for further analysis and reference. All CPT soundings are performed in accordance with revised ASTM standards (D 5778-12).

The 5mm thick porous plastic filter element is located directly behind the cone tip in the u_2 location. A new saturated filter element is used on each sounding to measure both penetration pore pressures as well as measurements during a dissipation test (*PPDT*). Prior to each test, the filter element is fully saturated with oil under vacuum pressure to improve accuracy.

When the sounding is completed, the test hole is backfilled according to client specifications. If grouting is used, the procedure generally consists of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

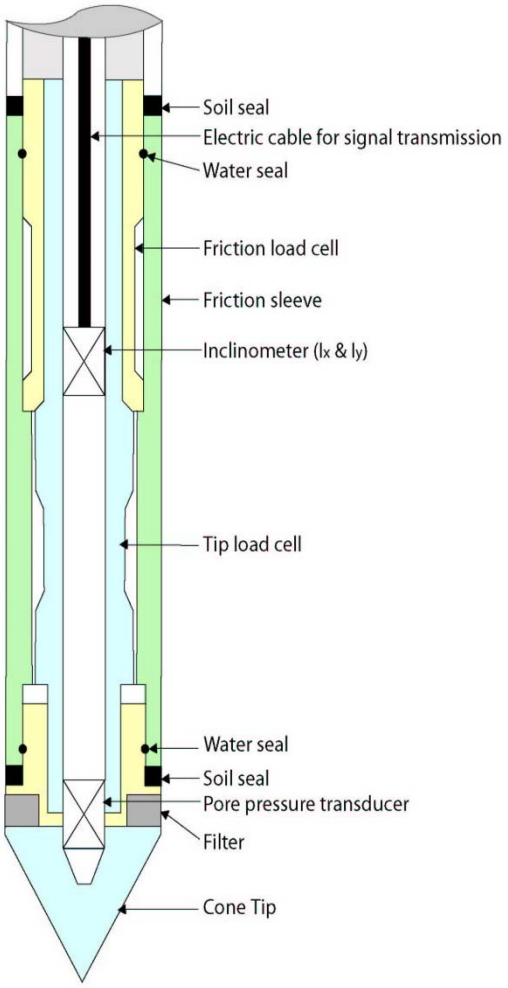


Figure CPT

Gregg 15cm^2 Standard Cone Specifications

Dimensions	
Cone base area	15 cm^2
Sleeve surface area	225 cm^2
Cone net area ratio	0.80
Specifications	
Cone load cell	
Full scale range	180 kN (20 tons)
Overload capacity	150%
Full scale tip stress	120 MPa (1,200 tsf)
Repeatability	120 kPa (1.2 tsf)
Sleeve load cell	
Full scale range	31 kN (3.5 tons)
Overload capacity	150%
Full scale sleeve stress	1,400 kPa (15 tsf)
Repeatability	1.4 kPa (0.015 tsf)
Pore pressure transducer	
Full scale range	7,000 kPa (1,000 psi)
Overload capacity	150%
Repeatability	7 kPa (1 psi)

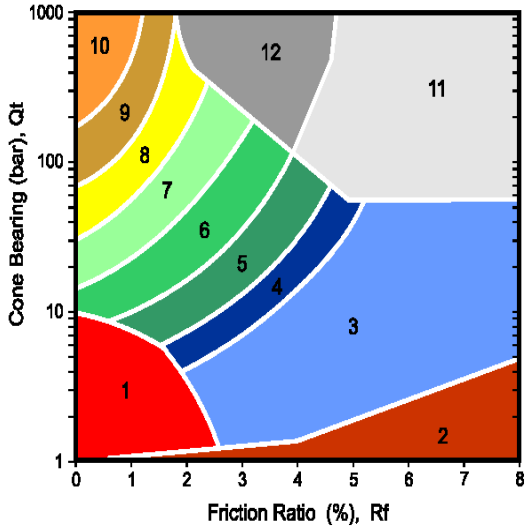
Note: The repeatability during field use will depend somewhat on ground conditions, abrasion, maintenance and zero load stability.

Cone Penetration Test Data & Interpretation

The Cone Penetration Test (CPT) data collected are presented in graphical and electronic form in the report. The plots include interpreted Soil Behavior Type (SBT) based on the charts described by Robertson (1990). Typical plots display SBT based on the non-normalized charts of Robertson et al (1986). For CPT soundings deeper than 30m, we recommend the use of the normalized charts of Robertson (1990) which can be displayed as SBTn, upon request. The report also includes spreadsheet output of computer calculations of basic interpretation in terms of SBT and SBTn and various geotechnical parameters using current published correlations based on the comprehensive review by Lunne, Robertson and Powell (1997), as well as recent updates by Professor Robertson (Guide to Cone Penetration Testing, 2015). The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg Drilling & Testing Inc. does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software. Some interpretation methods require input of the groundwater level to calculate vertical effective stress. An estimate of the in-situ groundwater level has been made based on field observations and/or CPT results, but should be verified by the user.

A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Note that it is not always possible to clearly identify a soil type based solely on q_t, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the correct soil behavior type.



ZONE		SBT
1		Sensitive, fine grained
2		Organic materials
3		Clay
4		Silty clay to clay
5		Clayey silt to silty clay
6		Sandy silt to clayey silt
7		Silty sand to sandy silt
8		Sand to silty sand
9		Sand
10		Gravely sand to sand
11		Very stiff fine grained*
12		Sand to clayey sand*

*over consolidated or cemented

Figure SBT (After Robertson et al., 1986) – Note: Colors may vary slightly compared to plots

Cone Penetration Test (CPT) Interpretation

Gregg uses a proprietary CPT interpretation and plotting software. The software takes the CPT data and performs basic interpretation in terms of soil behavior type (SBT) and various geotechnical parameters using current published empirical correlations based on the comprehensive review by Lunne, Robertson and Powell (1997). The interpretation is presented in tabular format using MS Excel. The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for any use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software.

The following provides a summary of the methods used for the interpretation. Many of the empirical correlations to estimate geotechnical parameters have constants that have a range of values depending on soil type, geologic origin and other factors. The software uses 'default' values that have been selected to provide, in general, conservatively low estimates of the various geotechnical parameters.

Input:

1 Units for display (Imperial or metric) (atm. pressure, p_a = 0.96 tsf or 0.1 MPa)
2 Depth interval to average results (ft or m). Data are collected at either 0.02 or 0.05m and can be averaged every 1, 3 or 5 intervals.
3 Elevation of ground surface (ft or m)
4 Depth to water table, z_w (ft or m) – input required
5 Net area ratio for cone, a (default to 0.80)
6 Relative Density constant, C_{Dr} (default to 350)
7 Young's modulus number for sands, α (default to 5)
8 Small strain shear modulus number
  a. for sands, S_G (default to 180 for SBT_n 5, 6, 7)
  b. for clays, C_G (default to 50 for SBT_n 1, 2, 3 & 4)
9 Undrained shear strength cone factor for clays, N_{kt} (default to 15)
10 Over Consolidation ratio number, k_{ocr} (default to 0.3)
11 Unit weight of water, (default to γ_w = 62.4 lb/ft^3 or 9.81 kN/m^3)

Column

1 Depth, z, (m) – CPT data is collected in meters
2 Depth (ft)
3 Cone resistance, q_c (tsf or MPa)
4 Sleeve resistance, f_s (tsf or MPa)
5 Penetration pore pressure, u (psi or MPa), measured behind the cone (i.e. u_2)
6 Other – any additional data
7 Total cone resistance, q_t (tsf or MPa) $q_t = q_c + u\,(1-a)$

8	Friction Ratio, R_f (%)	$R_f = (f_s/q_t) \times 100\%$
9	Soil Behavior Type (non-normalized), SBT	see note
10	Unit weight, γ (pcf or kN/m^3)	based on SBT, see note
11	Total overburden stress, σ_v (tsf)	$\sigma_{vo} = \sigma\, z$
12	In-situ pore pressure, u_o (tsf)	$u_o = \gamma_w (z - z_w)$
13	Effective overburden stress, σ'_{vo} (tsf)	$\sigma'_{vo} = \sigma_{vo} - u_o$
14	Normalized cone resistance, Q_{t1}	$Q_{t1} = (q_t - \sigma_{vo}) / \sigma'_{vo}$
15	Normalized friction ratio, F_r (%)	$F_r = f_s / (q_t - \sigma_{vo}) \times 100\%$
16	Normalized Pore Pressure ratio, B_q	$B_q = u - u_o / (q_t - \sigma_{vo})$
17	Soil Behavior Type (normalized), SBT_n	see note
18	SBT_n Index, I_c	see note
19	Normalized Cone resistance, Q_{tn} (n varies with I_c)	see note
20	Estimated permeability, k_{SBT} (cm/sec or ft/sec)	see note
21	Equivalent SPT N_{60}, blows/ft	see note
22	Equivalent SPT $(N_1)_{60}$ blows/ft	see note
23	Estimated Relative Density, D_r, (%)	see note
24	Estimated Friction Angle, ϕ', (degrees)	see note
25	Estimated Young's modulus, E_s (tsf)	see note
26	Estimated small strain Shear modulus, Go (tsf)	see note
27	Estimated Undrained shear strength, s_u (tsf)	see note
28	Estimated Undrained strength ratio	s_u/σ_v'
29	Estimated Over Consolidation ratio, OCR	see note

Notes:

1 Soil Behavior Type (non-normalized), SBT (Lunne et al., 1997 and table below)

2 Unit weight, γ either constant at 119 pcf or based on Non-normalized SBT (Lunne et al., 1997 and table below)

3 Soil Behavior Type (Normalized), SBT_n Lunne et al. (1997)

4 SBT_n Index, I_c $I_c = ((3.47 - \log Q_{t1})^2 + (\log F_r + 1.22)^2)^{0.5}$

5 Normalized Cone resistance, Q_{tn} (n varies with Ic)

$Q_{tn} = ((q_t - \sigma_{vo})/pa)\ (pa/(\sigma'_{vo})^n$ and recalculate I_c, then iterate:

When $I_c < 1.64$, n = 0.5 (clean sand)
When $I_c > 3.30$, n = 1.0 (clays)
When $1.64 < I_c < 3.30$, $n = (I_c - 1.64)0.3 + 0.5$
Iterate until the change in n, $\Delta n < 0.01$

6 Estimated permeability, k_{SBT} based on Normalized SBT_n (Lunne et al., 1997 and table below)

7 Equivalent SPT N_{60}, blows/ft Lunne et al. (1997)

$$\frac{(q_t/p_a)}{N_{60}} = 8.5\left(1 - \frac{I_c}{4.6}\right)$$

8 Equivalent SPT $(N_1)_{60}$ blows/ft $(N_1)_{60} = N_{60}\, C_N$,
where $C_N = (pa/\sigma'_{vo})^{0.5}$

9 Relative Density, D_r, (%) $D_r^2 = Q_{tn} / C_{Dr}$
Only SBT_n 5, 6, 7 & 8 *Show 'N/A' in zones 1, 2, 3, 4 & 9*

10 Friction Angle, ϕ', (degrees) $\tan\phi' = \frac{1}{2.68}\left[\log\left(\frac{q_c}{\sigma'_{vo}}\right) + 0.29\right]$
Only SBT_n 5, 6, 7 & 8 *Show'N/A' in zones 1, 2, 3, 4 & 9*

11 Young's modulus, E_s $E_s = \alpha\, q_t$
Only SBT_n 5, 6, 7 & 8 *Show 'N/A' in zones 1, 2, 3, 4 & 9*

12 Small strain shear modulus, Go

a. $G_o = S_G\,(q_t\ \sigma'_{vo}\ pa)^{1/3}$ *For SBT_n 5, 6, 7*

b. $G_o = C_G\, q_t$ *For SBT_n 1, 2, 3& 4*

Show 'N/A' in zones 8 & 9

13 Undrained shear strength, s_u $s_u = (q_t - \sigma_{vo}) / N_{kt}$
Only SBT_n 1, 2, 3, 4 & 9 *Show 'N/A' in zones 5, 6, 7 & 8*

14 Over Consolidation ratio, OCR $OCR = k_{ocr}\, Q_{t1}$
Only SBT_n 1, 2, 3, 4 & 9 *Show 'N/A' in zones 5, 6, 7 & 8*

The following updated and simplified SBT descriptions have been used in the software:

SBT Zones		**SBT_n Zones**	
1	sensitive fine grained	1	sensitive fine grained
2	organic soil	2	organic soil
3	clay	3	clay
4	clay & silty clay	4	clay & silty clay
5	clay & silty clay		
6	sandy silt & clayey silt		

7	silty sand & sandy silt	5	silty sand & sandy silt
8	sand & silty sand	6	sand & silty sand
9	sand		
10	sand	7	sand
11	very dense/stiff soil*	8	very dense/stiff soil*
12	very dense/stiff soil*	9	very dense/stiff soil*

*heavily overconsolidated and/or cemented

Track when soils fall with zones of same description and print that description (i.e. if soils fall only within SBT zones 4 & 5, print 'clays & silty clays')

Estimated Permeability (see Lunne et al., 1997)

SBT_n	Permeability (ft/sec)	(m/sec)
1	$3x\ 10^{-8}$	$1x\ 10^{-8}$
2	$3x\ 10^{-7}$	$1x\ 10^{-7}$
3	$1x\ 10^{-9}$	$3x\ 10^{-10}$
4	$3x\ 10^{-8}$	$1x\ 10^{-8}$
5	$3x\ 10^{-6}$	$1x\ 10^{-6}$
6	$3x\ 10^{-4}$	$1x\ 10^{-4}$
7	$3x\ 10^{-2}$	$1x\ 10^{-2}$
8	$3x\ 10^{-6}$	$1x\ 10^{-6}$
9	$1x\ 10^{-8}$	$3x\ 10^{-9}$

Estimated Unit Weight (see Lunne et al., 1997)

SBT	Approximate Unit Weight (lb/ft^3)	(kN/m^3)
1	111.4	17.5
2	79.6	12.5
3	111.4	17.5
4	114.6	18.0
5	114.6	18.0
6	114.6	18.0
7	117.8	18.5
8	120.9	19.0
9	124.1	19.5
10	127.3	20.0
11	130.5	20.5
12	120.9	19.0

Pore Pressure Dissipation Tests (PPDT)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals can be used to measure equilibrium water pressure (at the time of the CPT). If conditions are hydrostatic, the equilibrium water pressure can be used to determine the approximate depth of the ground water table. A PPDT is conducted when penetration is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (*u)* with time is measured behind the tip of the cone and recorded.

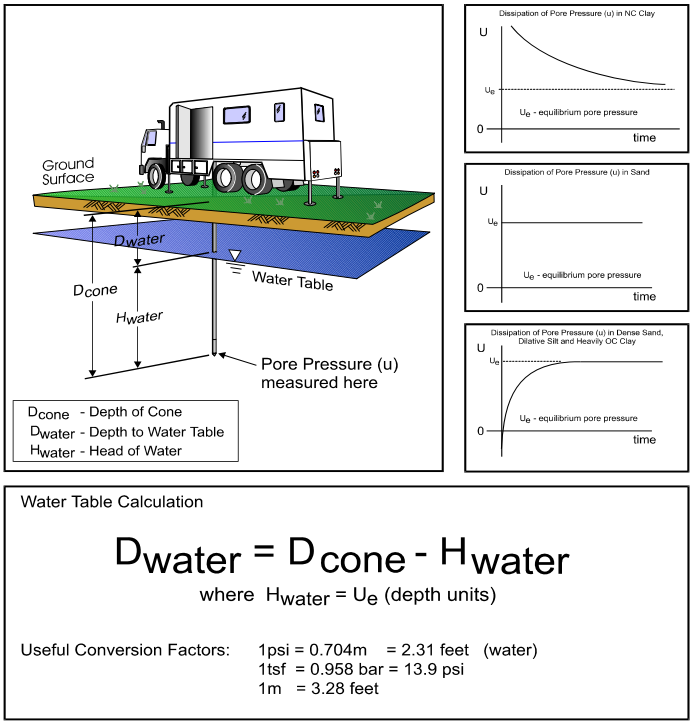
Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permeability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until it reaches equilibrium, *Figure PPDT*. This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992 and Lunne et al. 1997.

A summary of the pore pressure dissipation tests are summarized in Table 1.



Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

Figure PPDT

Seismic Cone Penetration Testing (SCPT)

Seismic Cone Penetration Testing (SCPT) can be conducted at various intervals during the Cone Penetration Test. Shear wave velocity (Vs) can then be calculated over a specified interval with depth. A small interval for seismic testing, such as 1-1.5m (3-5ft) allows for a detailed look at the shear wave profile with depth. Conversely, a larger interval such as 3-6m (10-20ft) allows for a more average shear wave velocity to be calculated. Gregg's cones have a horizontally active geophone located 0.2m (0.66ft) behind the tip.

To conduct the seismic shear wave test, the penetration of the cone is stopped and the rods are decoupled from the rig. An automatic hammer is triggered to send a shear wave into the soil. The distance from the source to the cone is calculated knowing the total depth of the cone and the horizontal offset distance between the source and the cone. To calculate an interval velocity, a minimum of two tests must be performed at two different depths. The arrival times between the two wave traces are compared to obtain the difference in time (Δt). The difference in depth is calculated (Δd) and velocity can be determined using the simple equation: $v = \Delta d/\Delta t$

Multiple wave traces can be recorded at the same depth to improve quality of the data.

A complete reference on seismic cone penetration tests is presented by Robertson et al. 1986 and Lunne et al. 1997.

A summary the shear wave velocities, arrival times and wave traces are provided with the report.

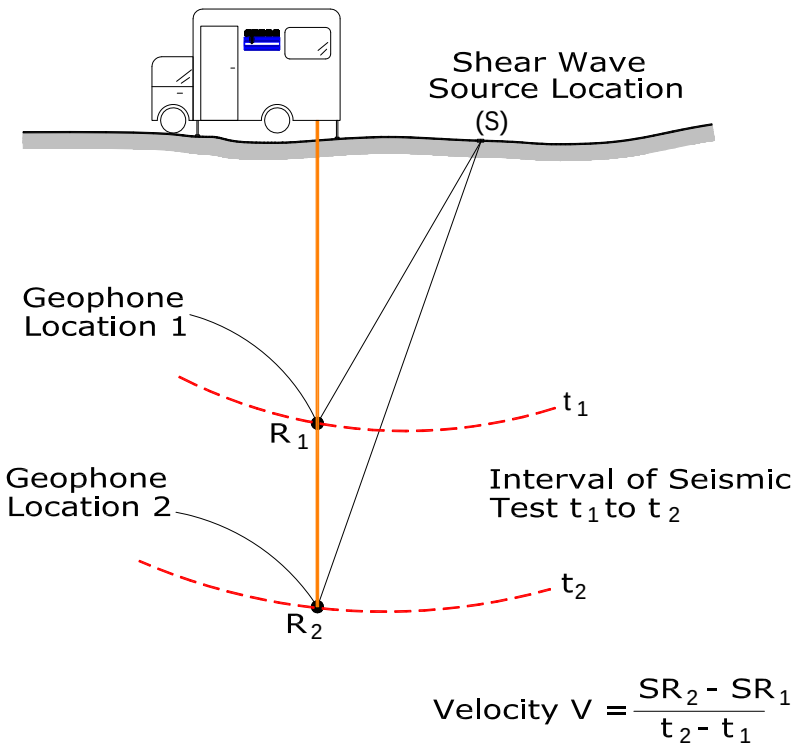


Figure SCPT

Groundwater Sampling

Gregg Drilling & Testing, Inc. conducts groundwater sampling using a sampler as shown in *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the pushing equipment to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 44.5mm (1¾ inch) hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

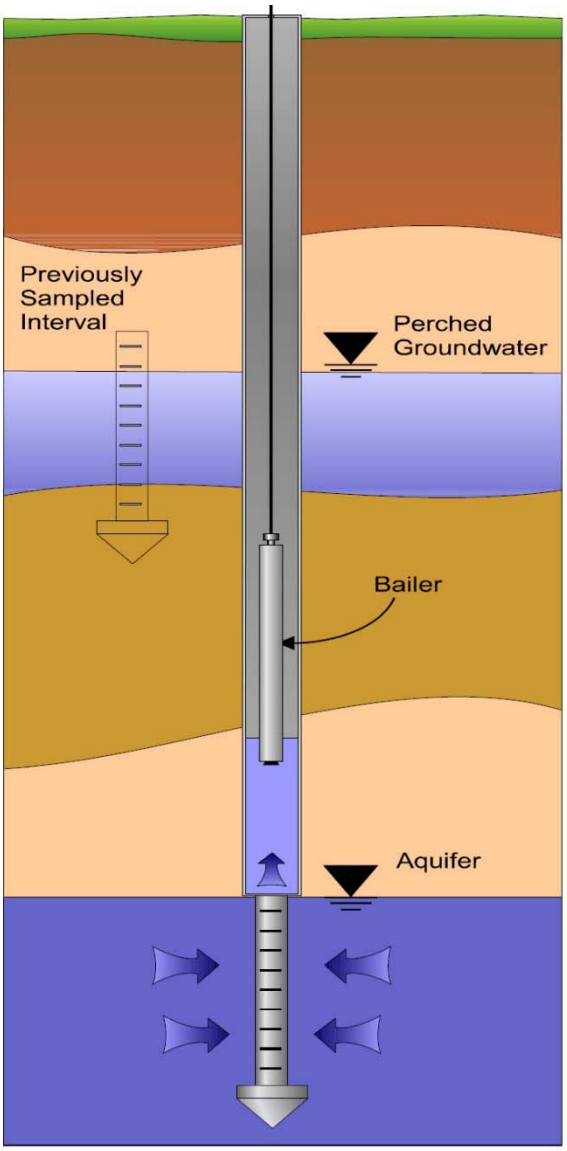


Figure GWS

Soil Sampling

Gregg Drilling & Testing, Inc. uses a piston-type push-in sampler to obtain small soil samples without generating any soil cuttings, *Figure SS*. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using the CPT pushing equipment. Keeping the sampler closed minimizes the potential of cross contamination. The inner tip of the sampler is then retracted leaving a hollow soil sampler with inner 1¼" diameter sample tubes. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery is increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

For a detailed reference on direct push soil sampling, refer to Robertson et al, 1998.

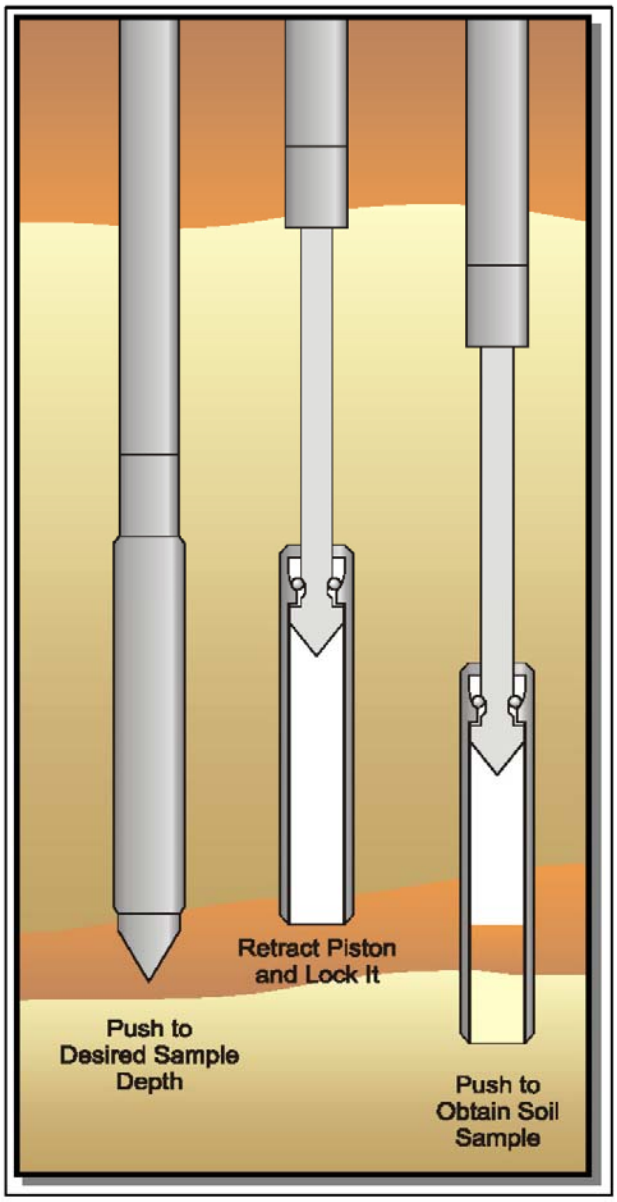
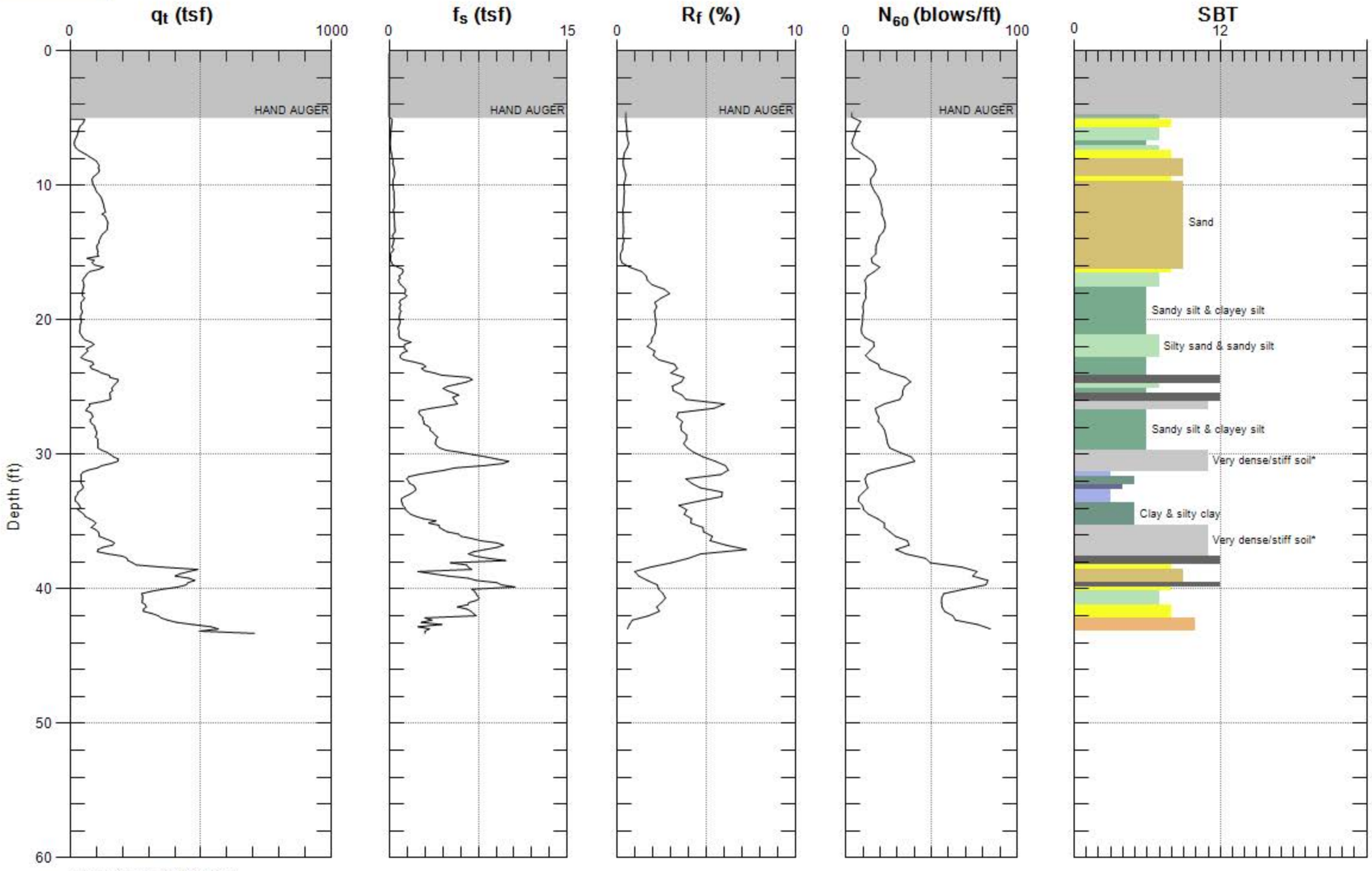


Figure SS

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-1 Date: 10/26/2017 07:35



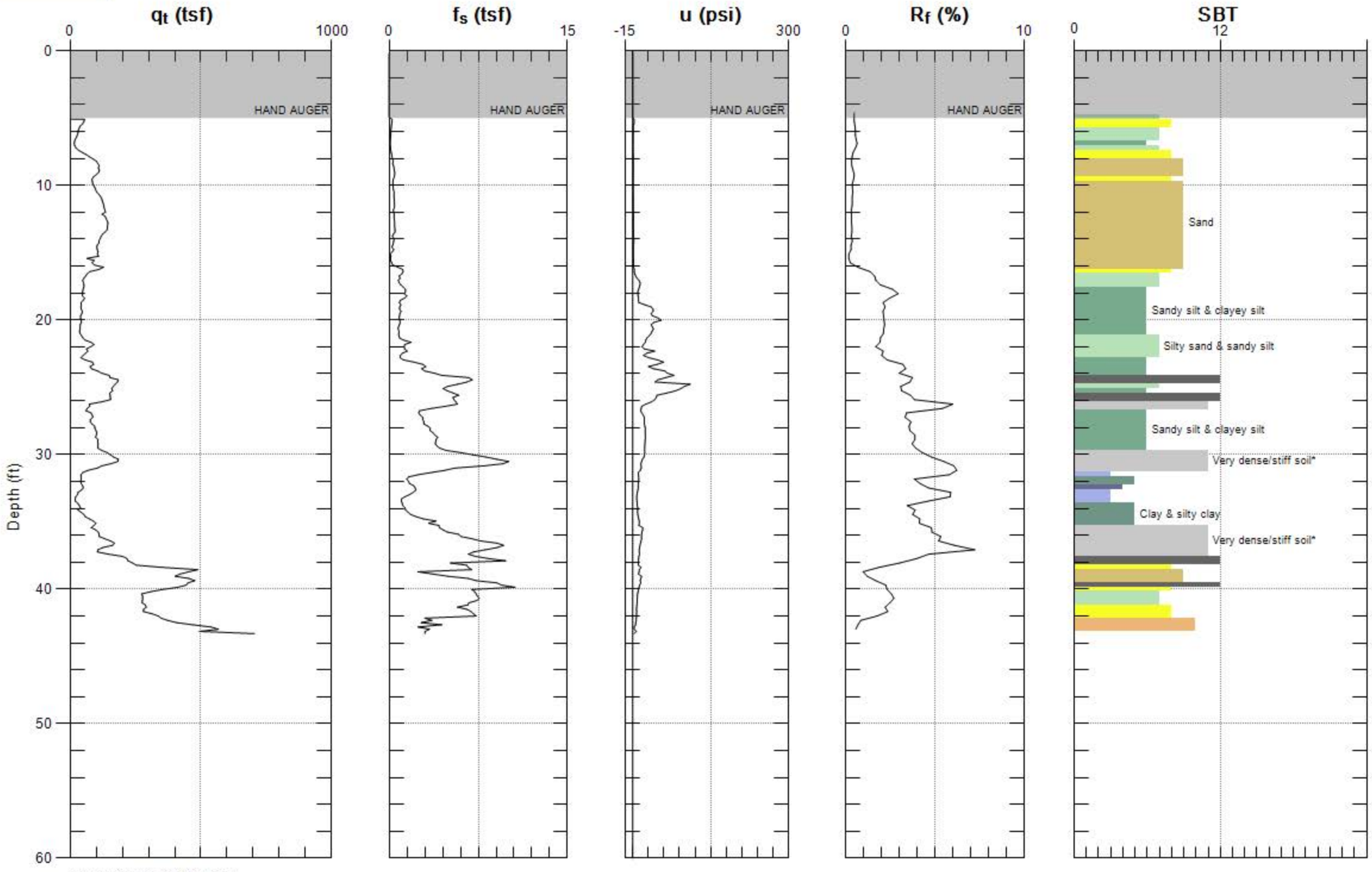
Max. Depth: 43.307 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-1 Date: 10/26/2017 07:35



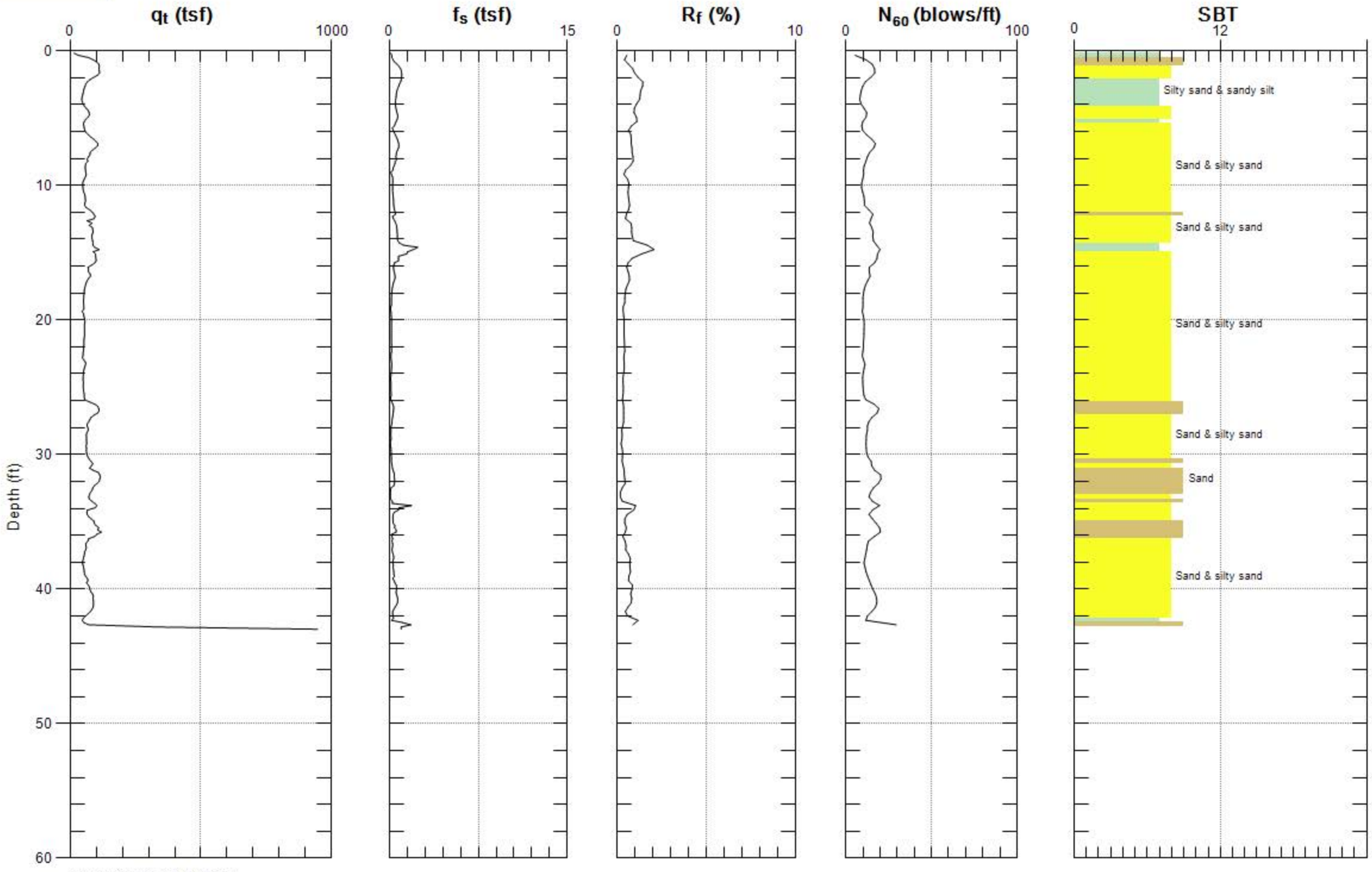
Max. Depth: 43.307 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-2 Date: 10/26/2017 08:17



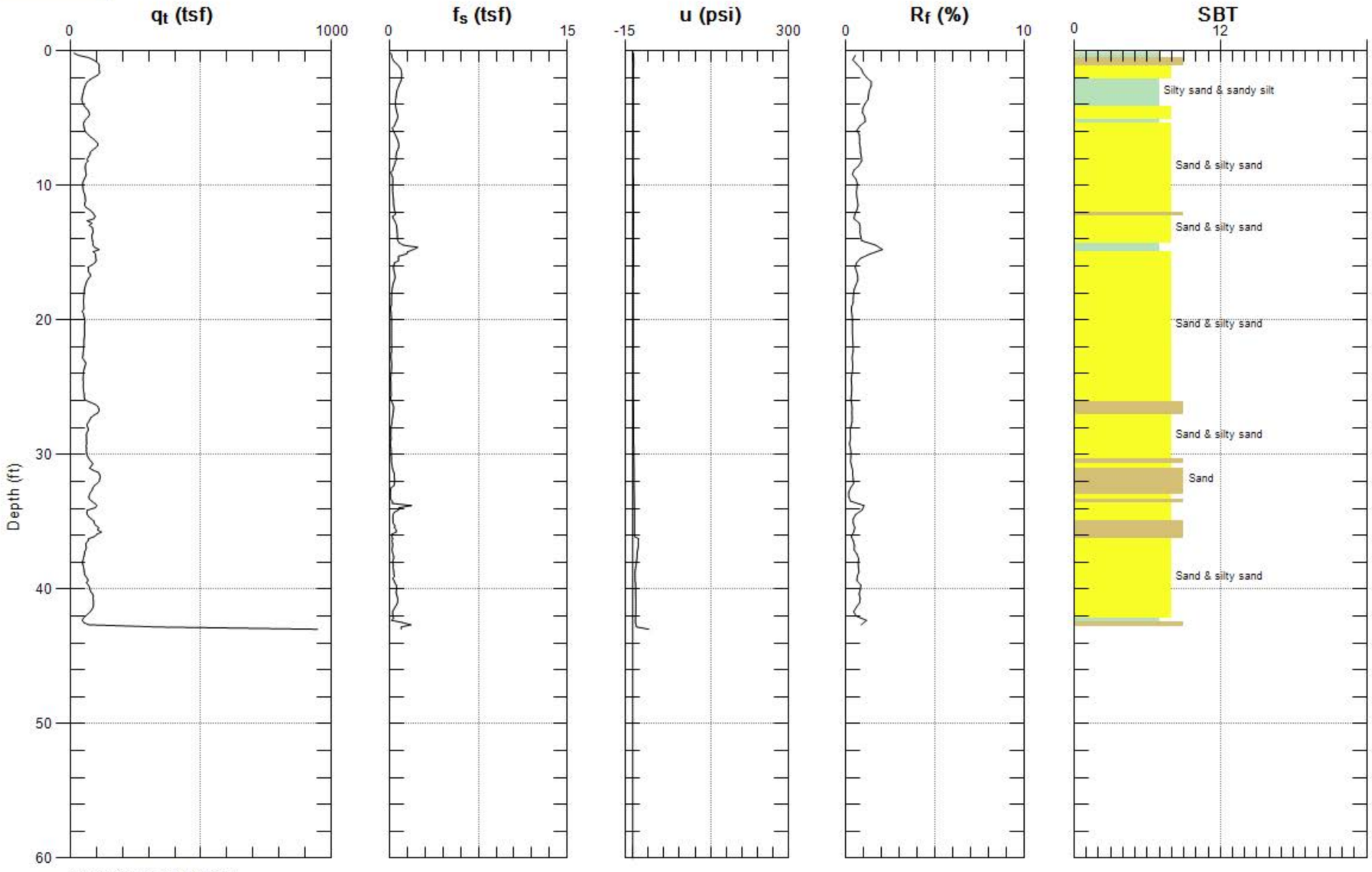
Max. Depth: 42.979 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-2 Date: 10/26/2017 08:17



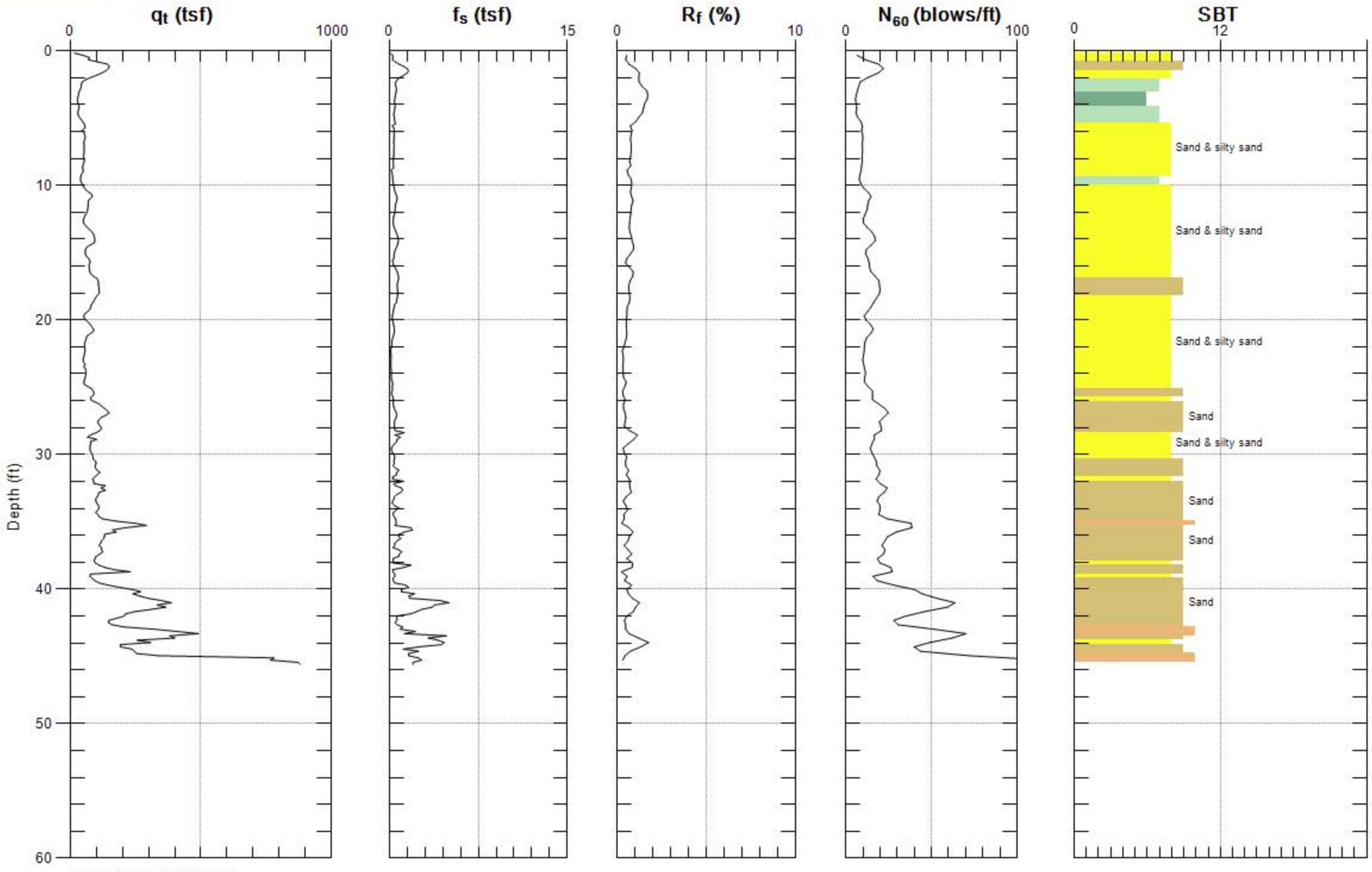
Max. Depth: 42.979 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-3 Date: 10/26/2017 08:48



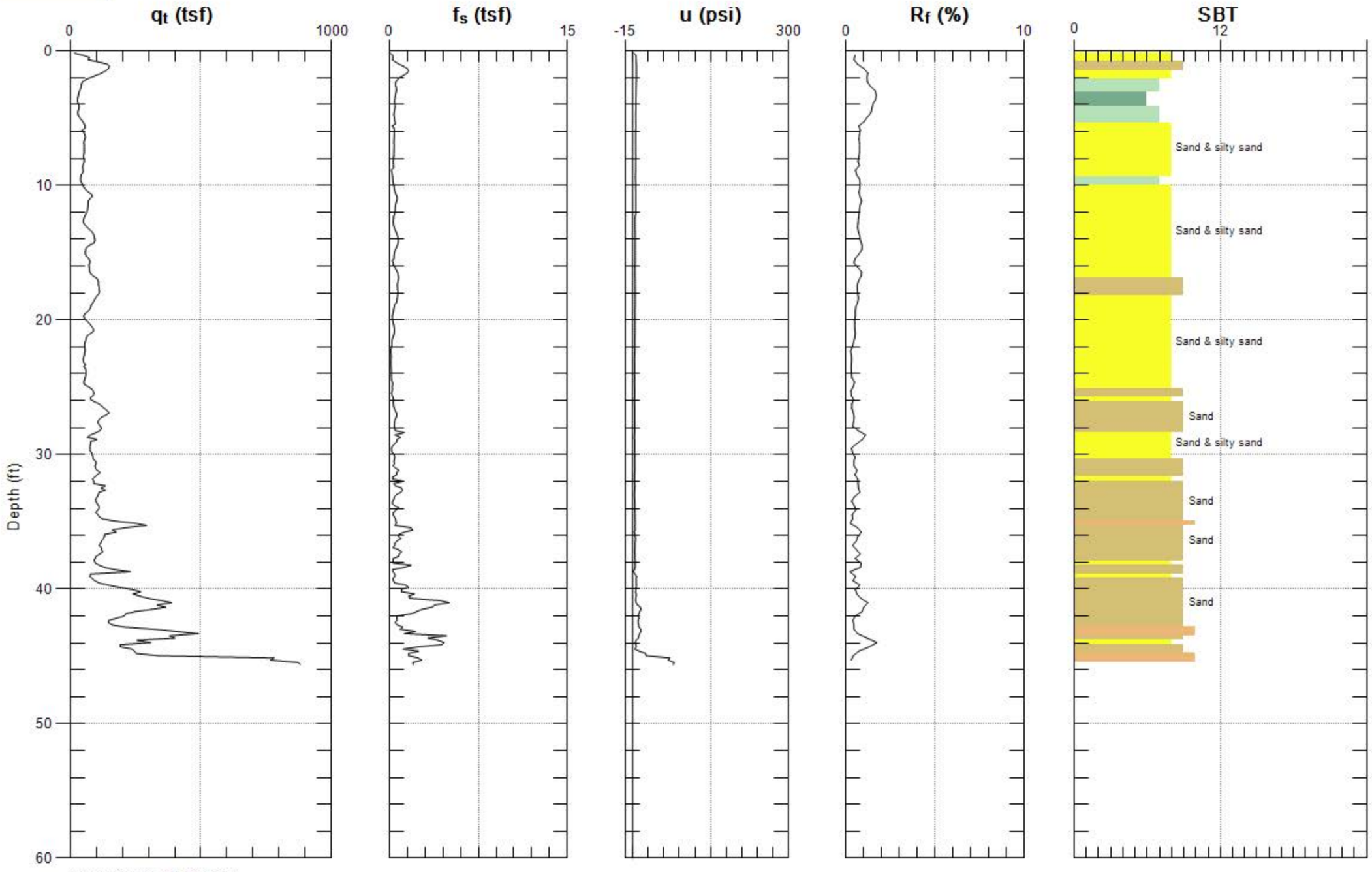
Max. Depth: 45.604 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-3 Date: 10/26/2017 08:48



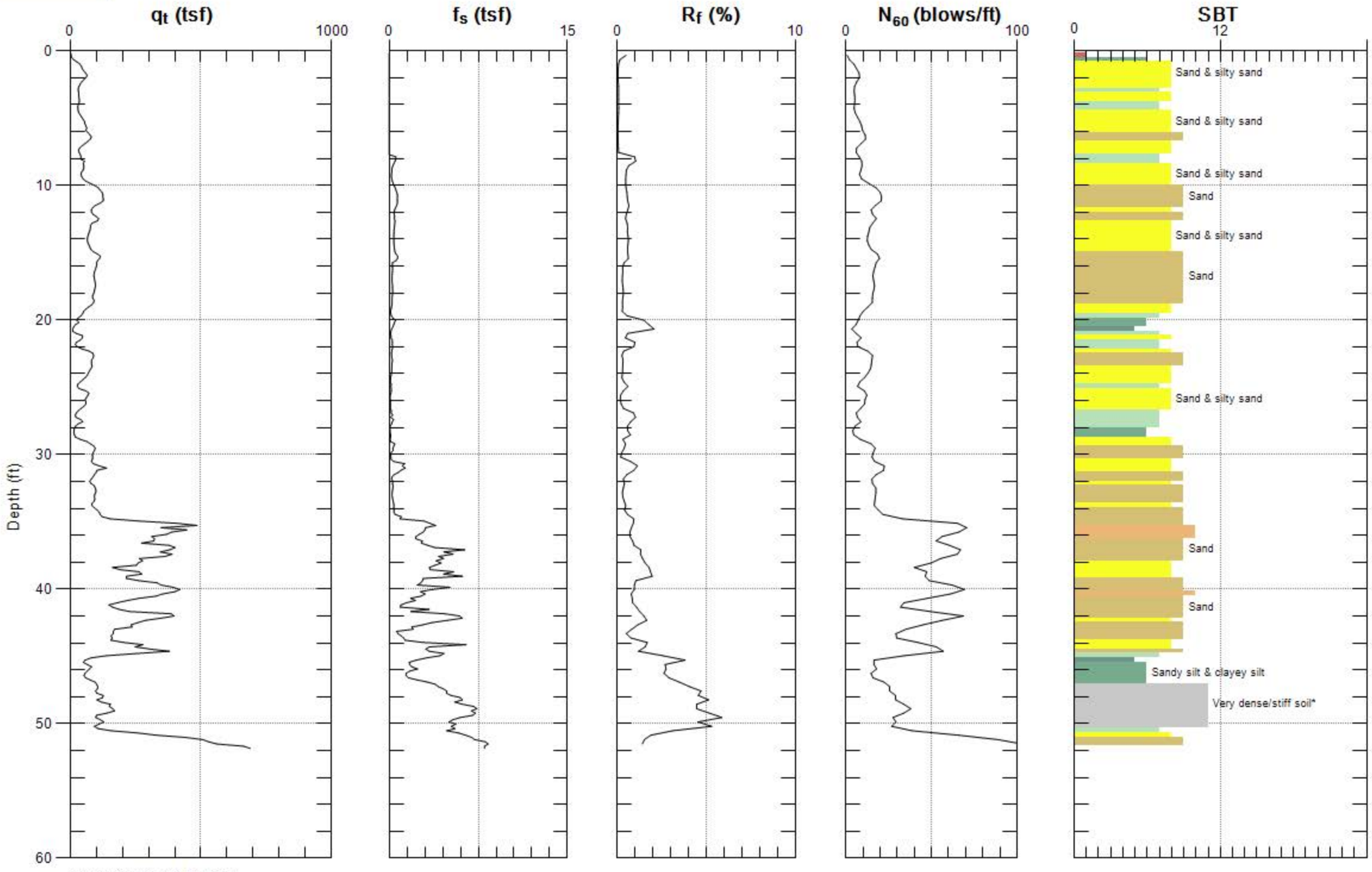
Max. Depth: 45.604 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-4 Date: 10/26/2017 09:20



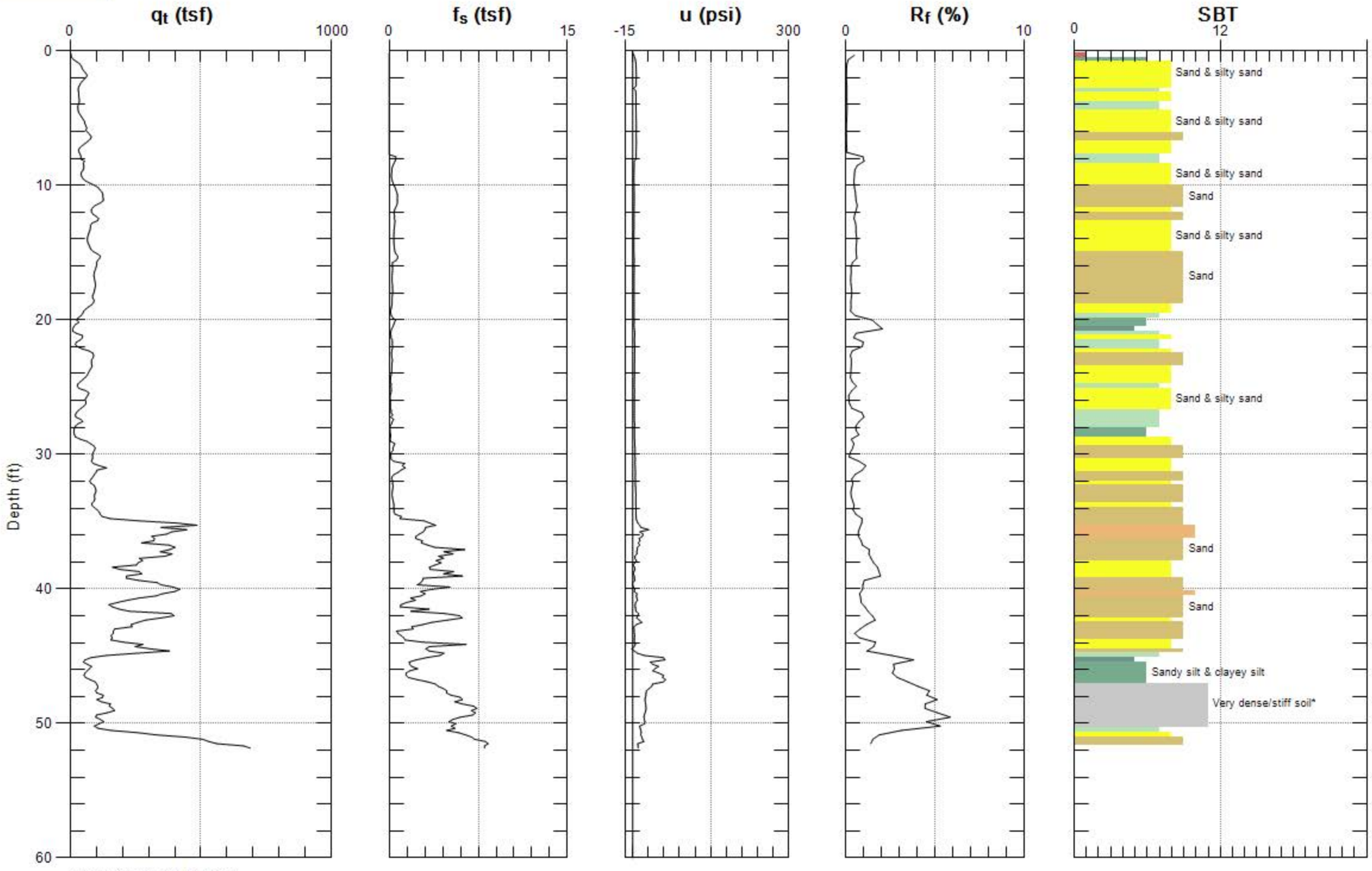
Max. Depth: 51.837 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-4 Date: 10/26/2017 09:20



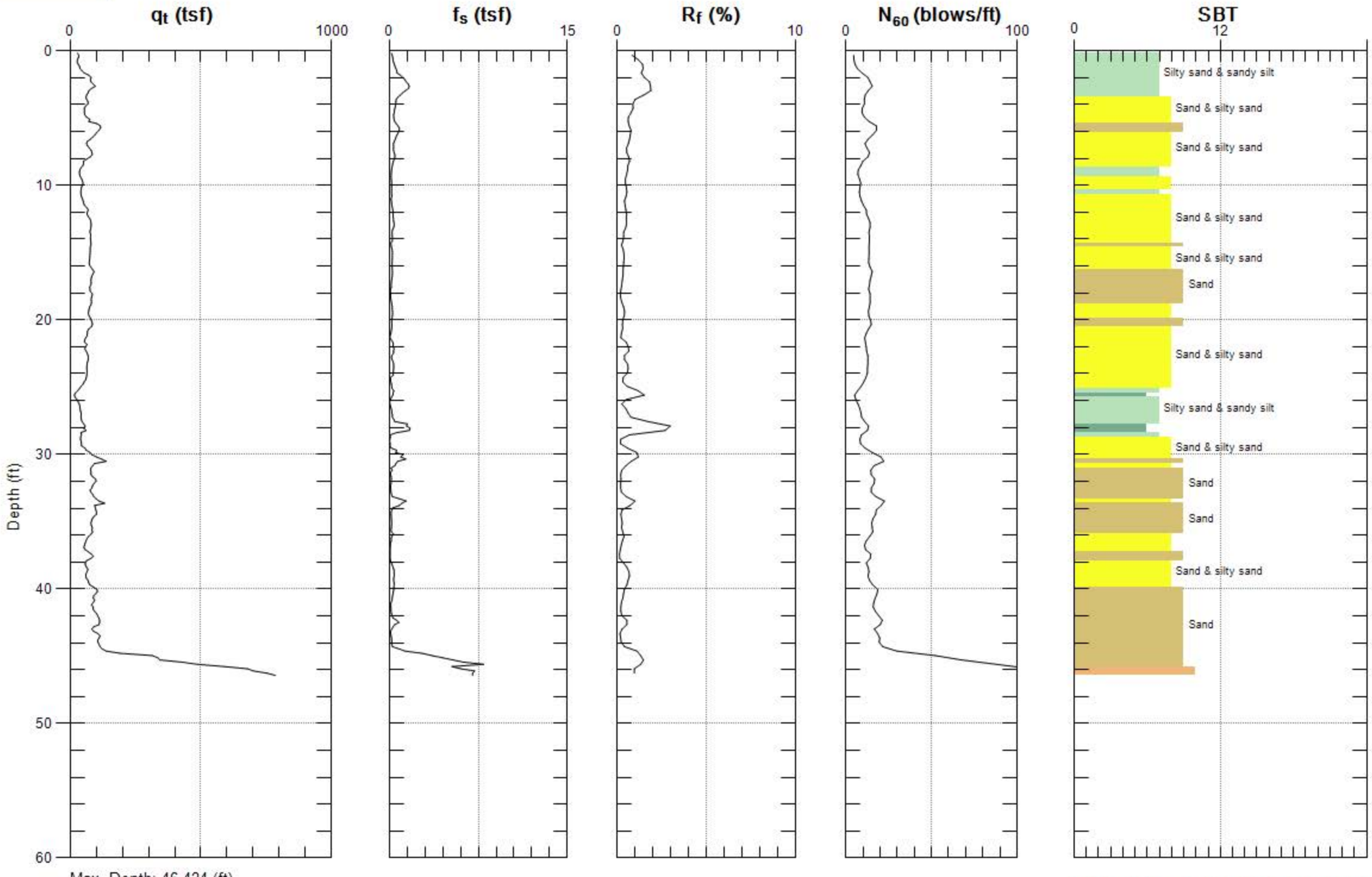
Max. Depth: 51.837 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-5 Date: 10/26/2017 10:42



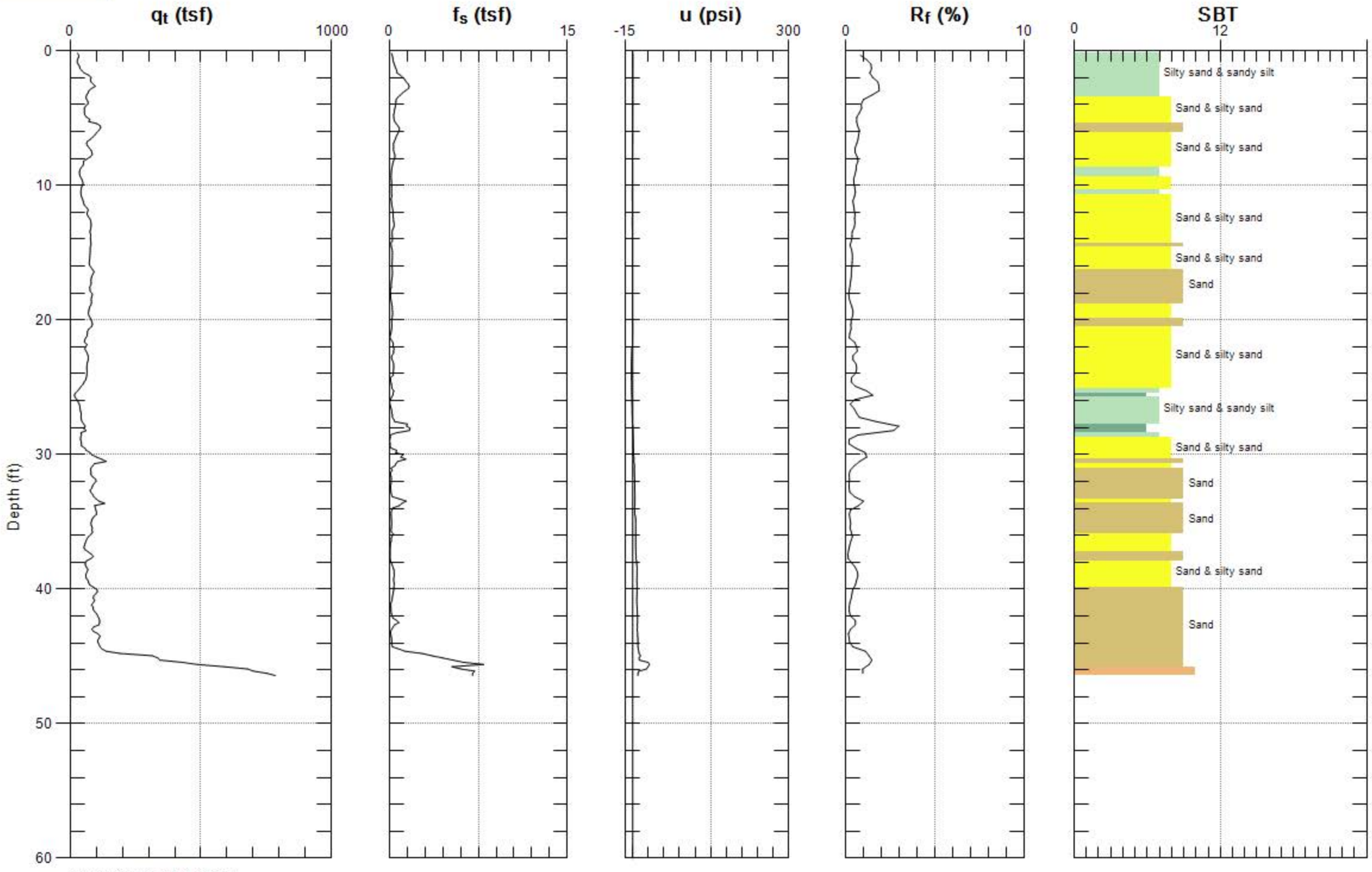
Max. Depth: 46.424 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-5 Date: 10/26/2017 10:42



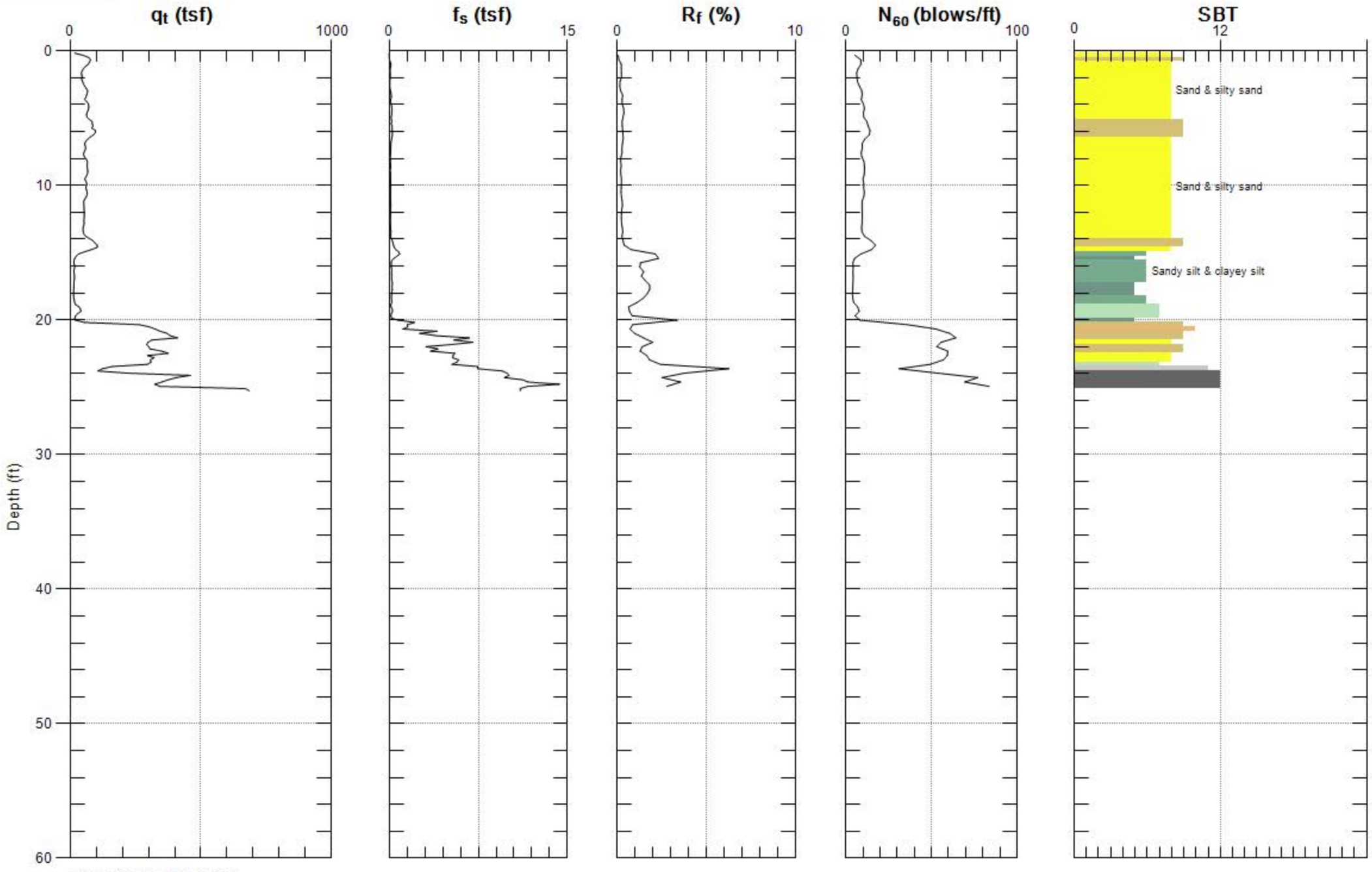
Max. Depth: 46.424 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-6 Date: 10/26/2017 11:19



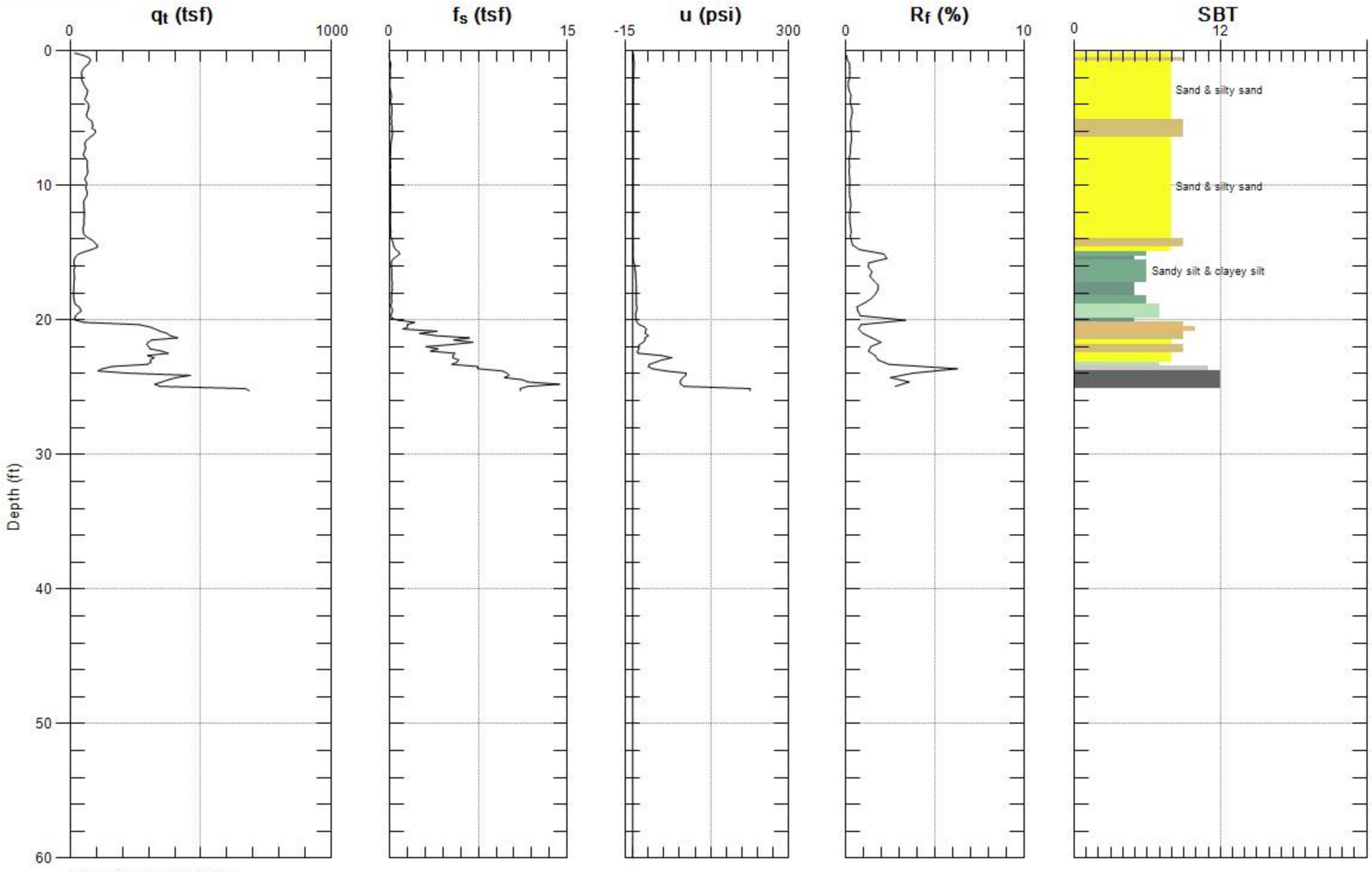
Max. Depth: 25.262 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-6 Date: 10/26/2017 11:19



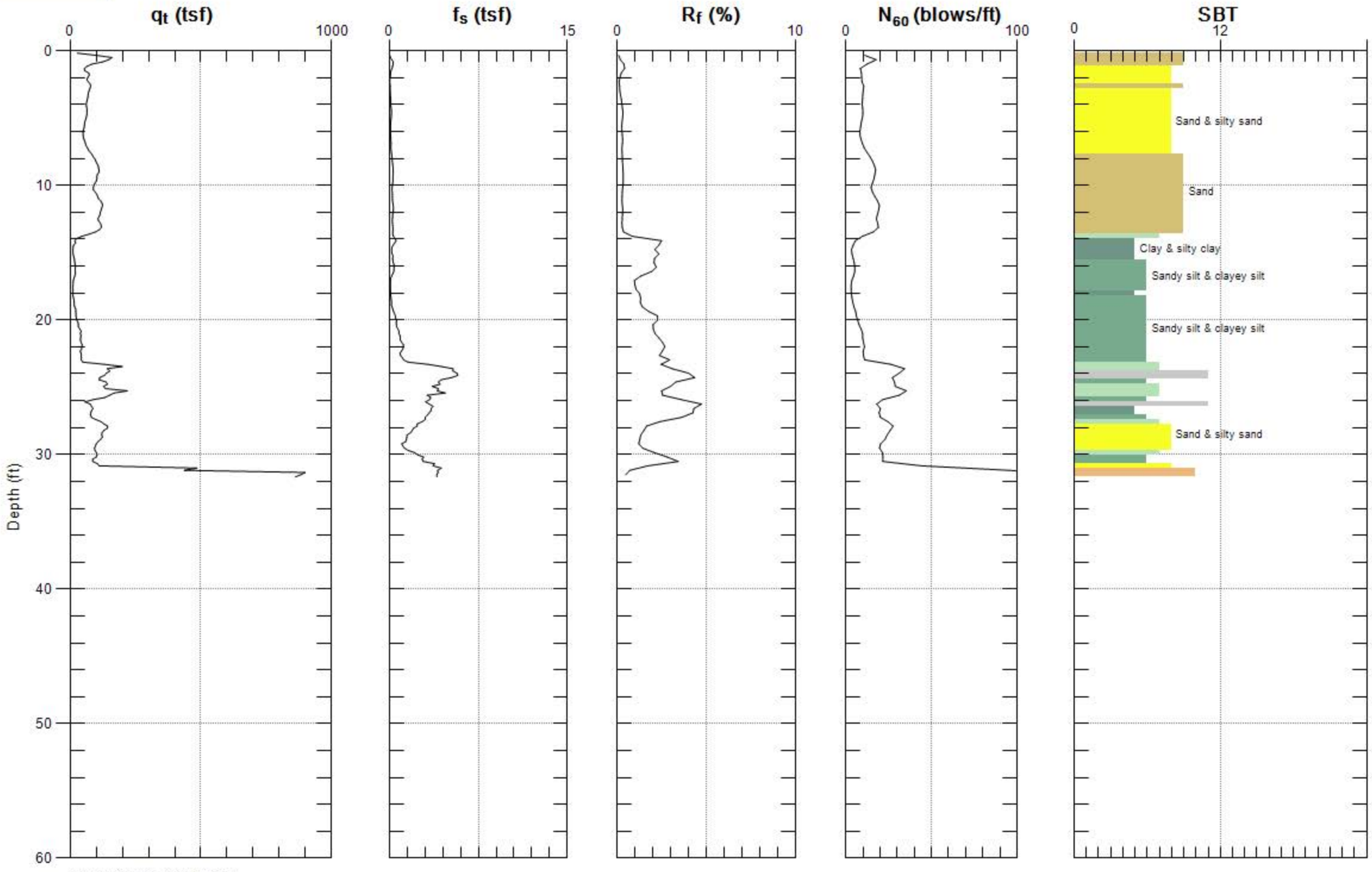
Max. Depth: 25.262 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-7 Date: 10/26/2017 12:15



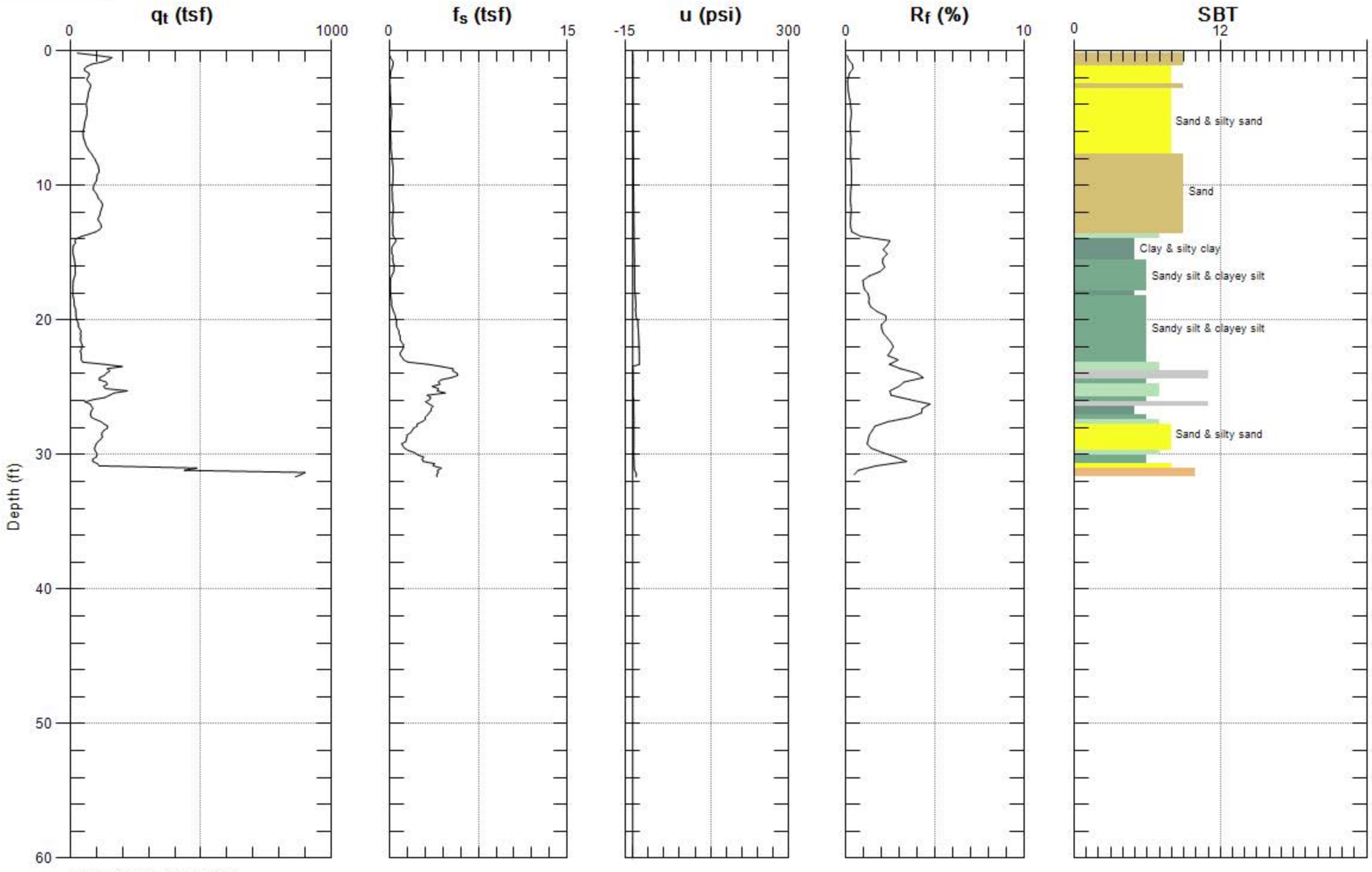
Max. Depth: 31.660 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-7 Date: 10/26/2017 12:15



Max. Depth: 31.660 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

PREVIOUS BORING LOGS

Law Crandall, 1999

BORING 4-2

DATE DRILLED: April 6, 1999
EQUIPMENT USED: 5" - Diameter Rotary Wash
ELEVATION: 349

ELEVATION (ft.)	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	"N" VALUE STD.PEN.TEST	BLOW COUNT (blows/ft.)	SAMPLE LOC.		
345	5	18.2	105.1		8	■	ML-CL	SANDY SILT and SANDY CLAY - fine to coarse Sand, brown
		24.8	98.2		20	■	SM	SILTY SAND - fine Sand, reddish brown
340	10	17.5	105.4		15	■		Fine to coarse Sand, fine to coarse Gravel (to 2")
		13.2	114.6		12	■		More Gravel
335	15	13.9	115.4		30	■	GW	GRAVEL - some fine to coarse Silty and Clayey Sand, light brown

(BORING TERMINATED AT A DEPTH OF 16')

NOTE: Groundwater not encountered.

JOB 70300-9-0036 DATE 5/10/1999 F.T. DPW DR. JB O.E. BEC CHKD

Note: The log of subsurface conditions shown hereon applies only at the specific boring location and at the date indicated. It is not warranted to be representative of subsurface conditions at other locations and times.

LOG OF BORING

LAW/CRANDALL

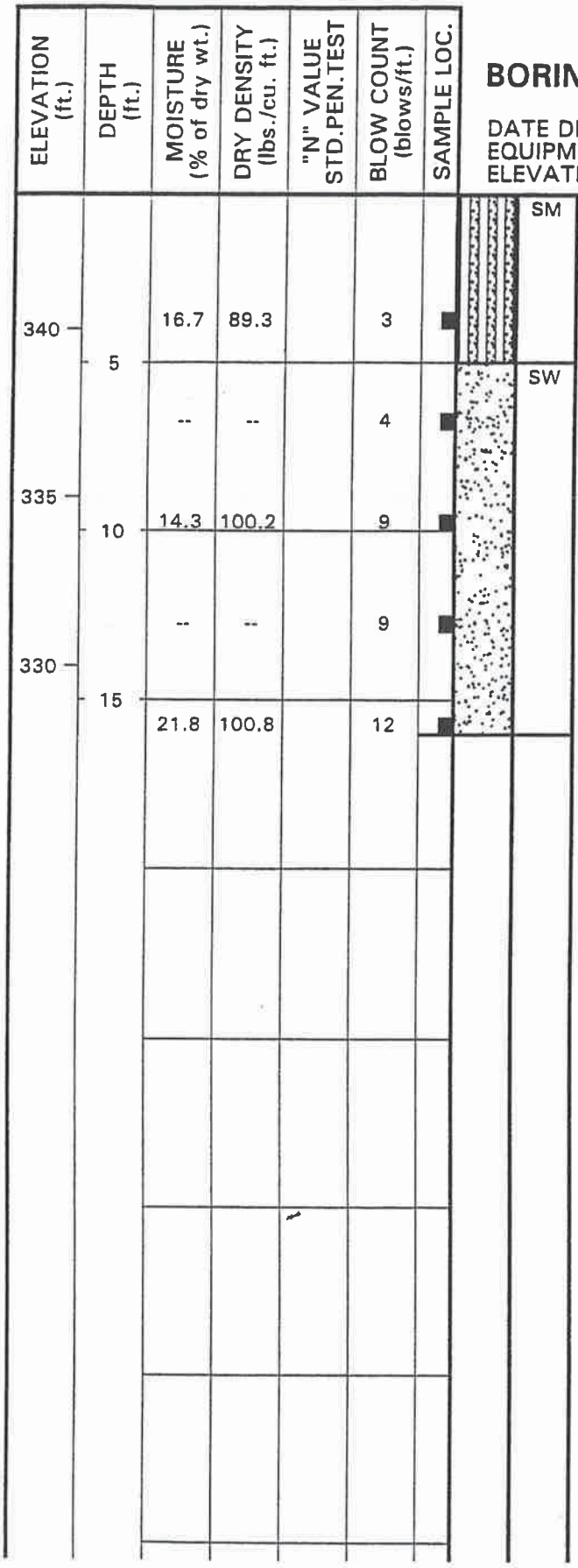
FIGURE A-1.5

JOB 70300-9-0036 DATE 5/10/1999 F.T. DPW DR. JB O.E. BEC CHKD

Note: The log of subsurface conditions shown hereon applies only at the specific boring location and at the date indicated. It is not warranted to be representative of subsurface conditions at other locations and times.

BORING 5-1

DATE DRILLED: April 6, 1999
EQUIPMENT USED: 5" - Diameter Rotary Wash
ELEVATION: 344



SM — SILTY SAND - fine to coarse Sand, brown

Fine to medium Sand, dark greyish brown

SW — SAND - greyish brown

Trace fine Gravel

▽ GROUNDWATER ELEVATION

(BORING TERMINATED AT A DEPTH OF 16')

NOTE: Water table encountered at 13'.

LOG OF BORING

LAW/CRANDALL

FIGURE A-1.6

APPENDIX C

Laboratory Testing Procedures & Results

APPENDIX C

Laboratory Testing Procedures and Test Results

Expansion Index Tests: The expansion index of selected materials was evaluated in general accordance with ASTM D 4829. A specimens was molded under a specified compactive energy at approximately 50 percent saturation (plus or minus 1 percent). The prepared 1-inch thick by 4-inch diameter specimen was loaded with a surcharge of 144 pounds per square foot and were inundated with tap water. Readings of volumetric swell were made for a period of 24 hours. The results are presented in the table below.

Sample Location	Sample Description	Expansion Index	Expansion Potential
CPT-9 @ 1 to 5 feet	Brown Silty SAND	0	Very Low

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with Caltrans Test Method CT643. The results are presented in the table below:

Sample Location	Sample Description	pH	Minimum Resistivity (ohms-cm)
CPT-9 @ 1-4’	Silty Sand, Light Brown	7.02	12,100
CPT-13 @ 1-4’	Silty Sand, Light Brown	7.11	12,200

Chloride Content: Chloride content was tested in accordance with Caltrans Test Method CT422. The results are presented below:

Sample Location	Sample Description	Chloride Content, ppm
CPT-9 @ 1-4’	Silty Sand, Light Brown	10
CPT-13 @ 1-4’	Silty Sand, Light Brown	10

APPENDIX C (Continued)

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (Caltrans Test Method CT417). The test results are presented in the table below:

Sample Location	Sample Description	Sulfate Content (ppm)	Potential Degree of Sulfate Attack*
CPT-9 @ 1-4’	Silty Sand, Light Brown	< 150	Not Applicable
CPT-13 @ 1-4’	Silty Sand, Light Brown	< 150	Not Applicable

* Based on the 2019 edition of American Concrete Institute (ACI) Committee 318R, Table No. 4.2.1.

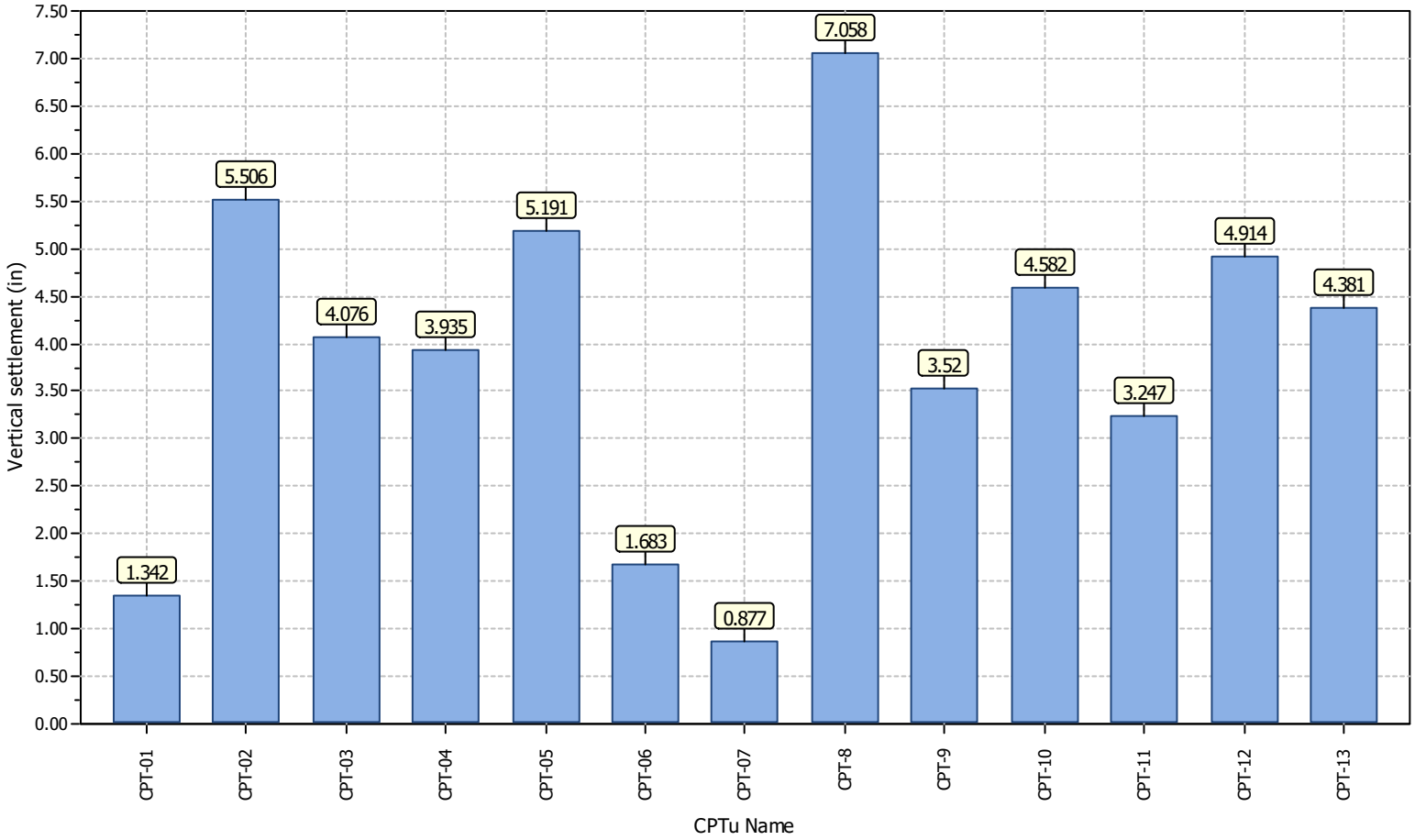
APPENDIX D

Liquefaction Analysis

Project title : City Ventures Santee 3

Location : Santee, California

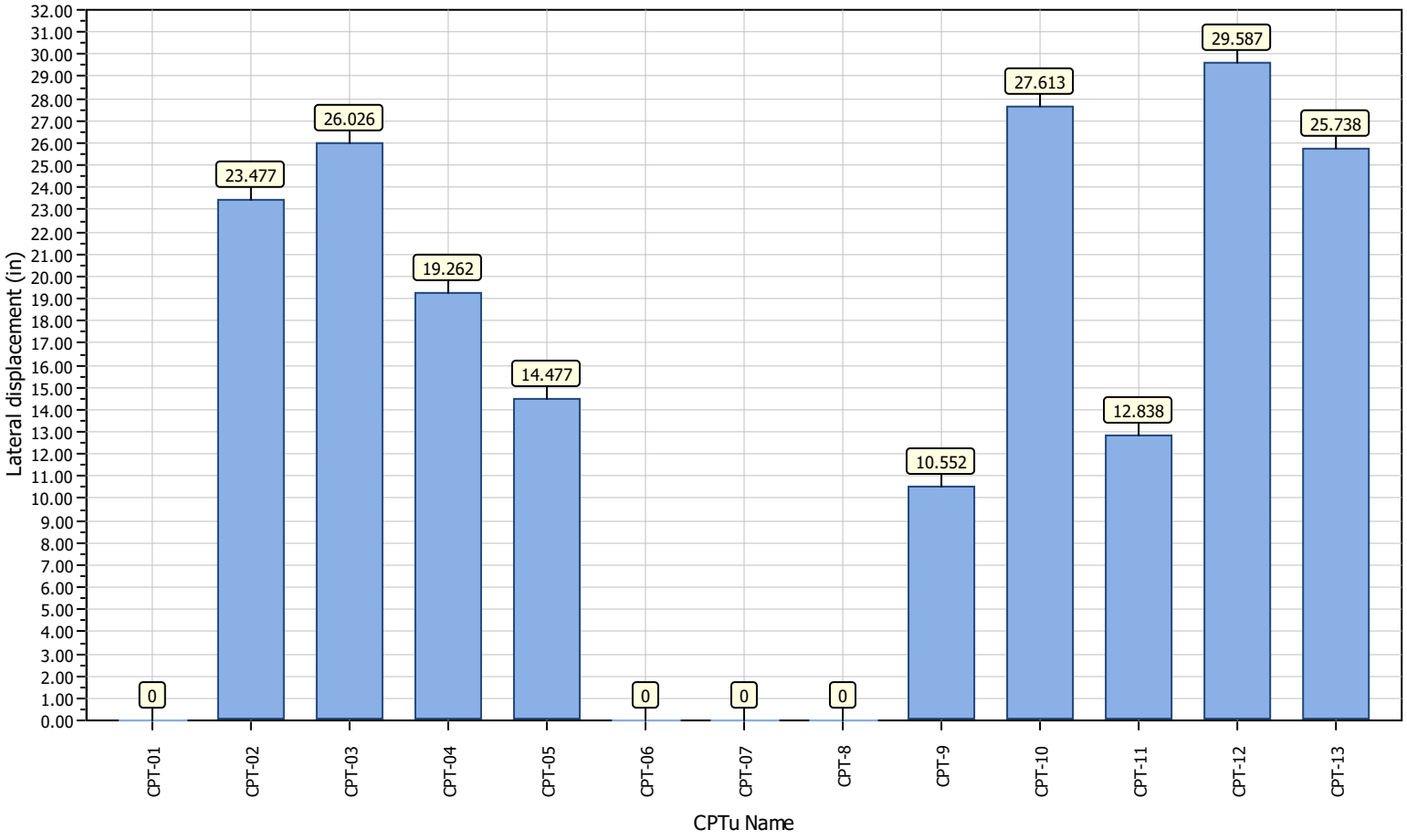
Overall vertical settlements report



Project title : City Ventures Santee 3

Location : Santee, California

Overall lateral displacements report



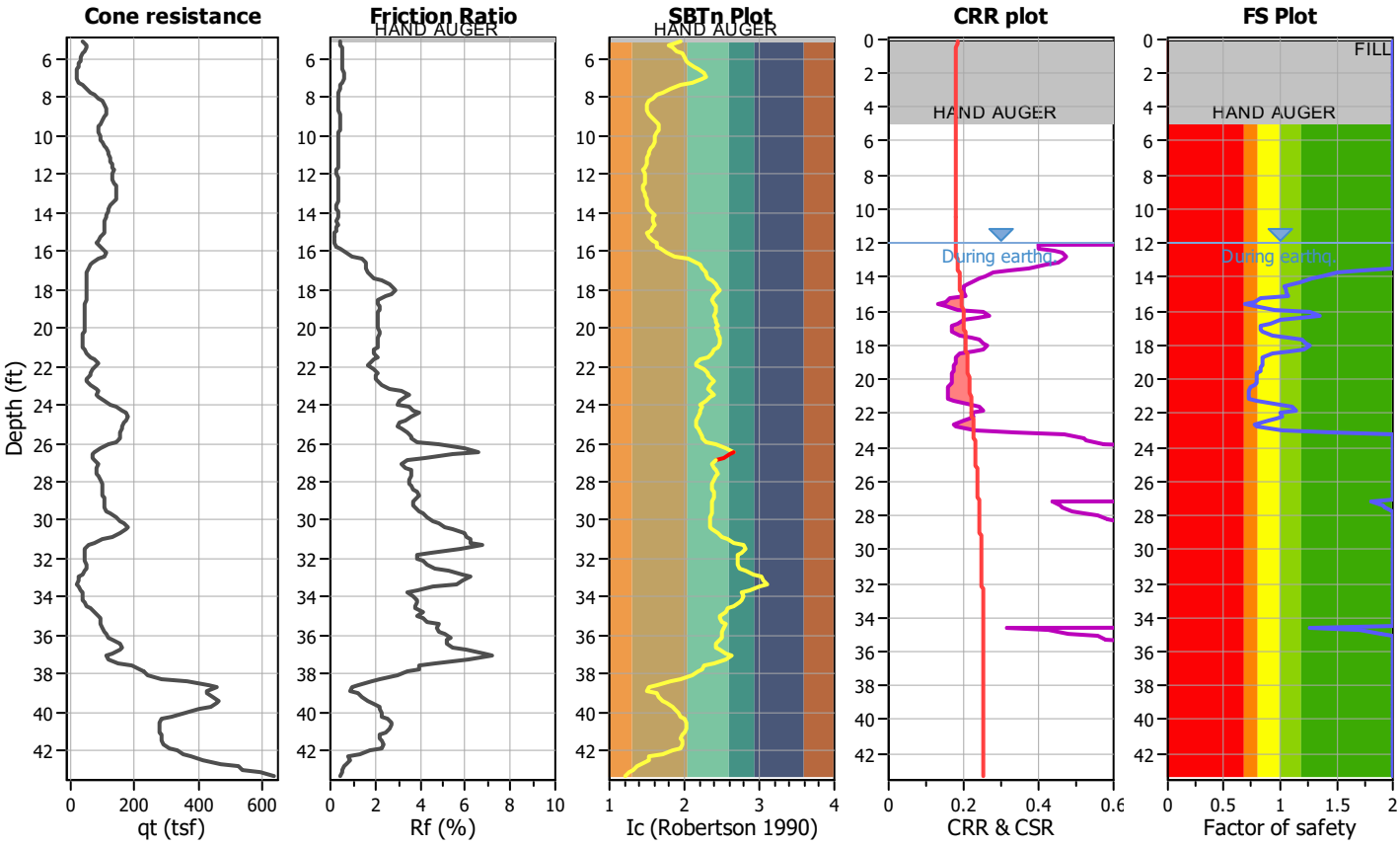
LIQUEFACTION ANALYSIS REPORT

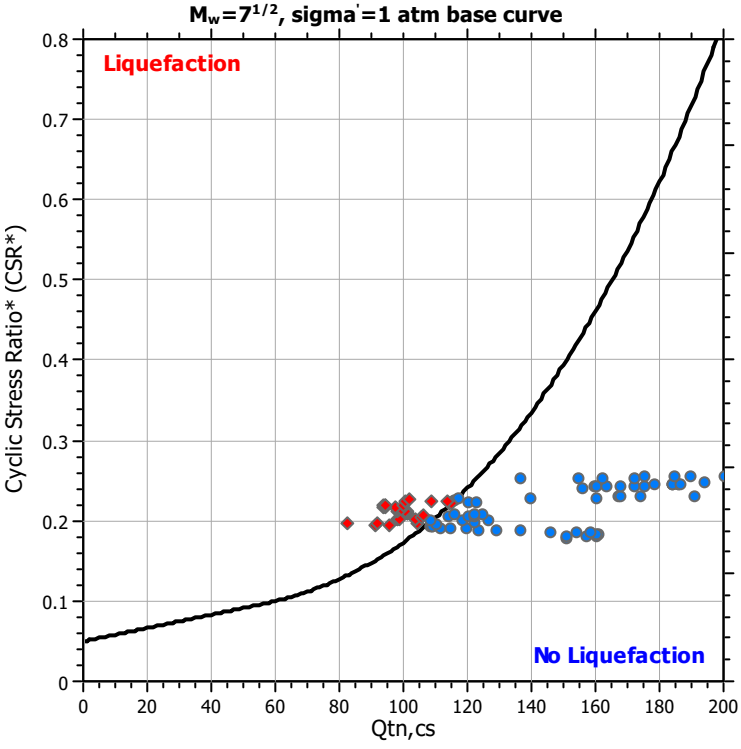
Project title : City Ventures Santee 3 **Location : Santee, California**

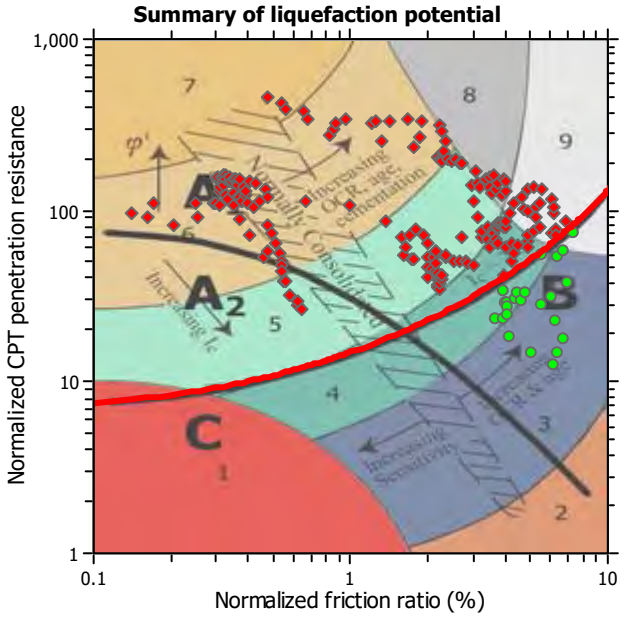
CPT file : CPT-01

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	15.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	15.00 ft	Fill height:	3.00 ft	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

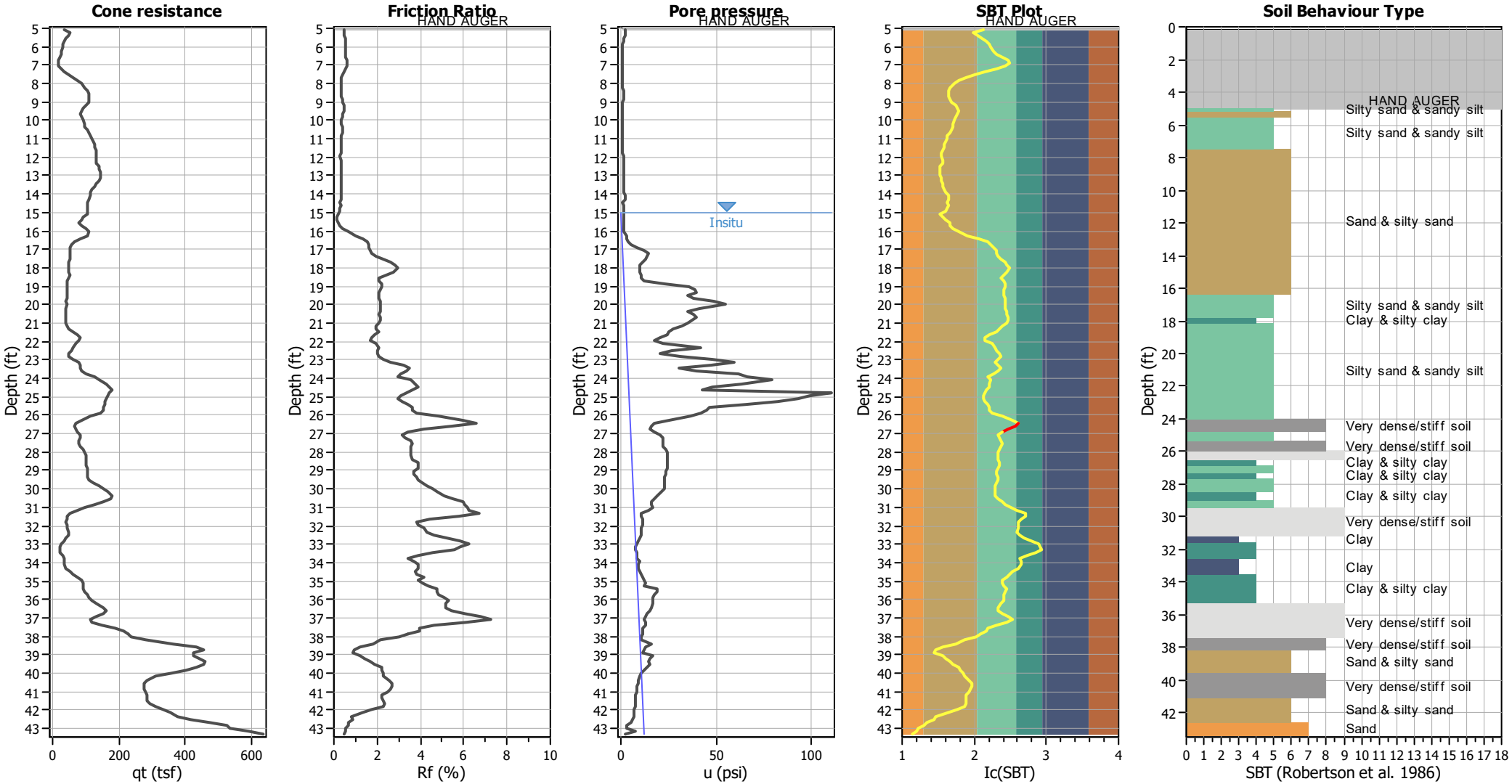






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



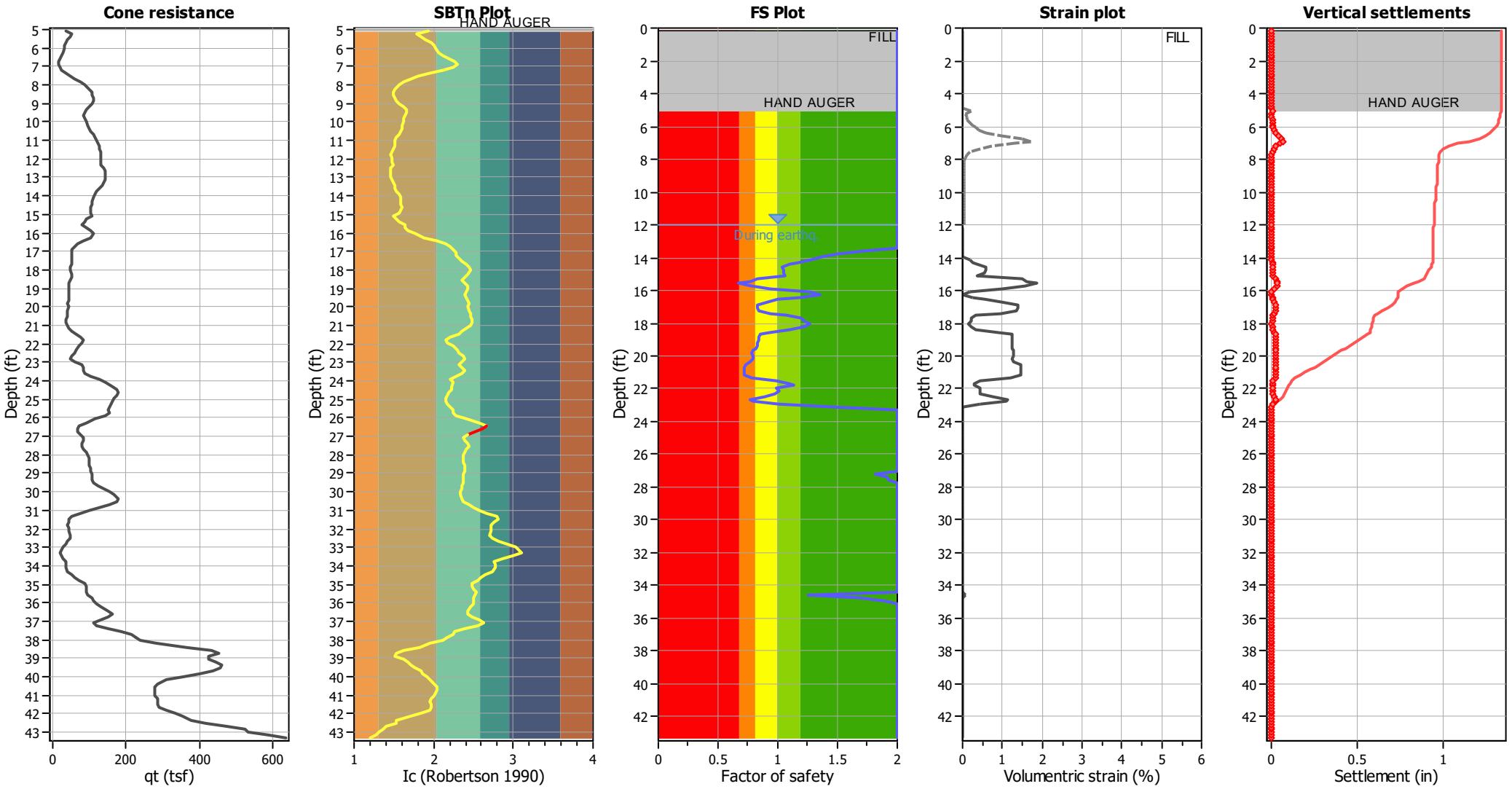
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	15.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	15.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

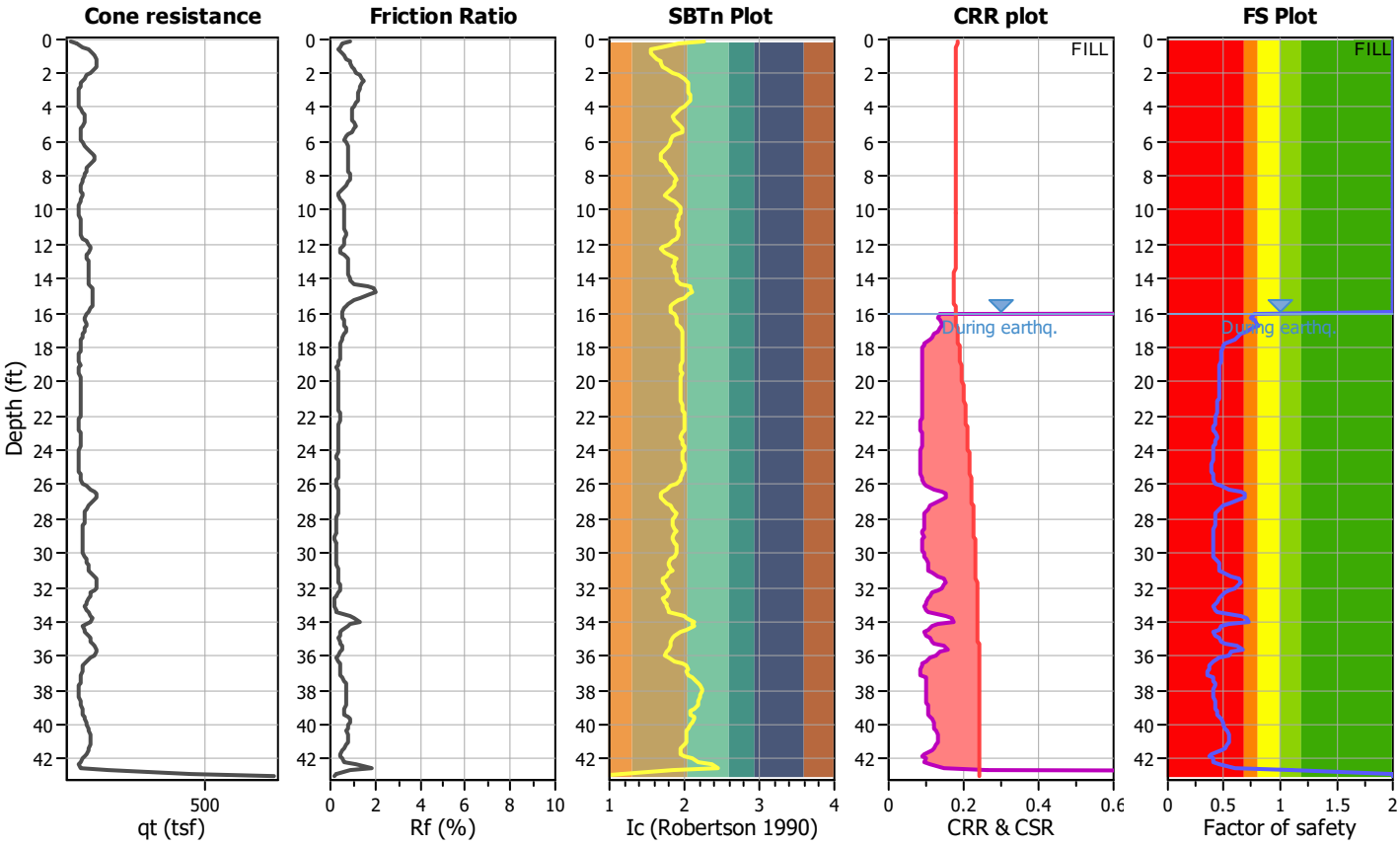
LIQUEFACTION ANALYSIS REPORT

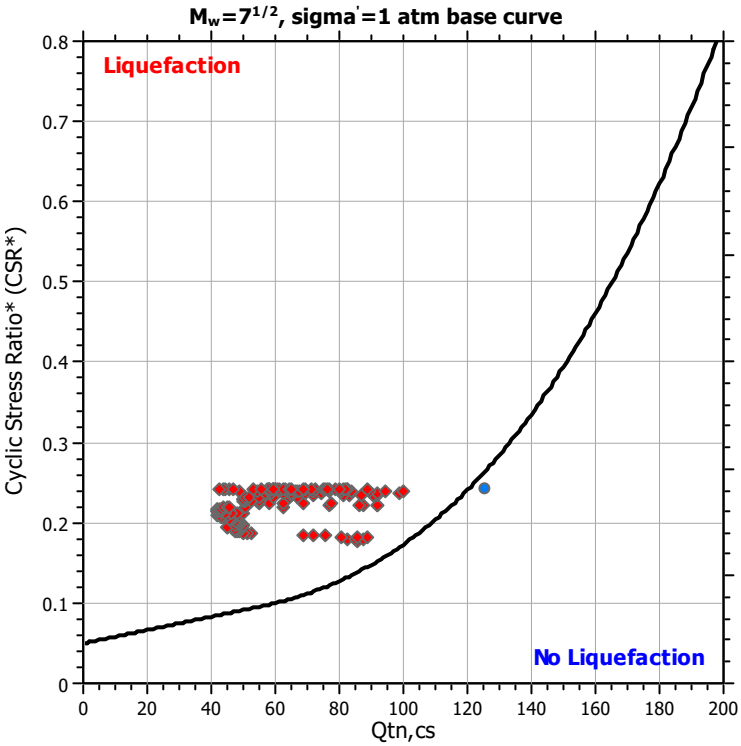
Project title : City Ventures Santee 3 **Location : Santee, California**

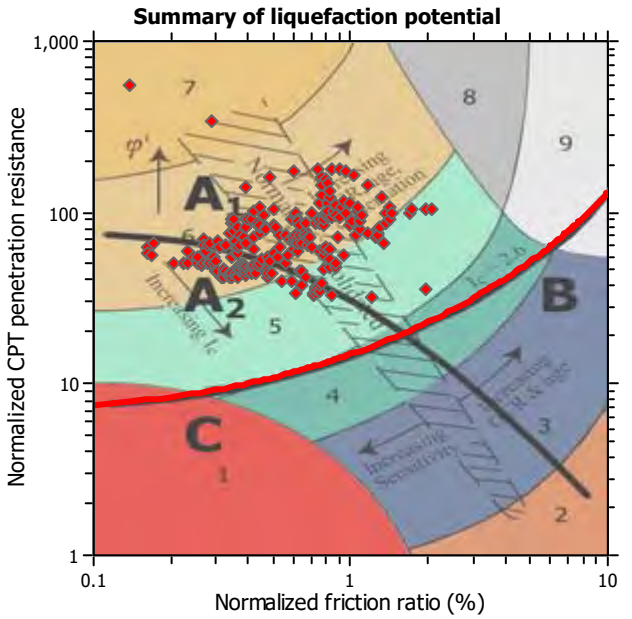
CPT file : CPT-02

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	19.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	19.00 ft	Fill height:	3.00 ft		
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth applied:	No
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	Limit depth:	N/A
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes	MSF method:	Method based

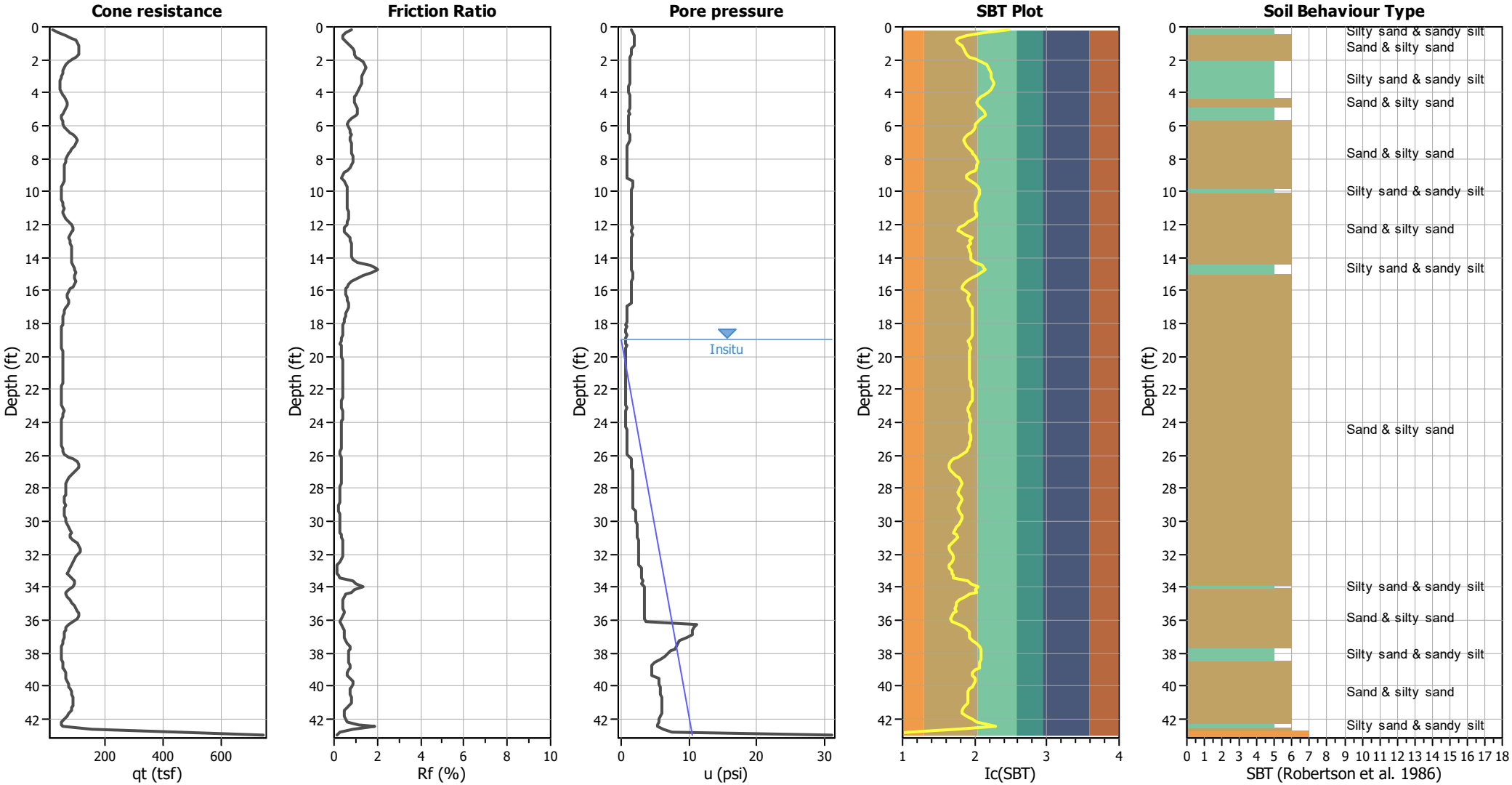






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



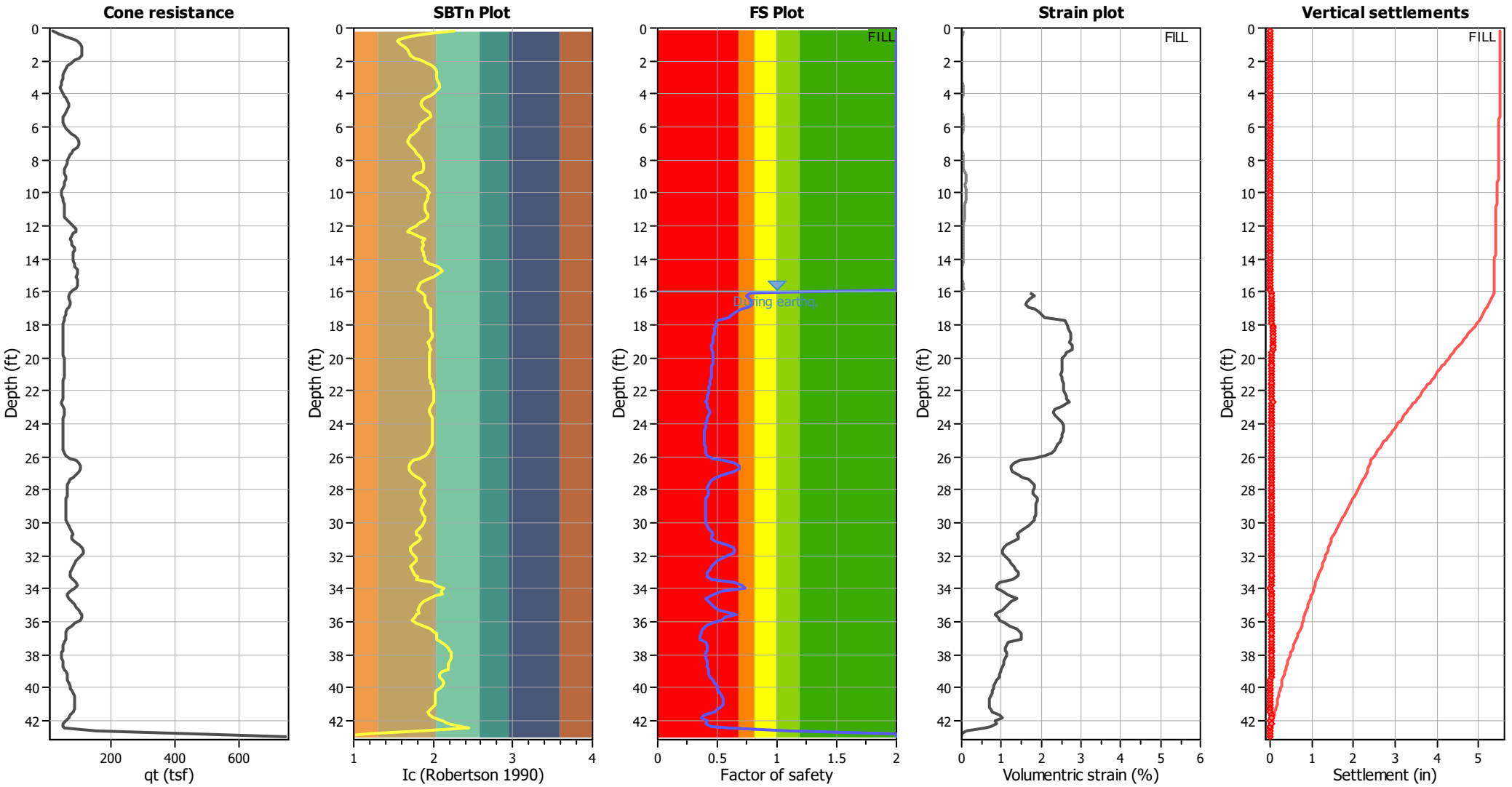
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	19.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	19.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

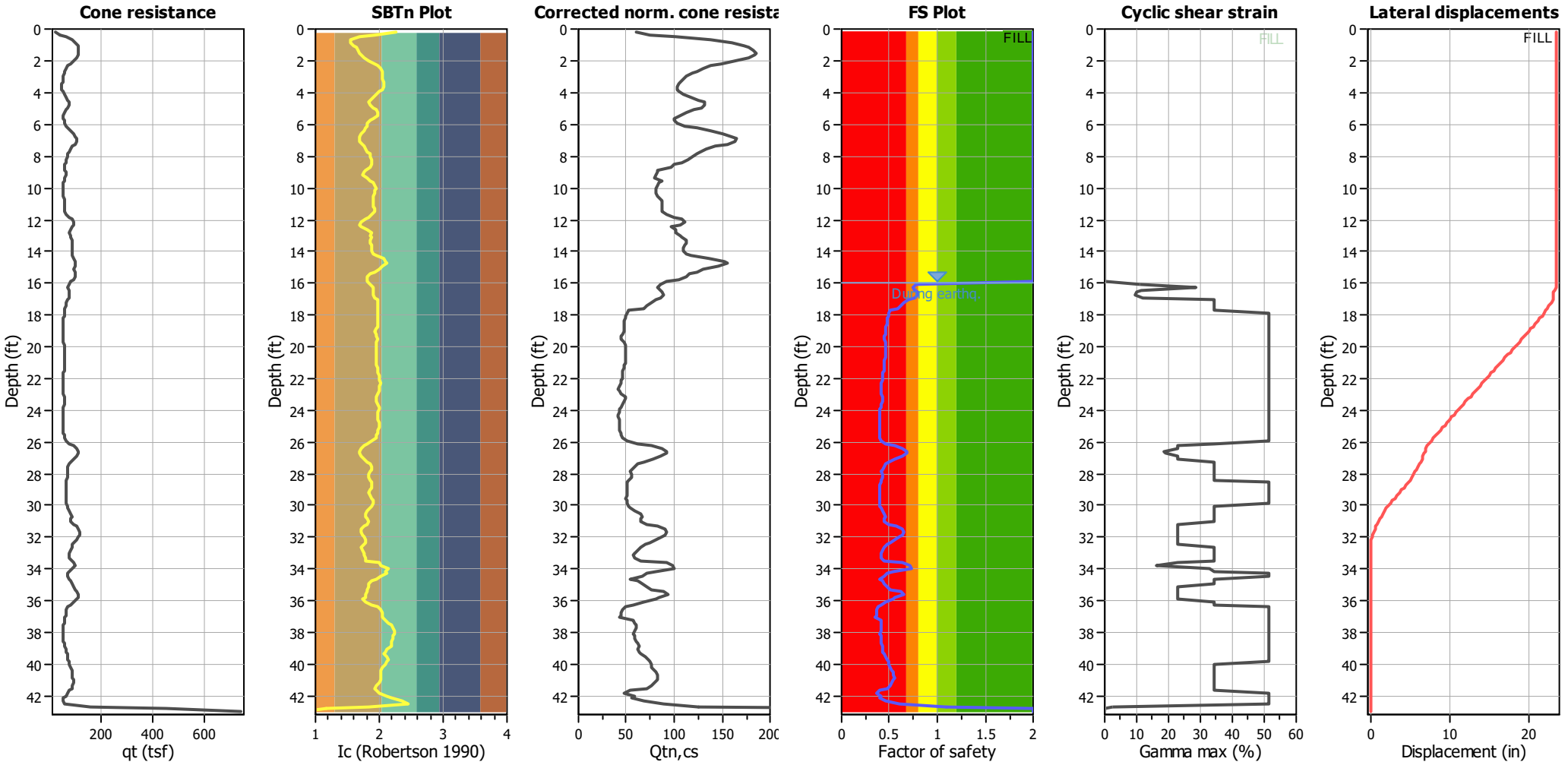


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

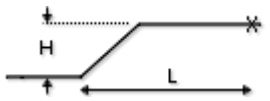
Geometric parameters: Level ground (or gently sloping) with free face (L: 700.00 ft - H: 16.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



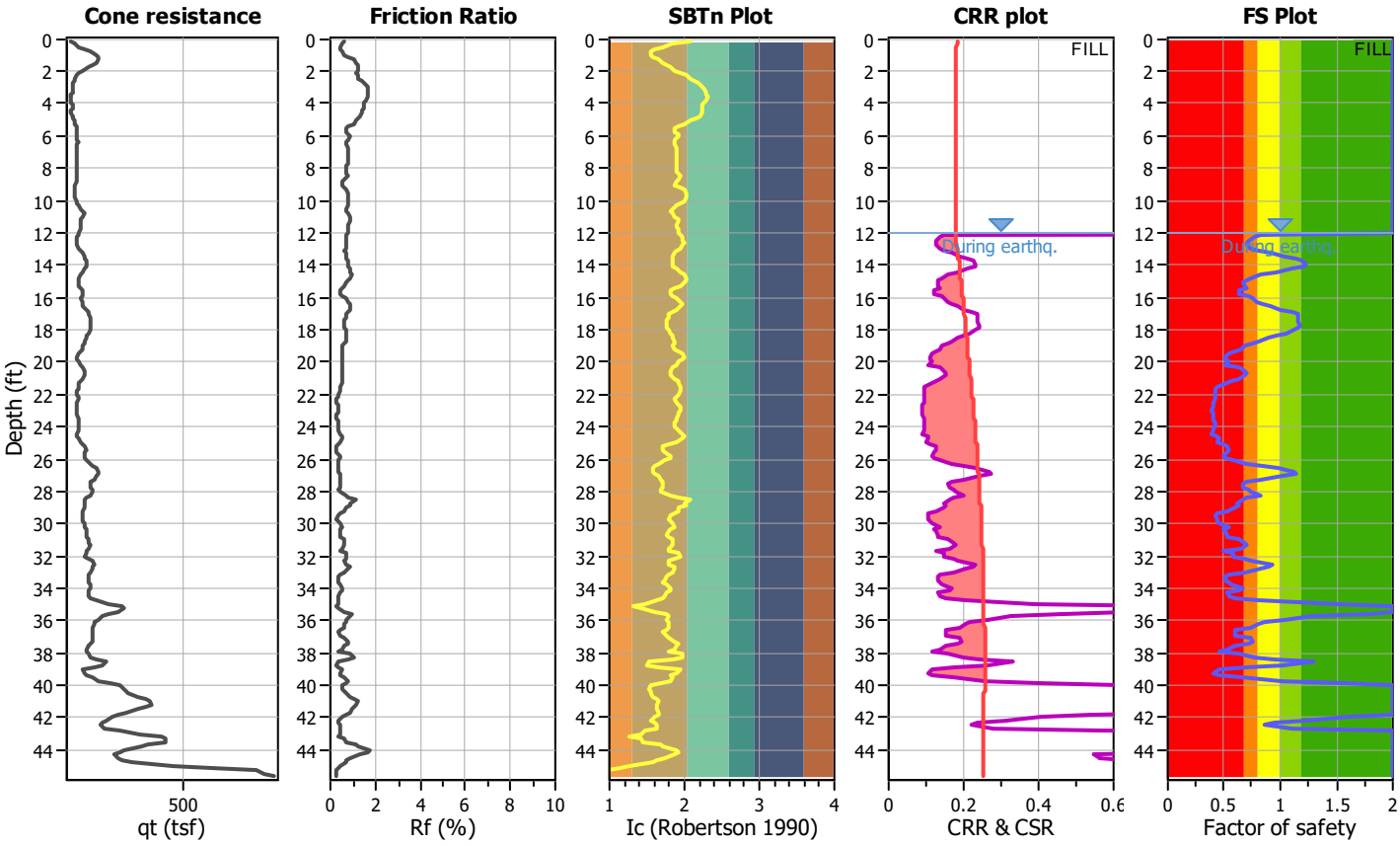
LIQUEFACTION ANALYSIS REPORT

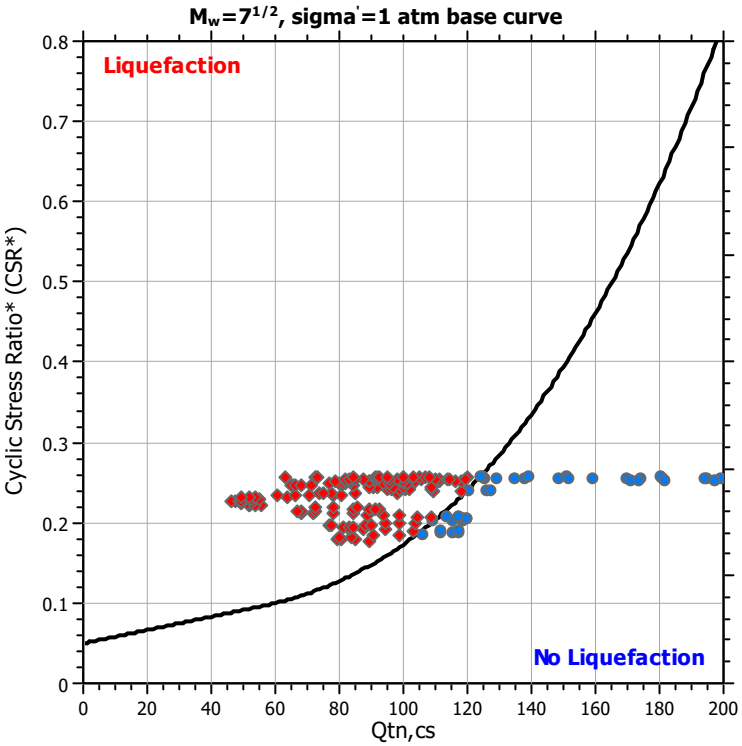
Project title : City Ventures Santee 3 **Location : Santee, California**

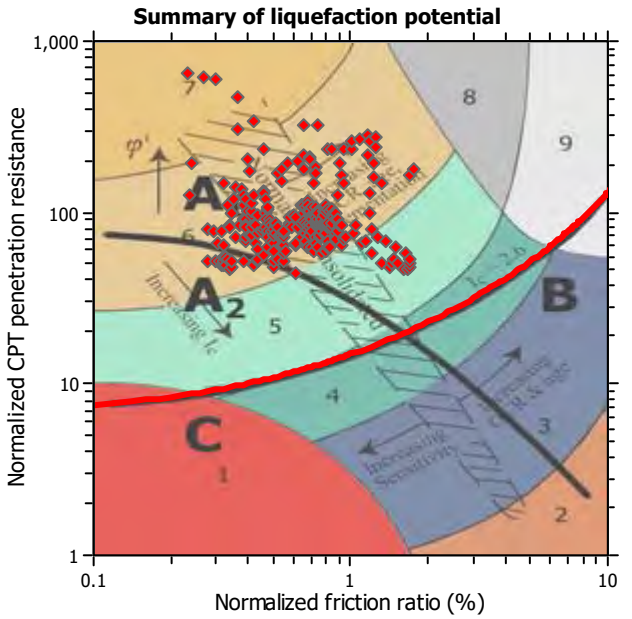
CPT file : CPT-03

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	15.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	15.00 ft	Fill height:	3.00 ft		
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth applied:	No
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	Limit depth:	N/A
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes	MSF method:	Method based

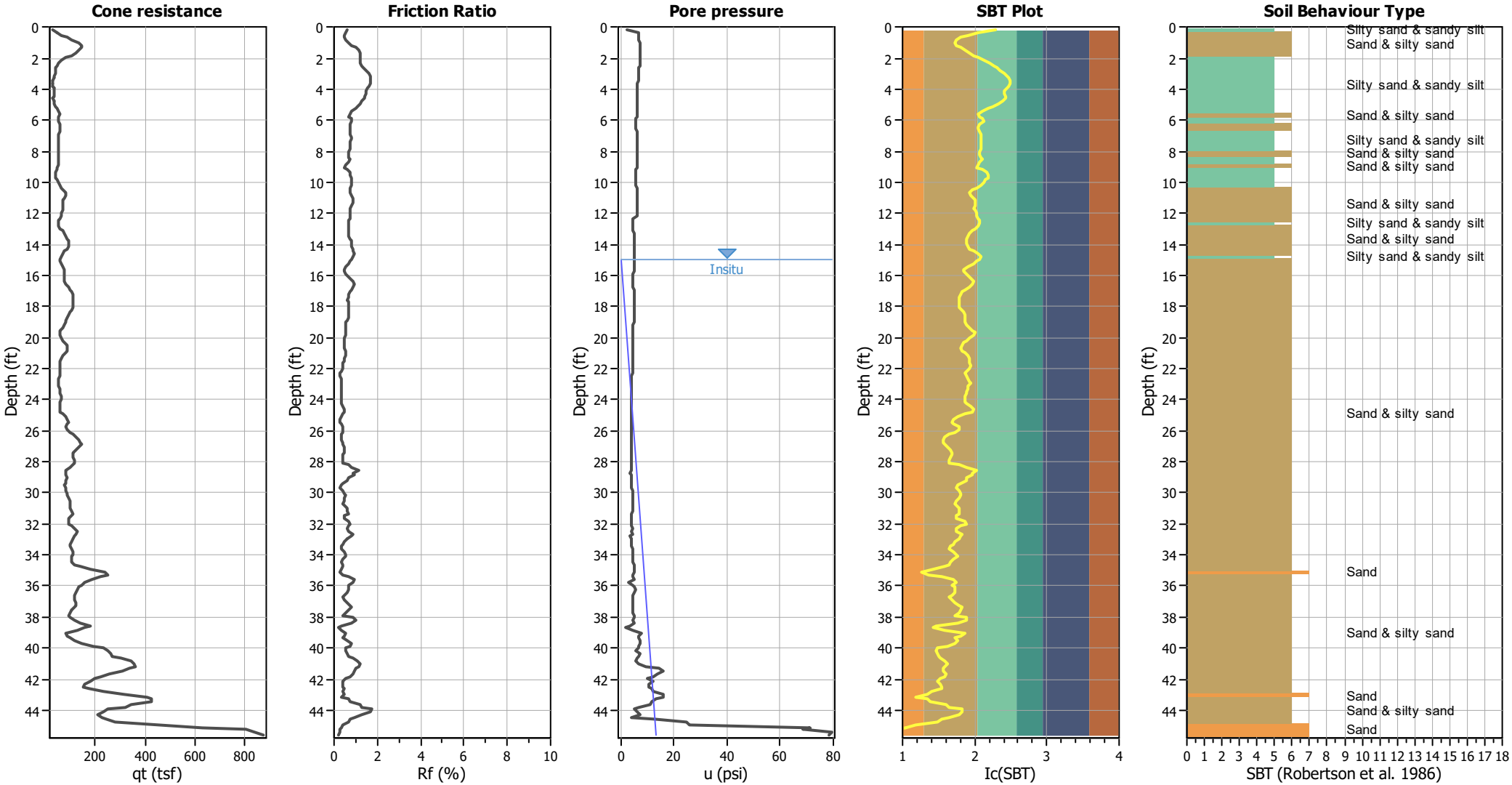






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



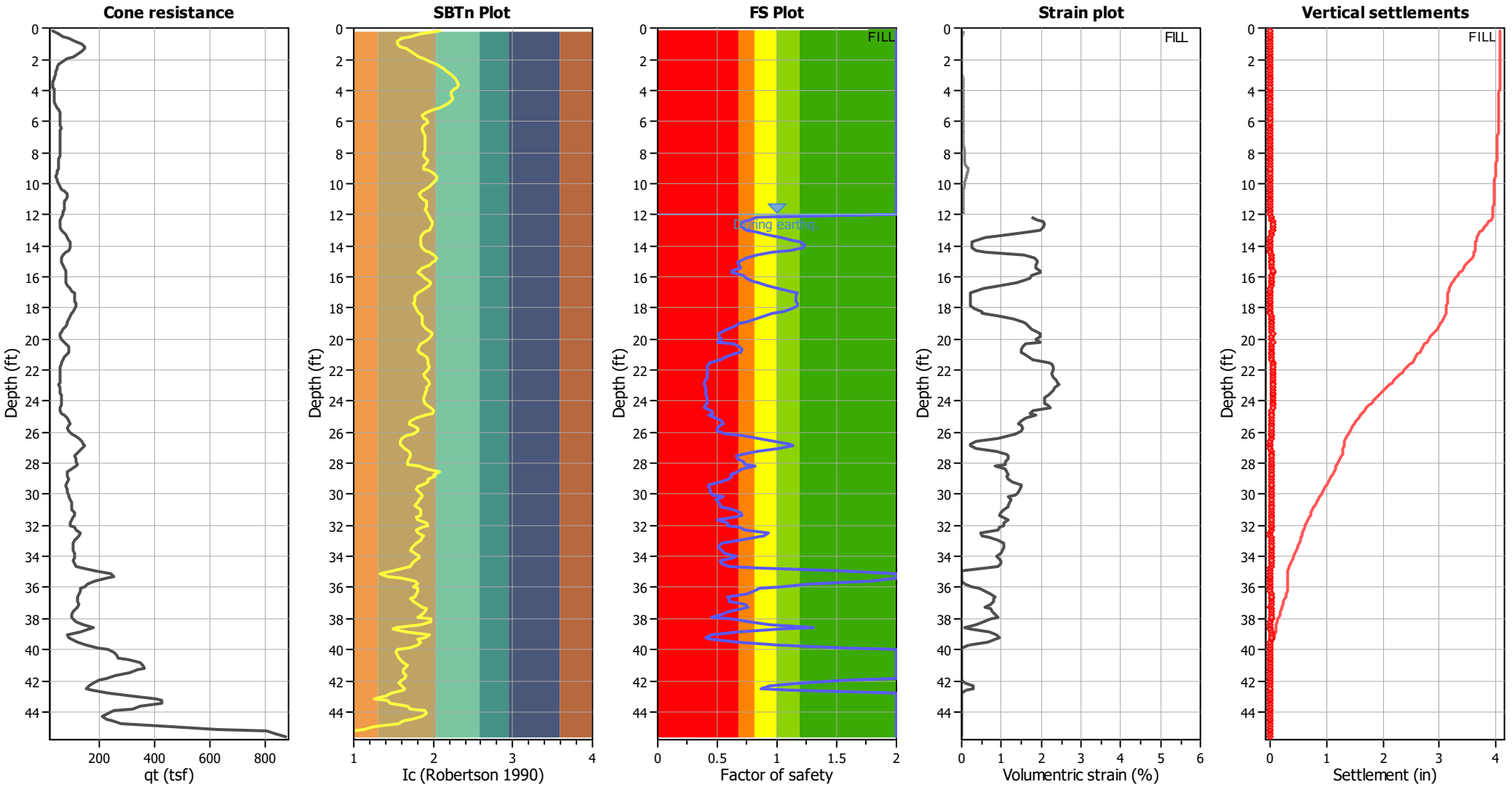
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	15.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	15.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

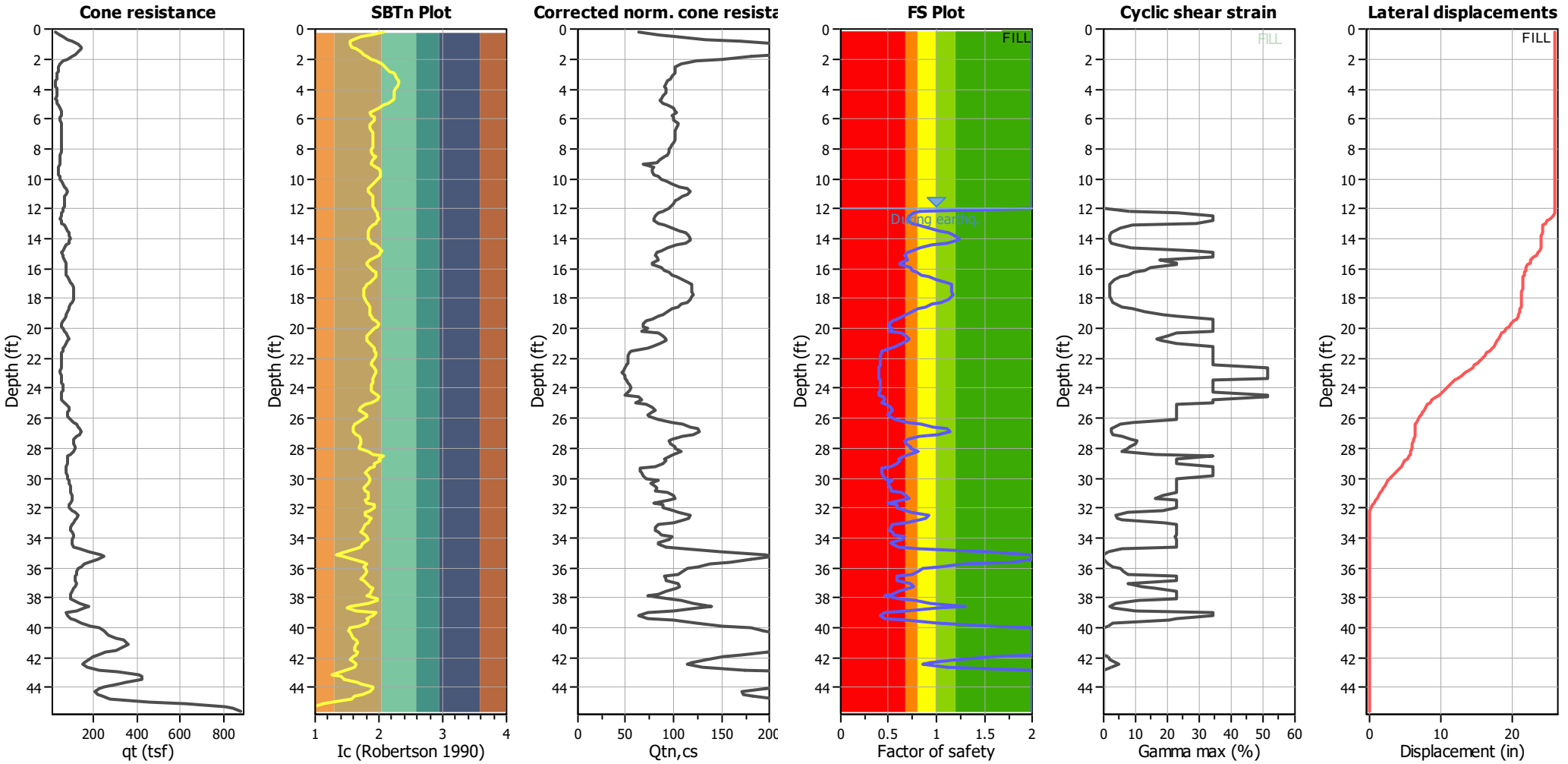


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

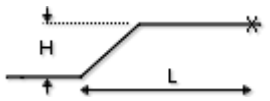
Geometric parameters: Level ground (or gently sloping) with free face (L: 350.00 ft - H: 16.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



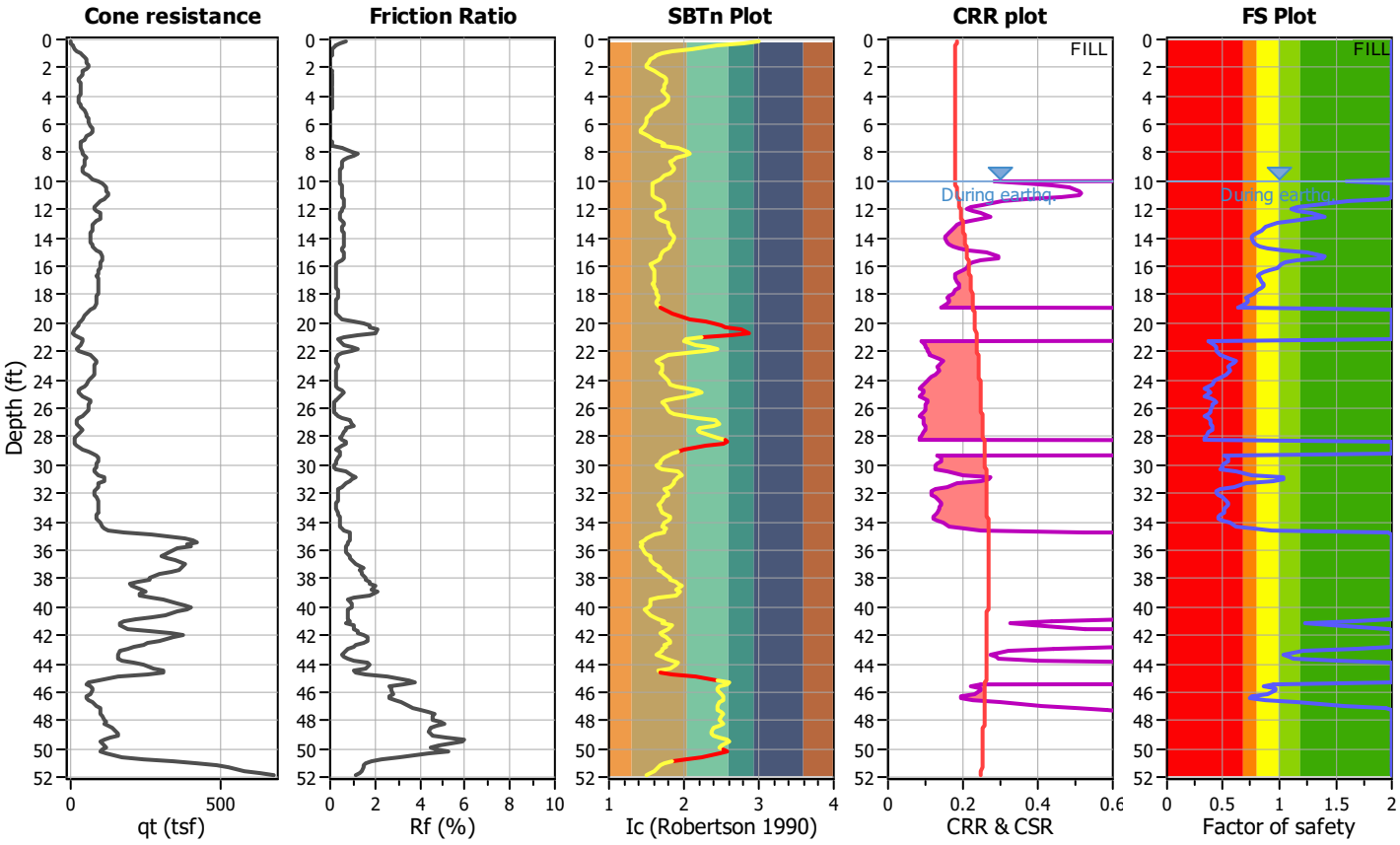
LIQUEFACTION ANALYSIS REPORT

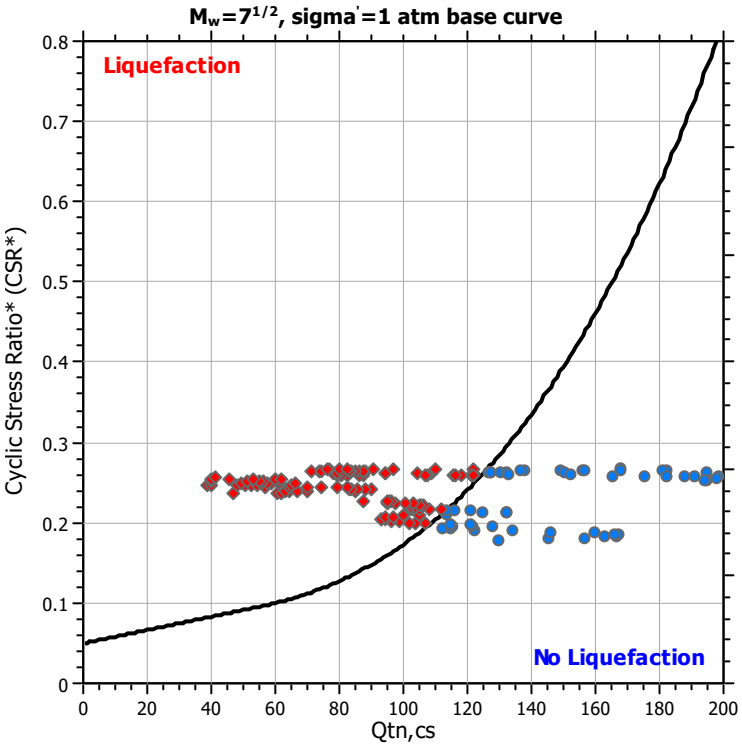
Project title : City Ventures Santee 3 **Location : Santee, California**

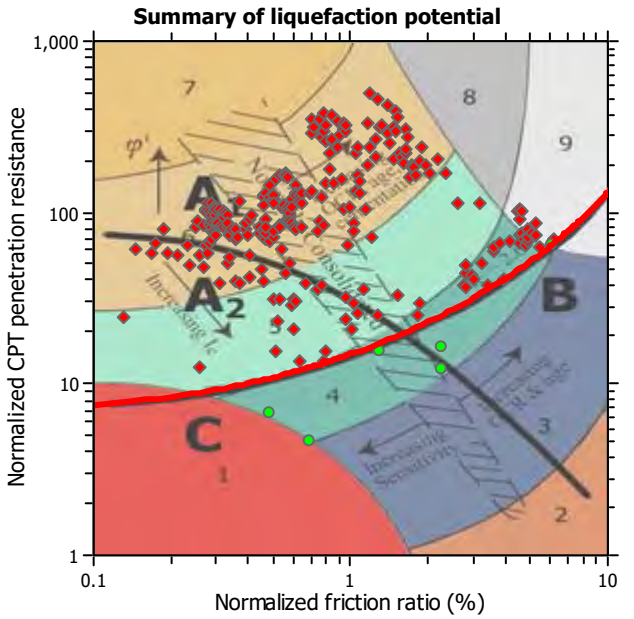
CPT file : CPT-04

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	3.00 ft	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

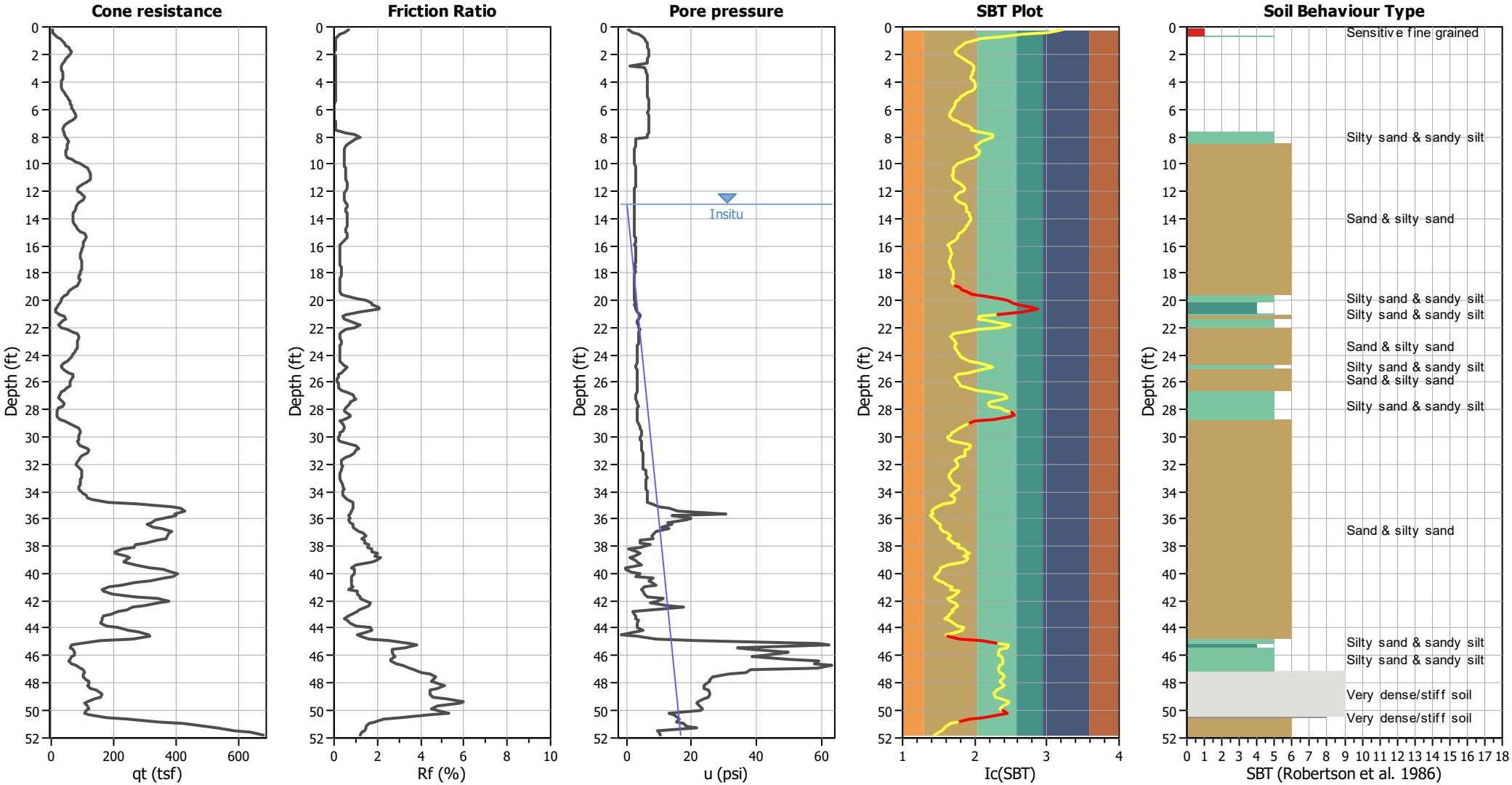






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



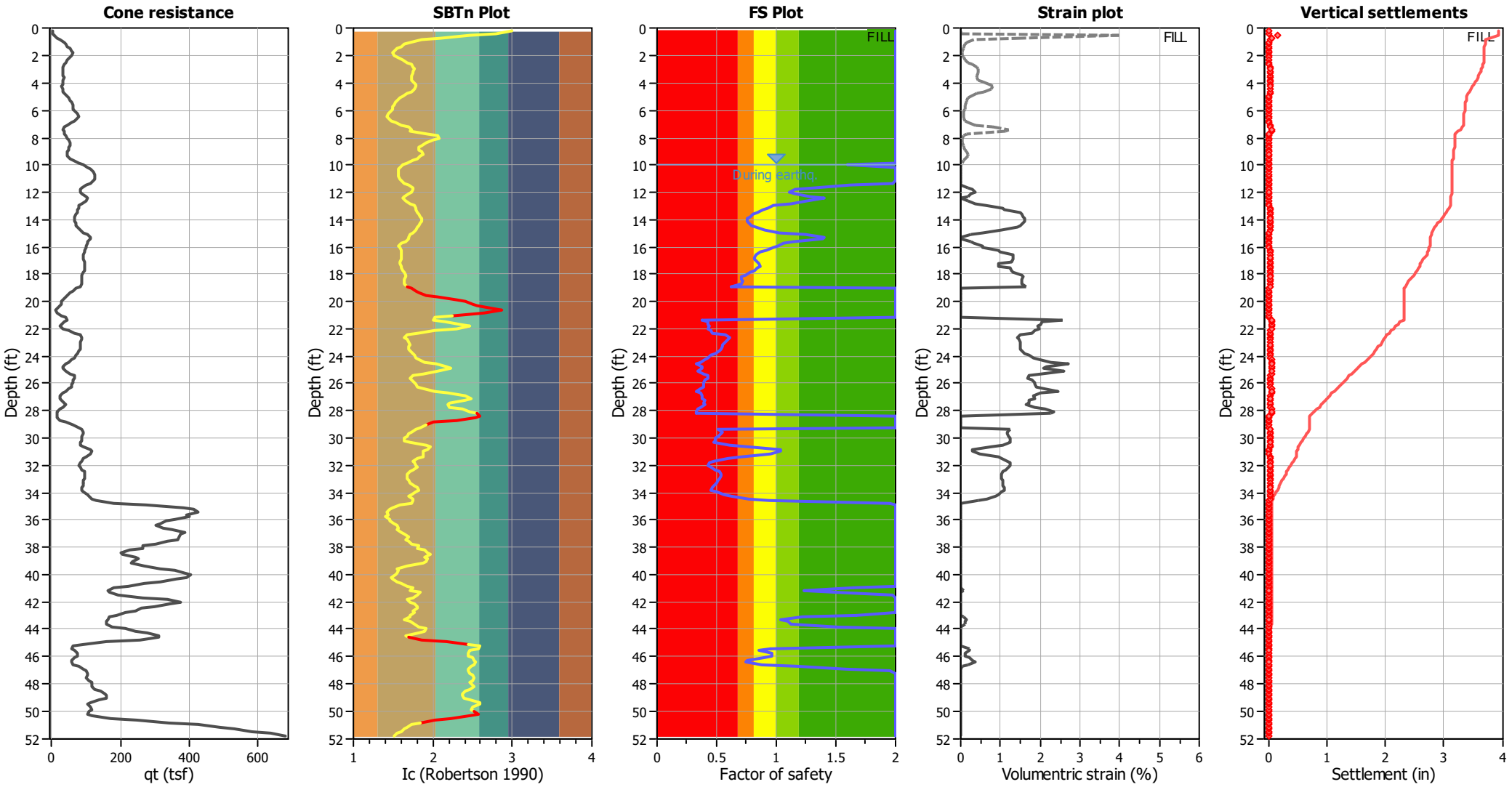
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

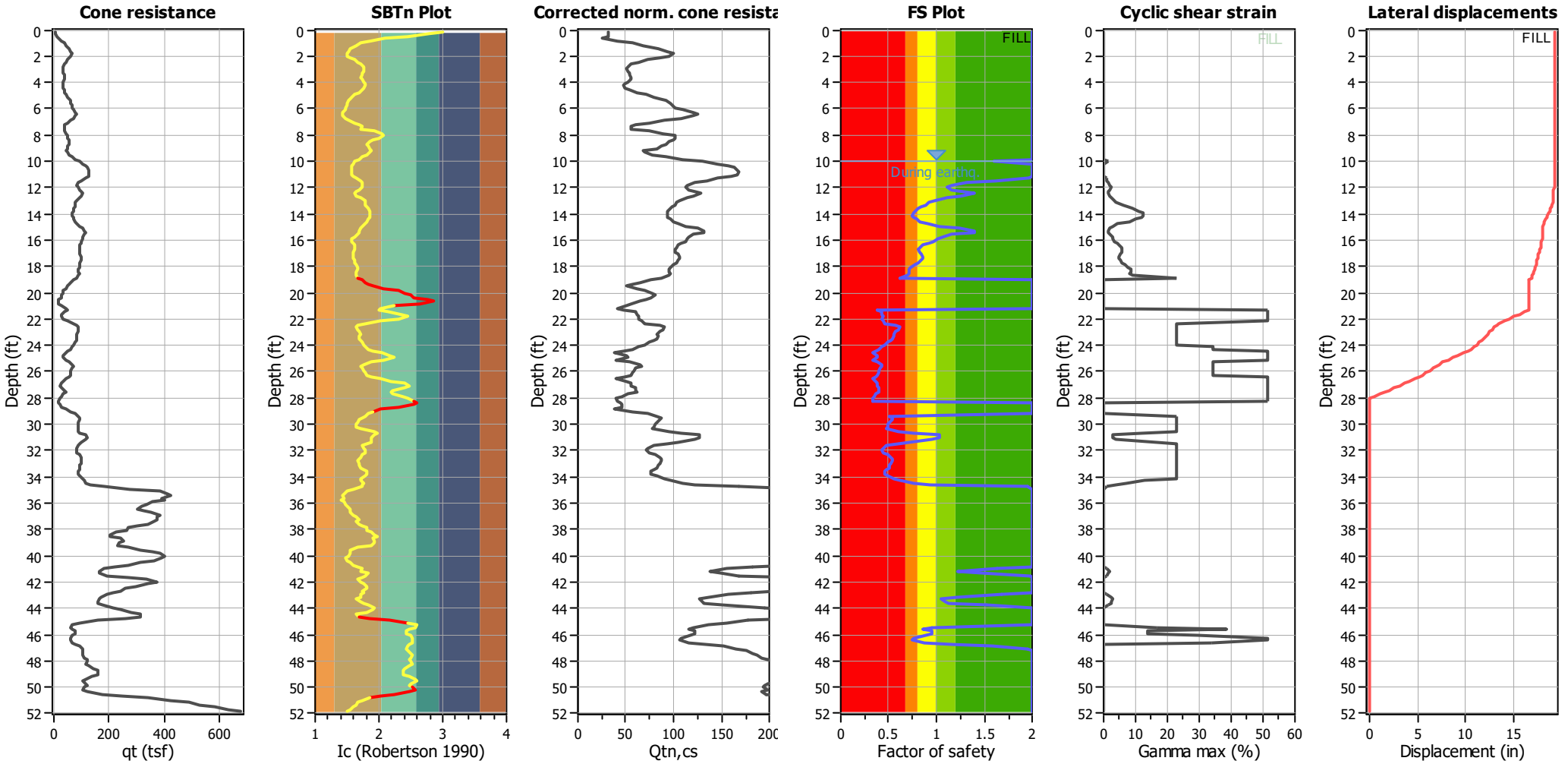


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

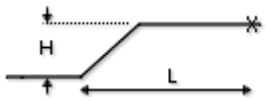
Geometric parameters: Level ground (or gently sloping) with free face (L: 300.00 ft - H: 14.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



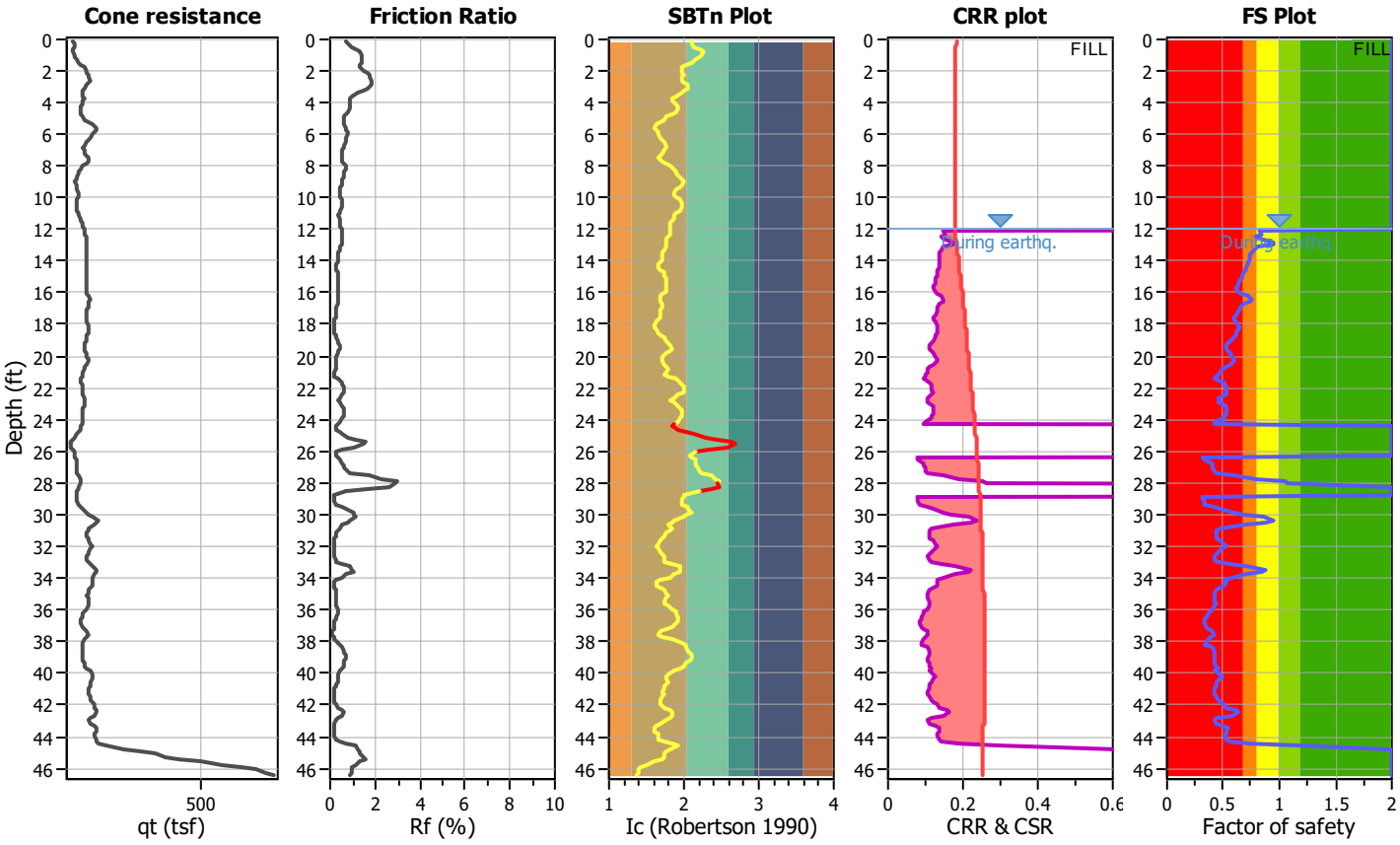
LIQUEFACTION ANALYSIS REPORT

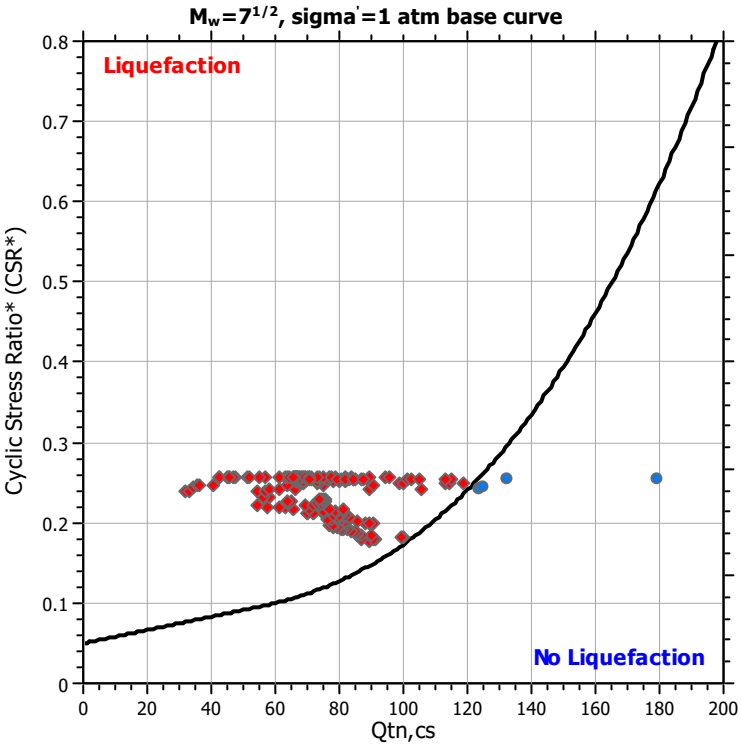
Project title : City Ventures Santee 3 **Location : Santee, California**

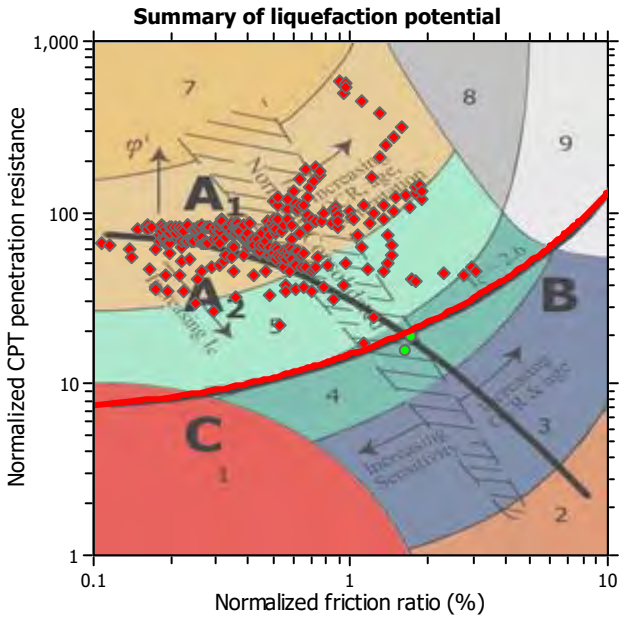
CPT file : CPT-05

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	15.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	15.00 ft	Fill height:	3.00 ft		
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth applied:	No
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	Limit depth:	N/A
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes	MSF method:	Method based

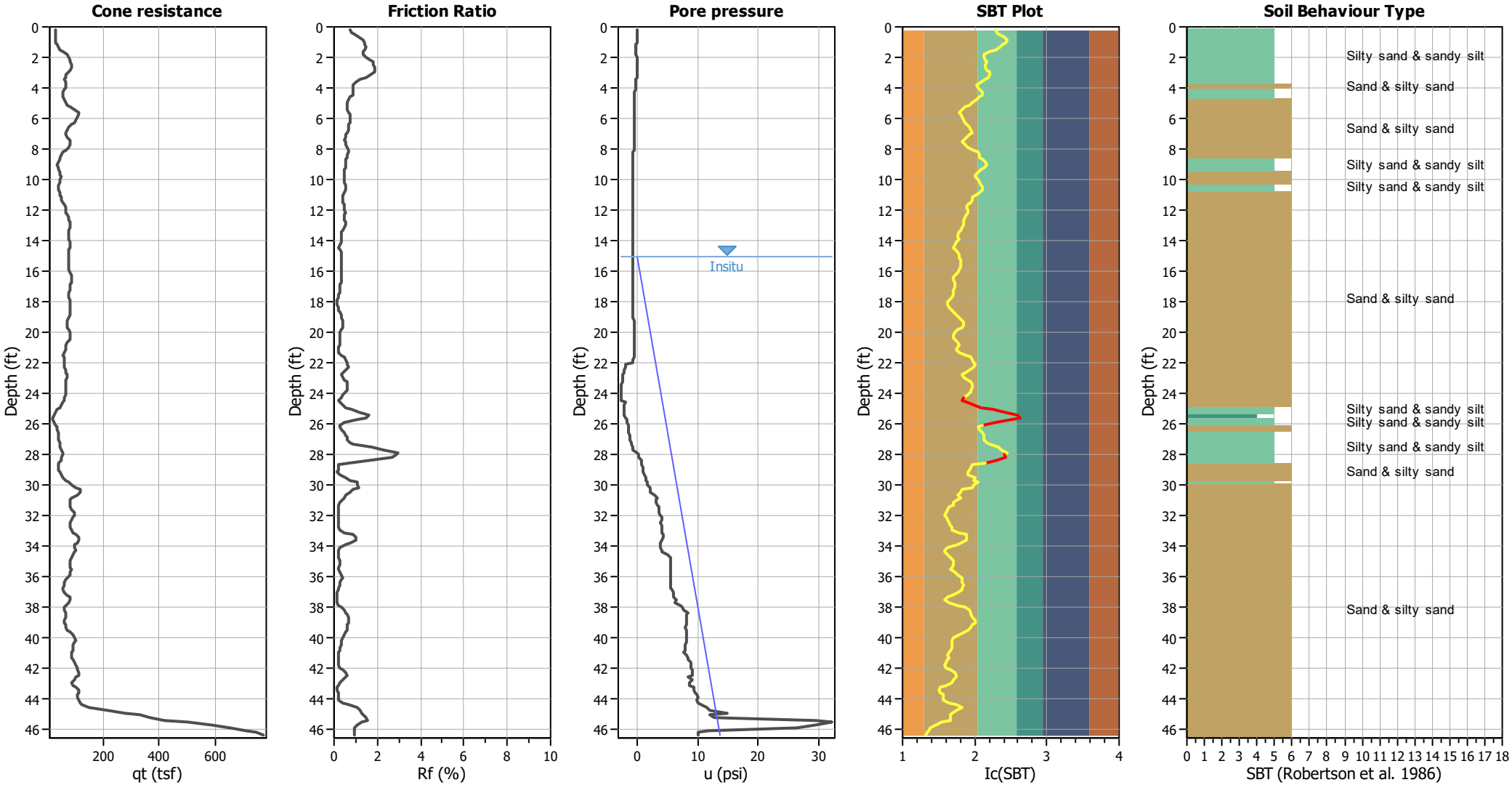






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



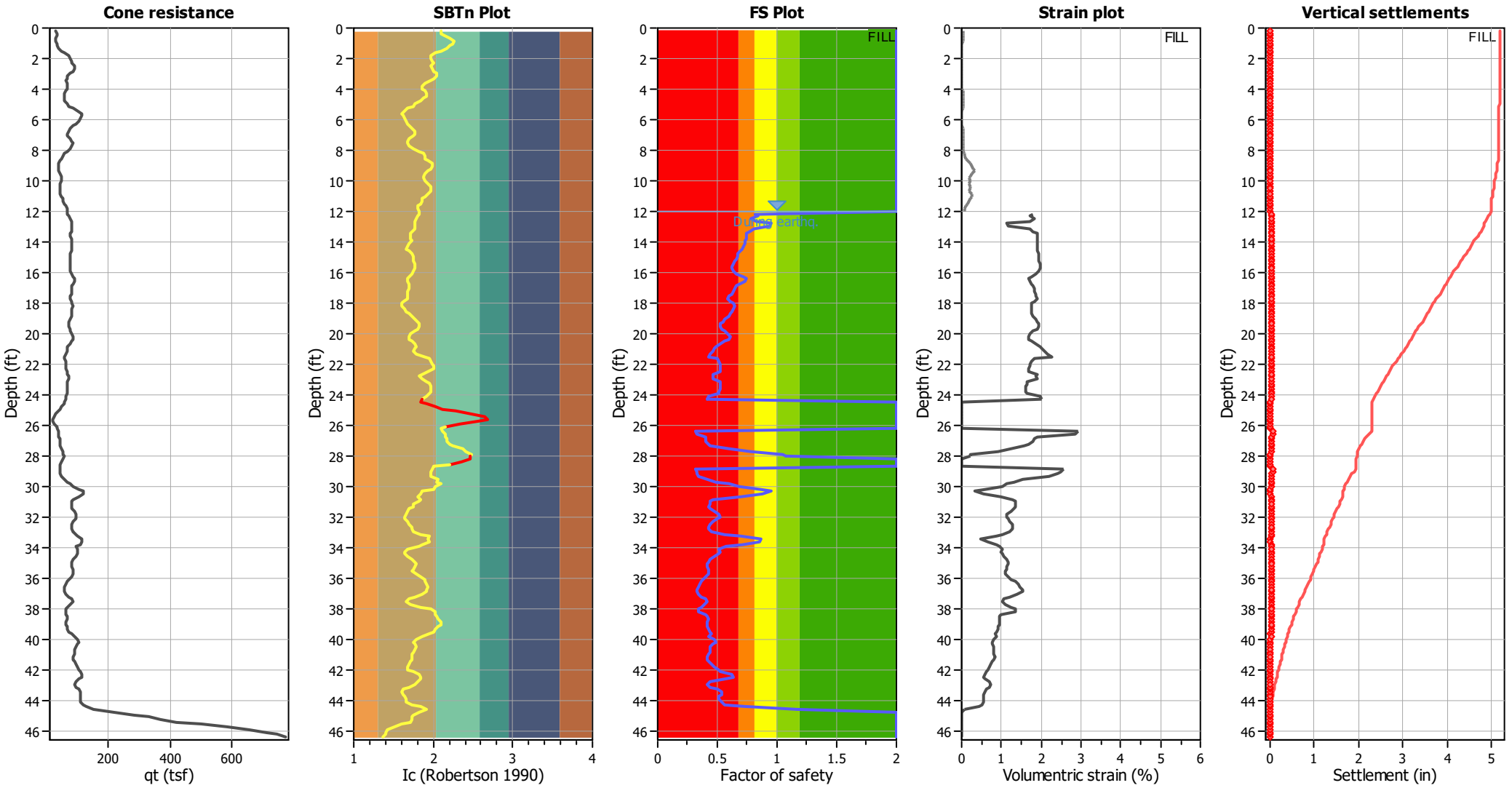
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	15.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	15.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

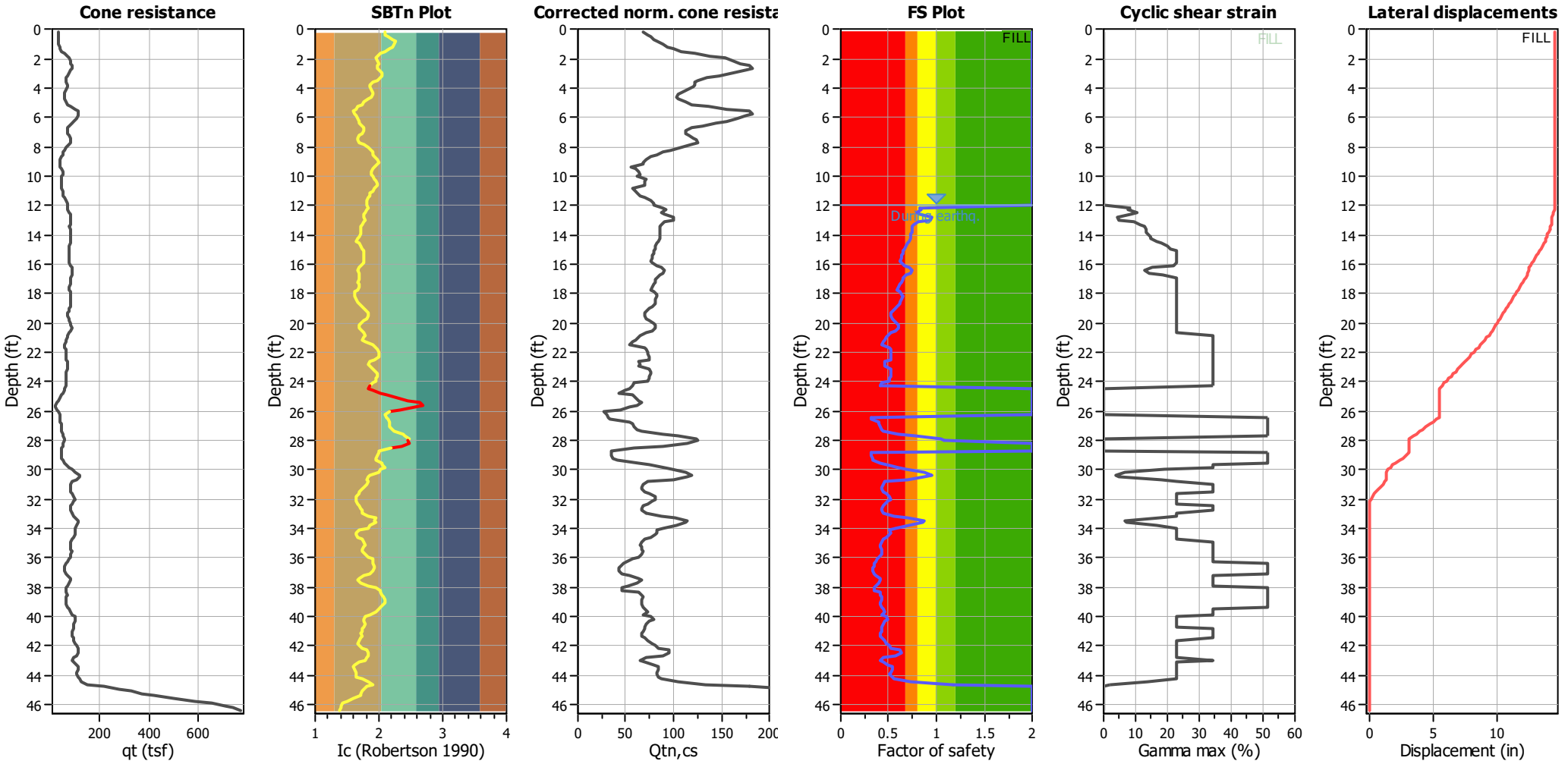


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

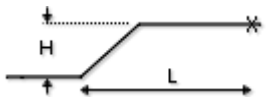
Geometric parameters: Level ground (or gently sloping) with free face (L: 800.00 ft - H: 16.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



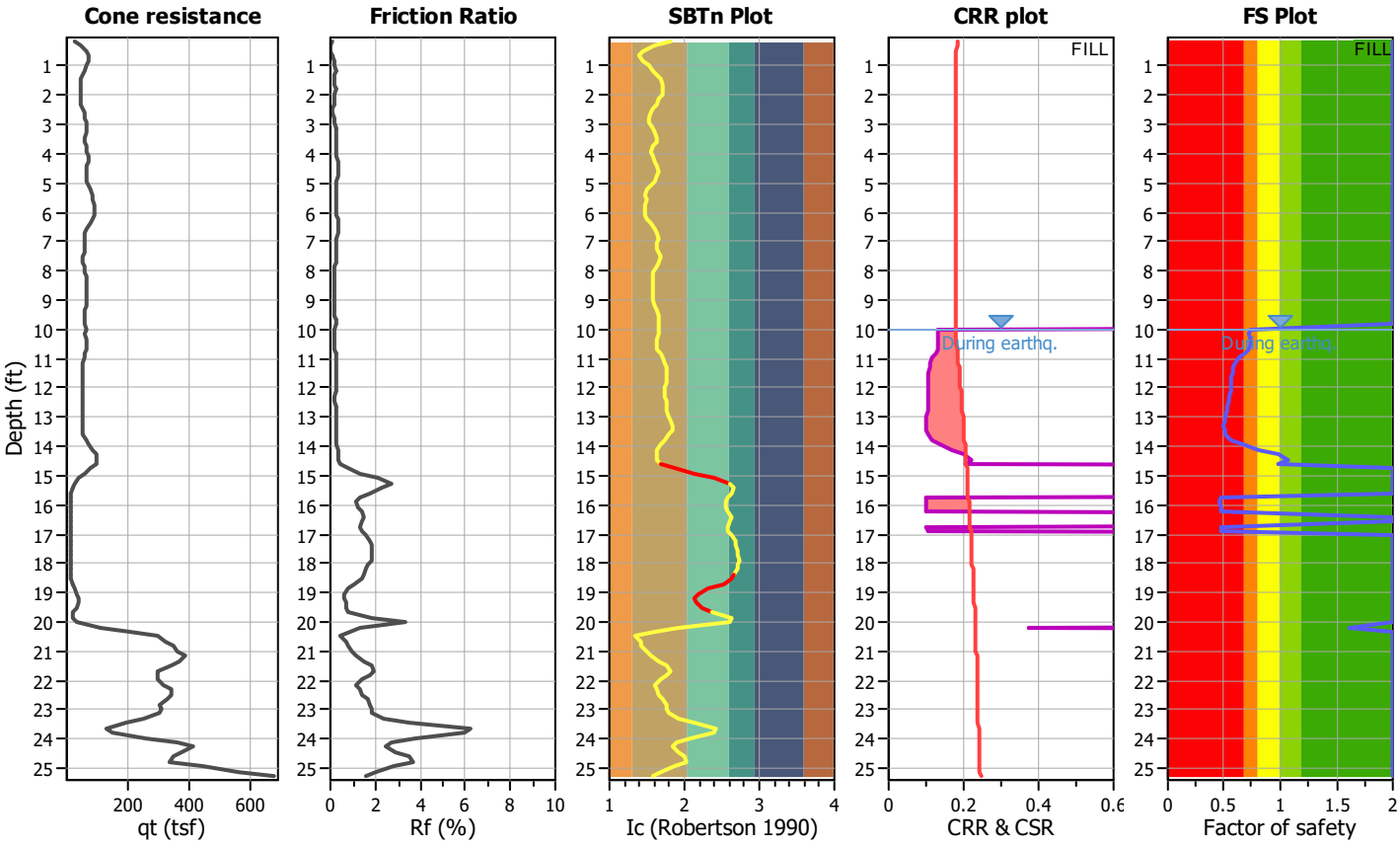
LIQUEFACTION ANALYSIS REPORT

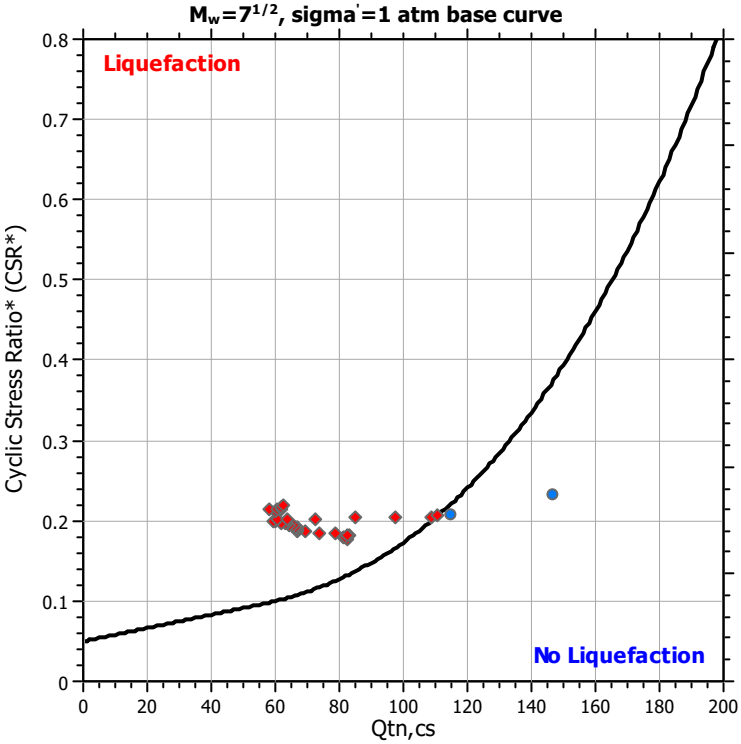
Project title : City Ventures Santee 3 **Location : Santee, California**

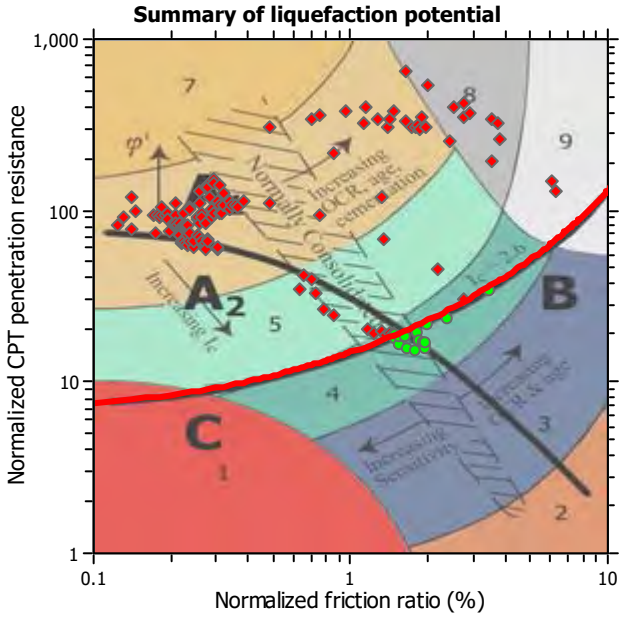
CPT file : CPT-06

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	3.00 ft		
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth applied:	No
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	Limit depth:	N/A
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes	MSF method:	Method based

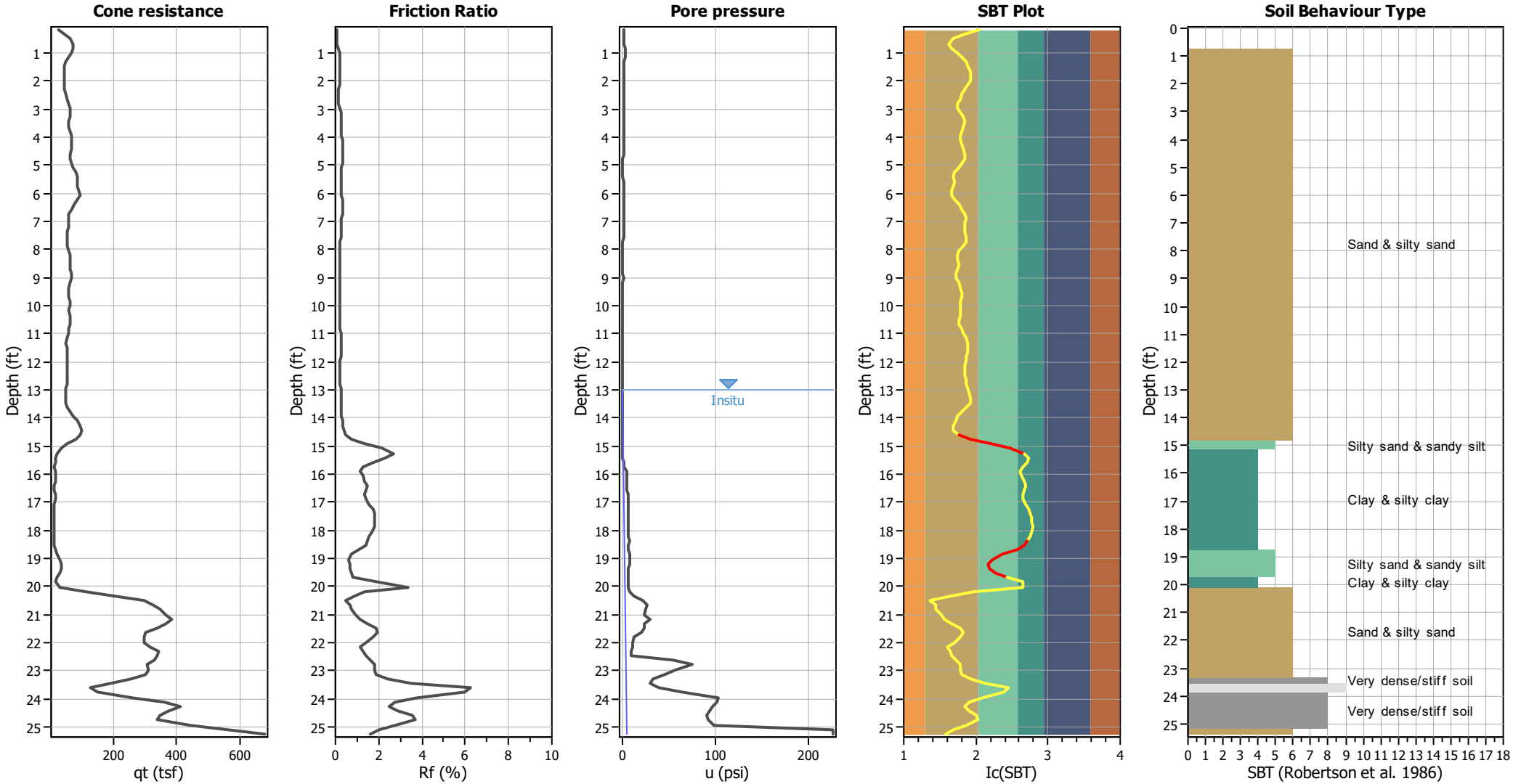






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



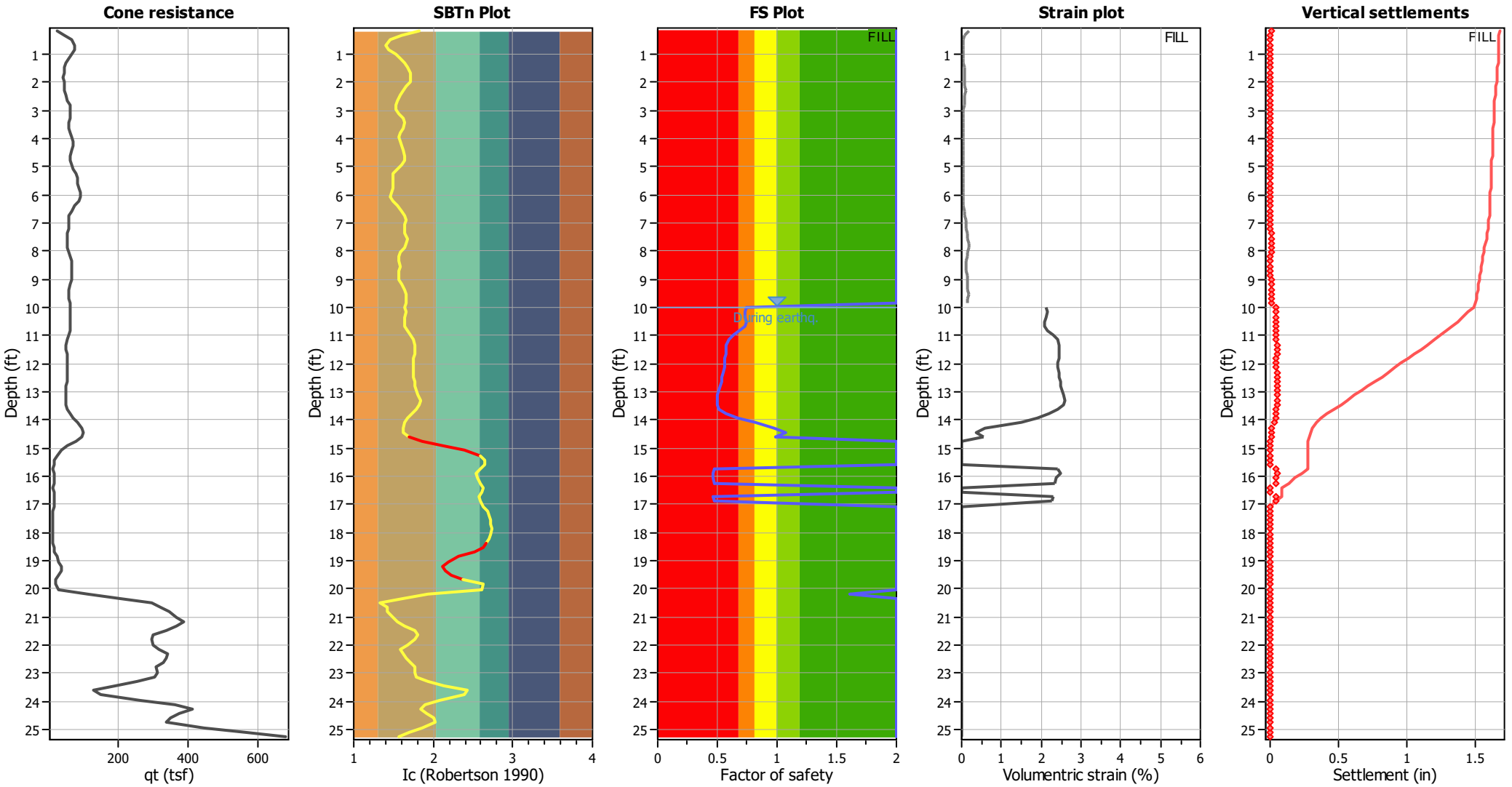
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

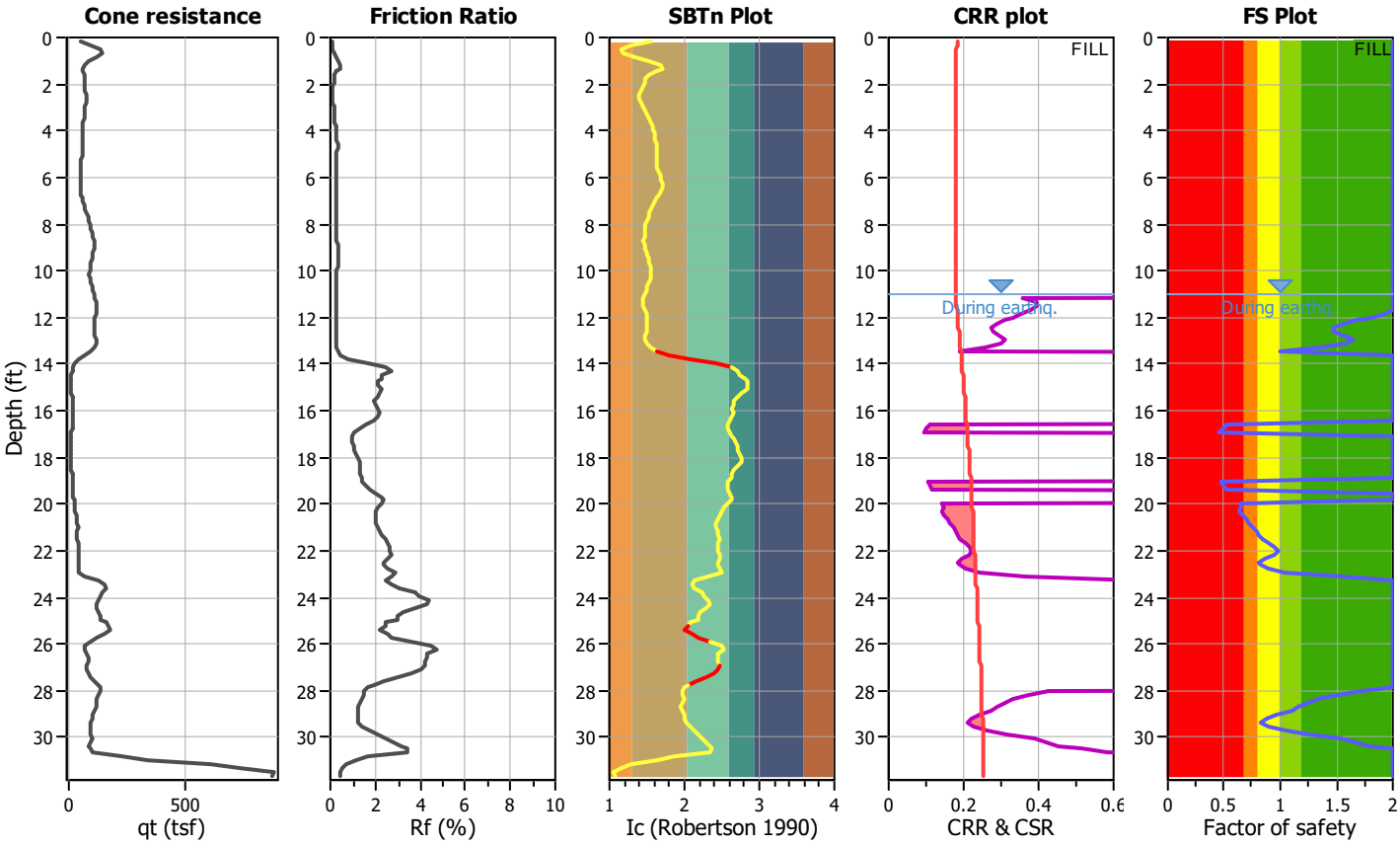
LIQUEFACTION ANALYSIS REPORT

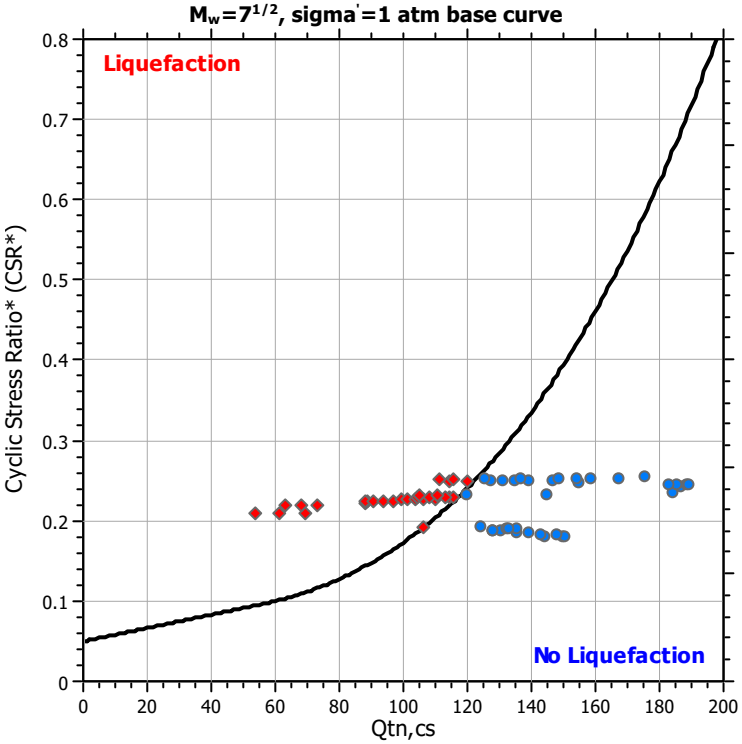
Project title : City Ventures Santee 3 **Location : Santee, California**

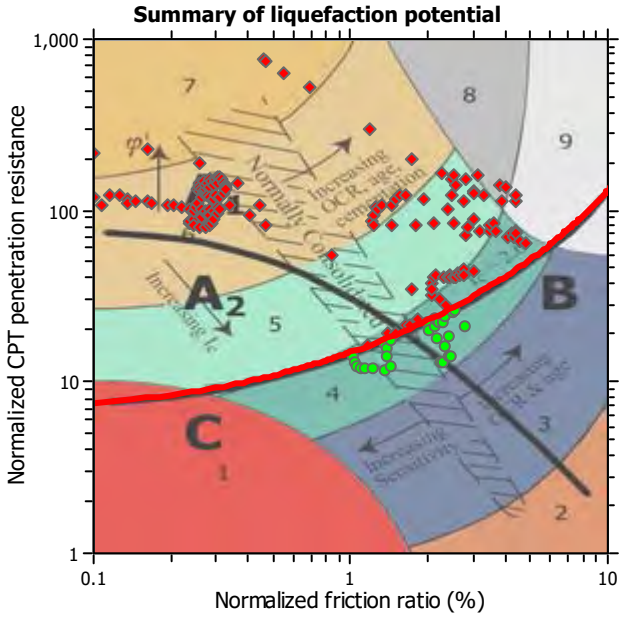
CPT file : CPT-07

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	14.00 ft	Use fill:	Yes	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	14.00 ft	Fill height:	3.00 ft		
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	120.00 lb/ft^3	Limit depth applied:	No
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	Limit depth:	N/A
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes	MSF method:	Method based

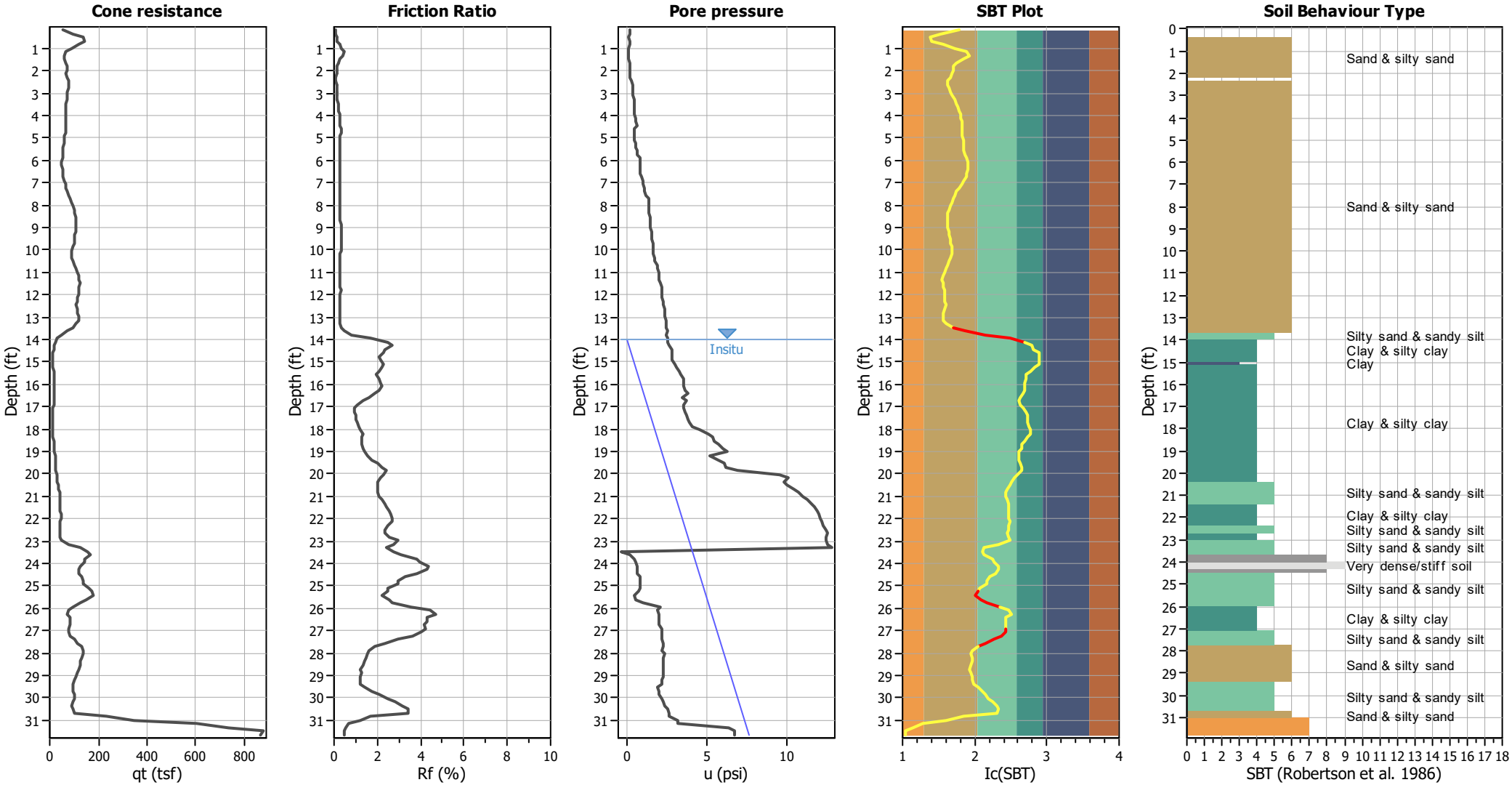






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



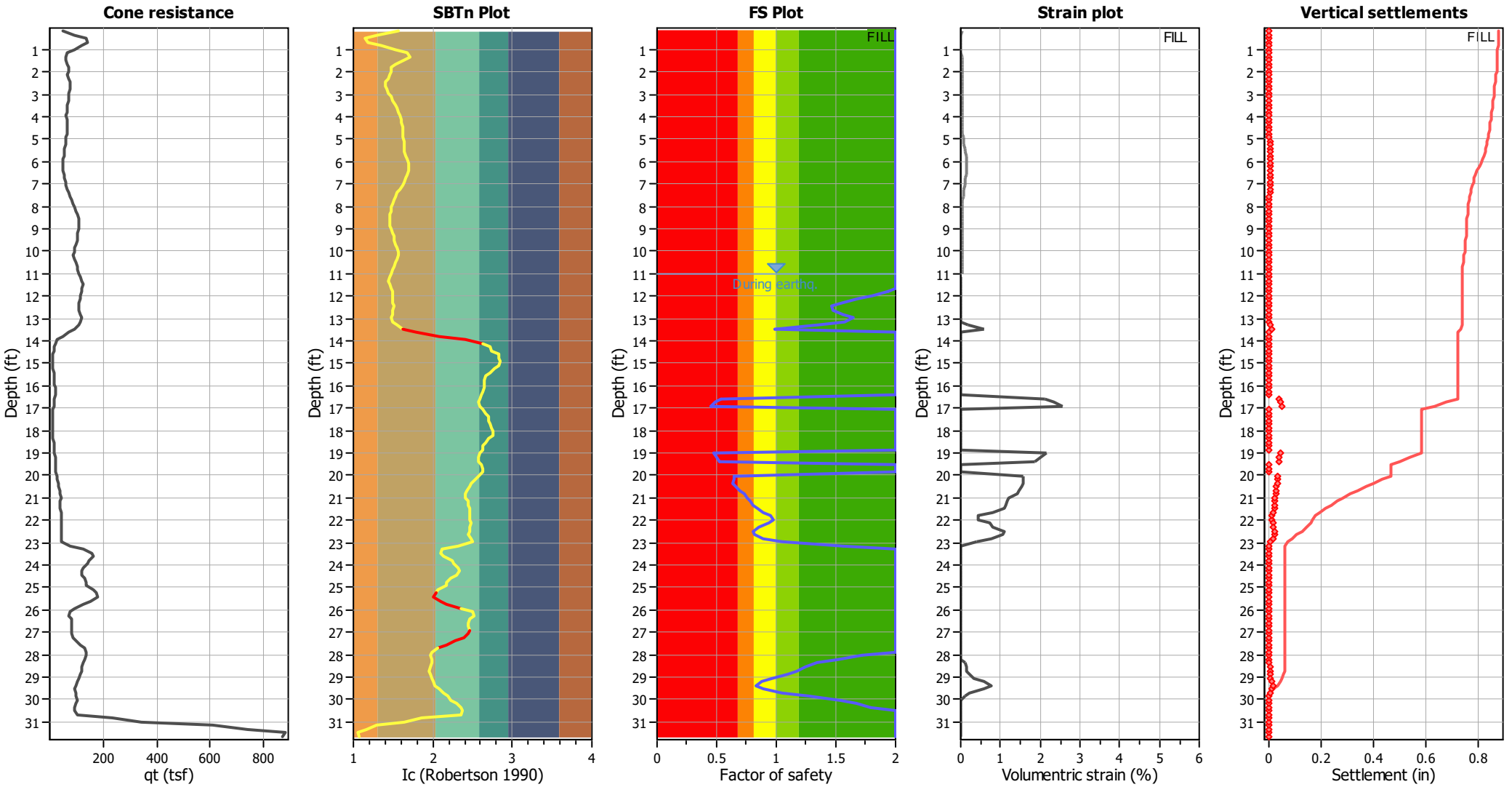
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	14.00 ft	Fill weight:	120.00 lb/ft^3
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	14.00 ft	Fill height:	3.00 ft	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

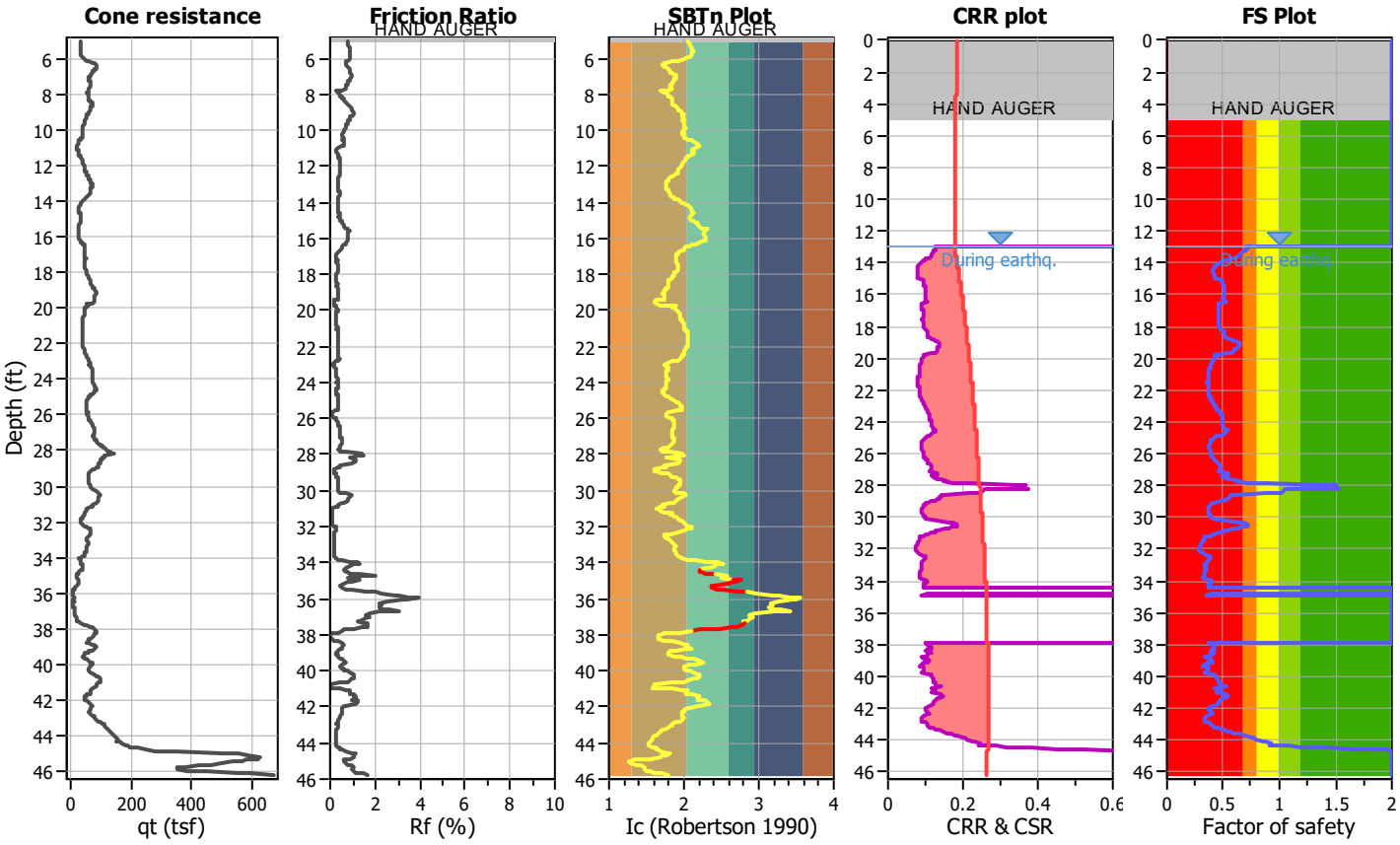
LIQUEFACTION ANALYSIS REPORT

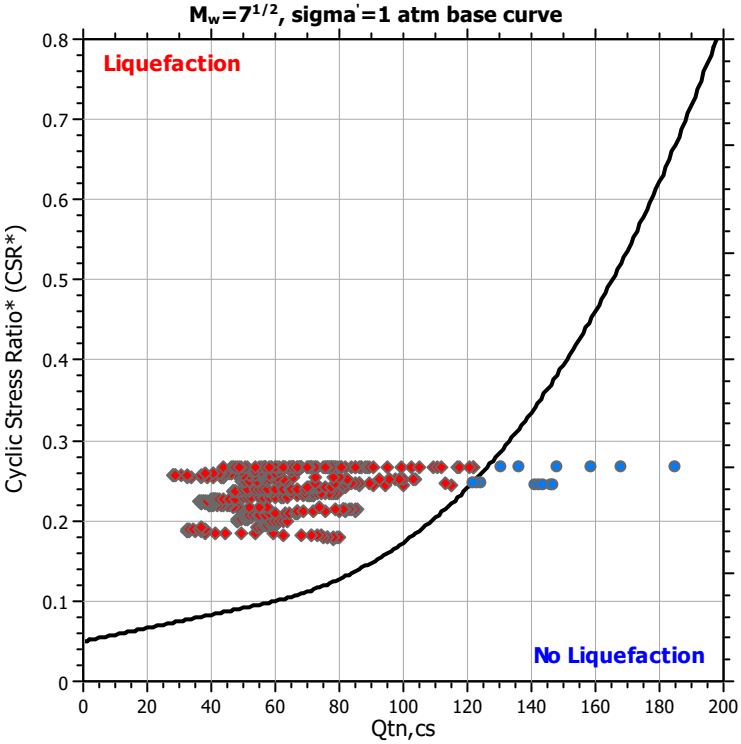
Project title : City Ventures Santee 3 **Location : Santee, California**

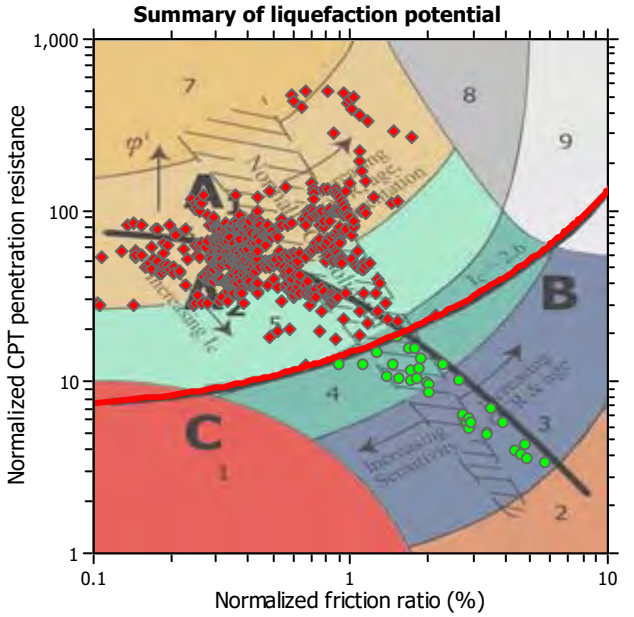
CPT file : CPT-8

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

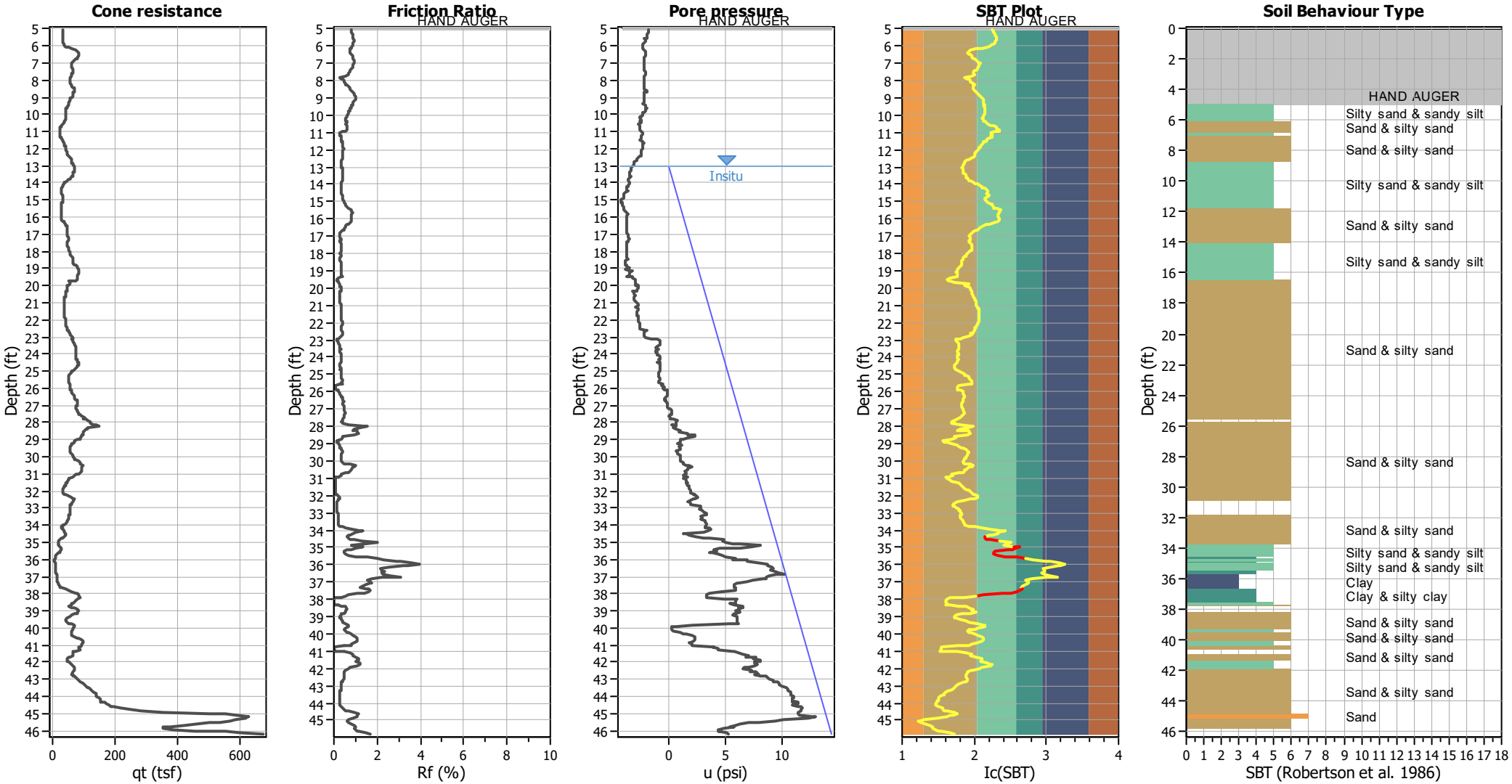






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



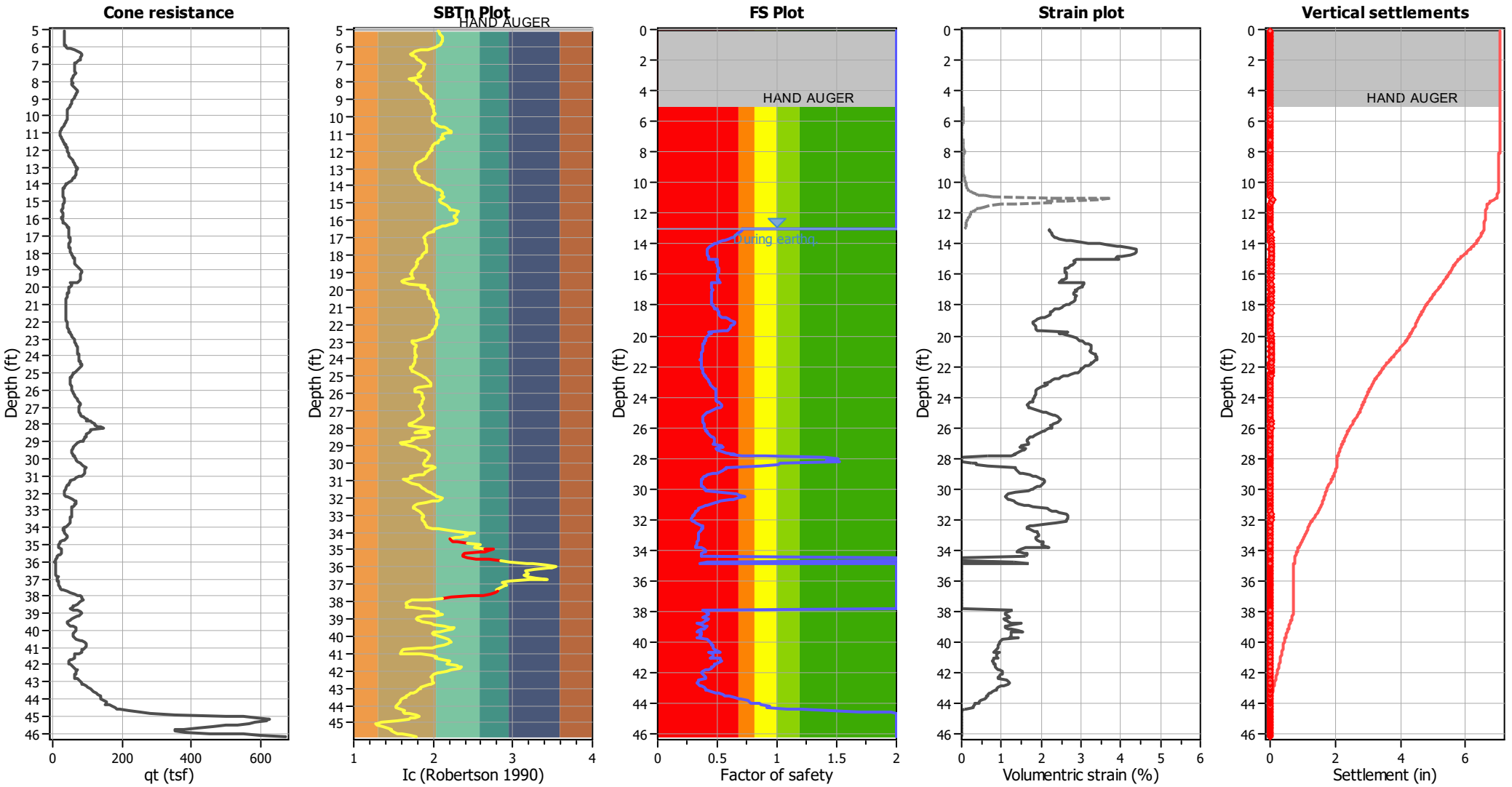
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

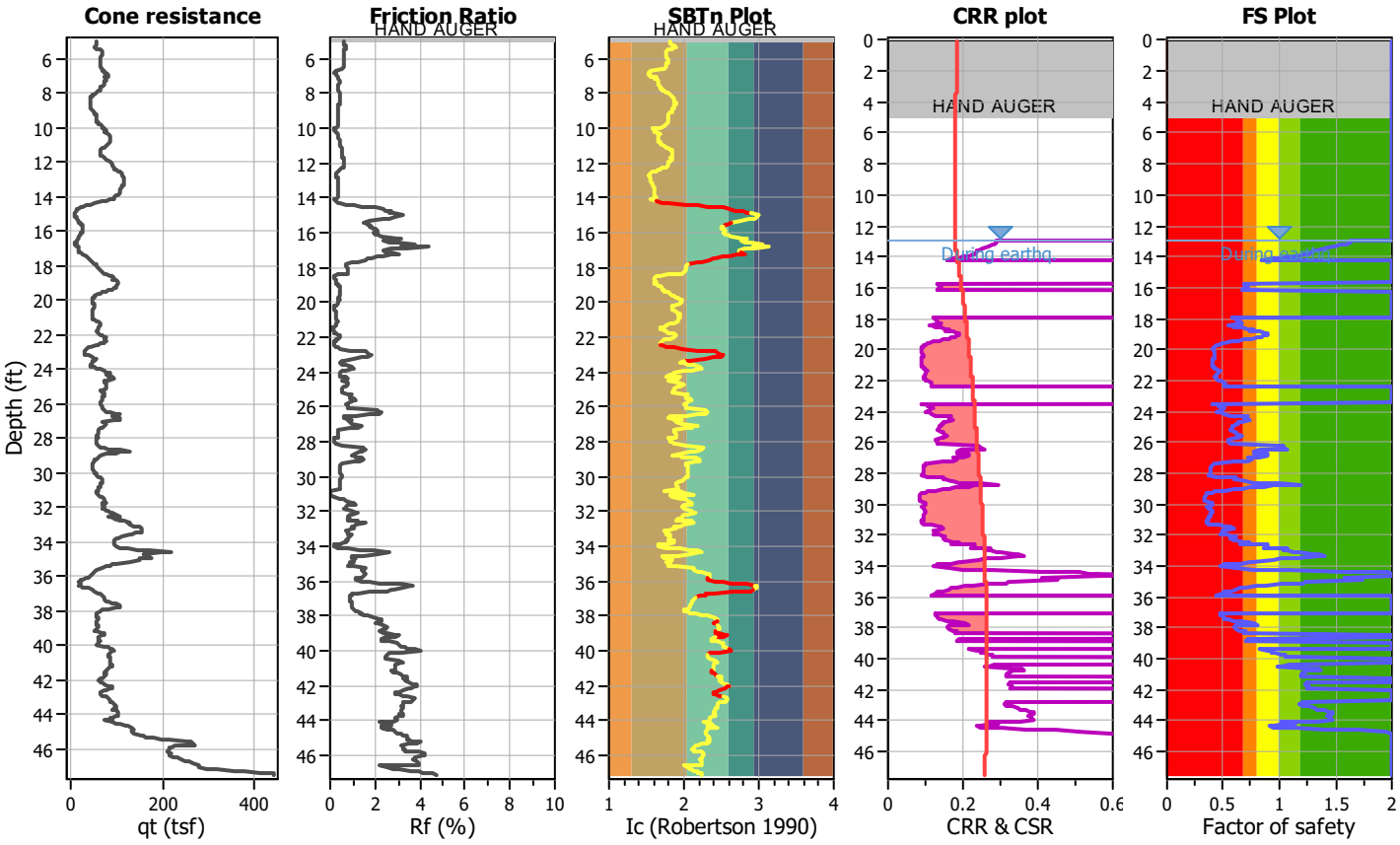
LIQUEFACTION ANALYSIS REPORT

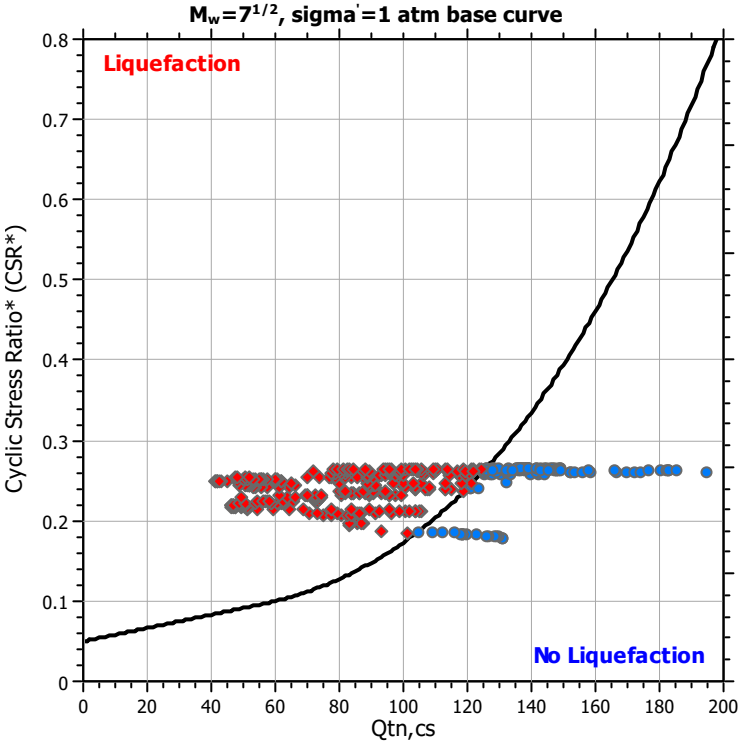
Project title : City Ventures Santee 3 **Location : Santee, California**

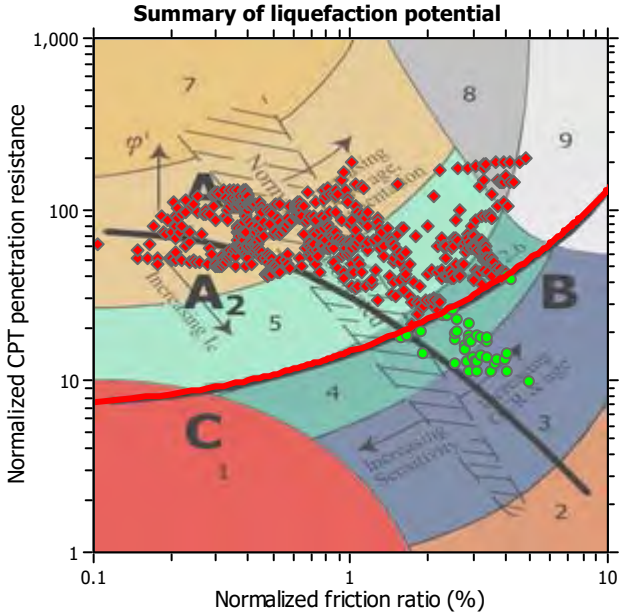
CPT file : CPT-9

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

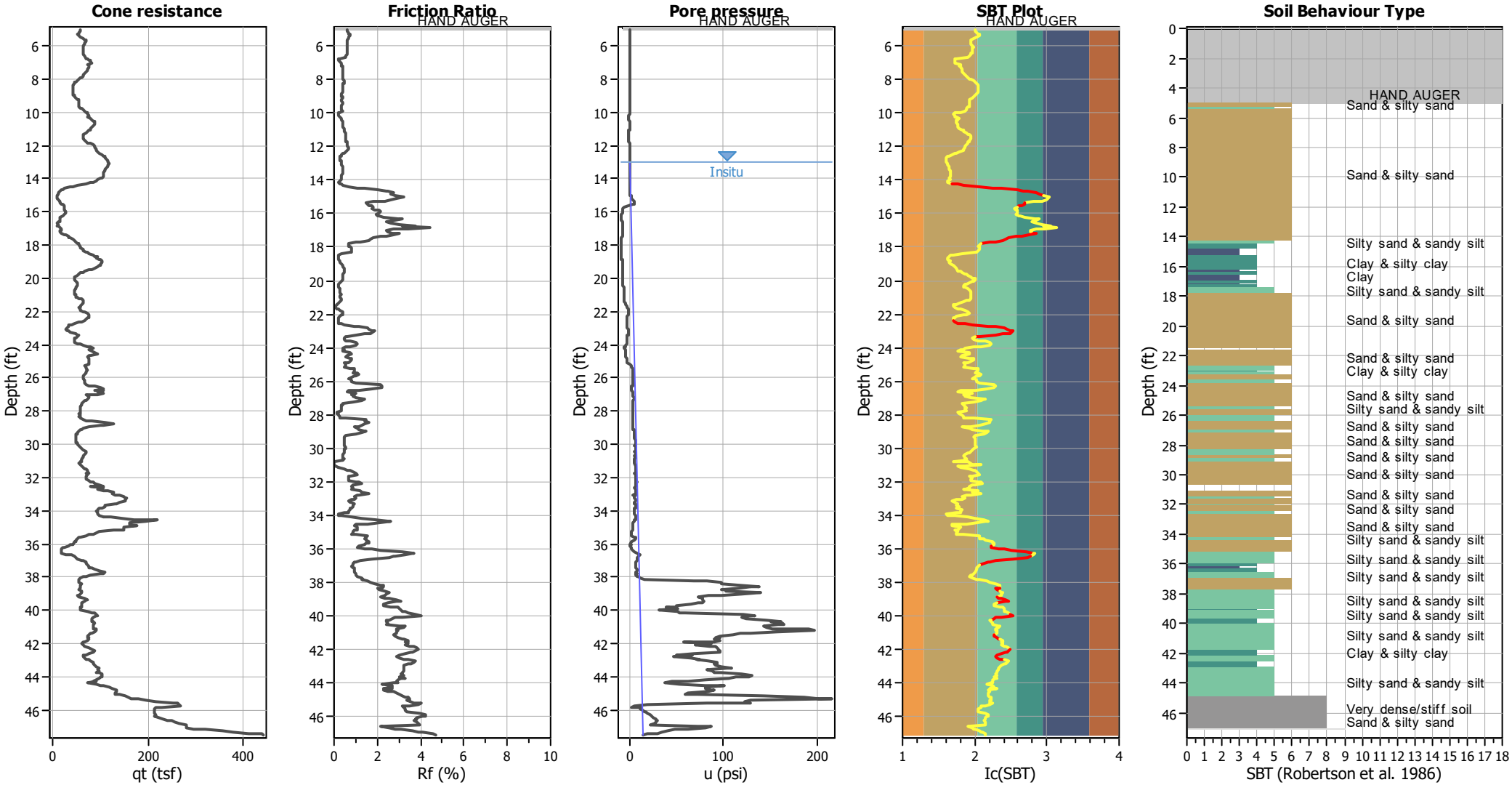






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



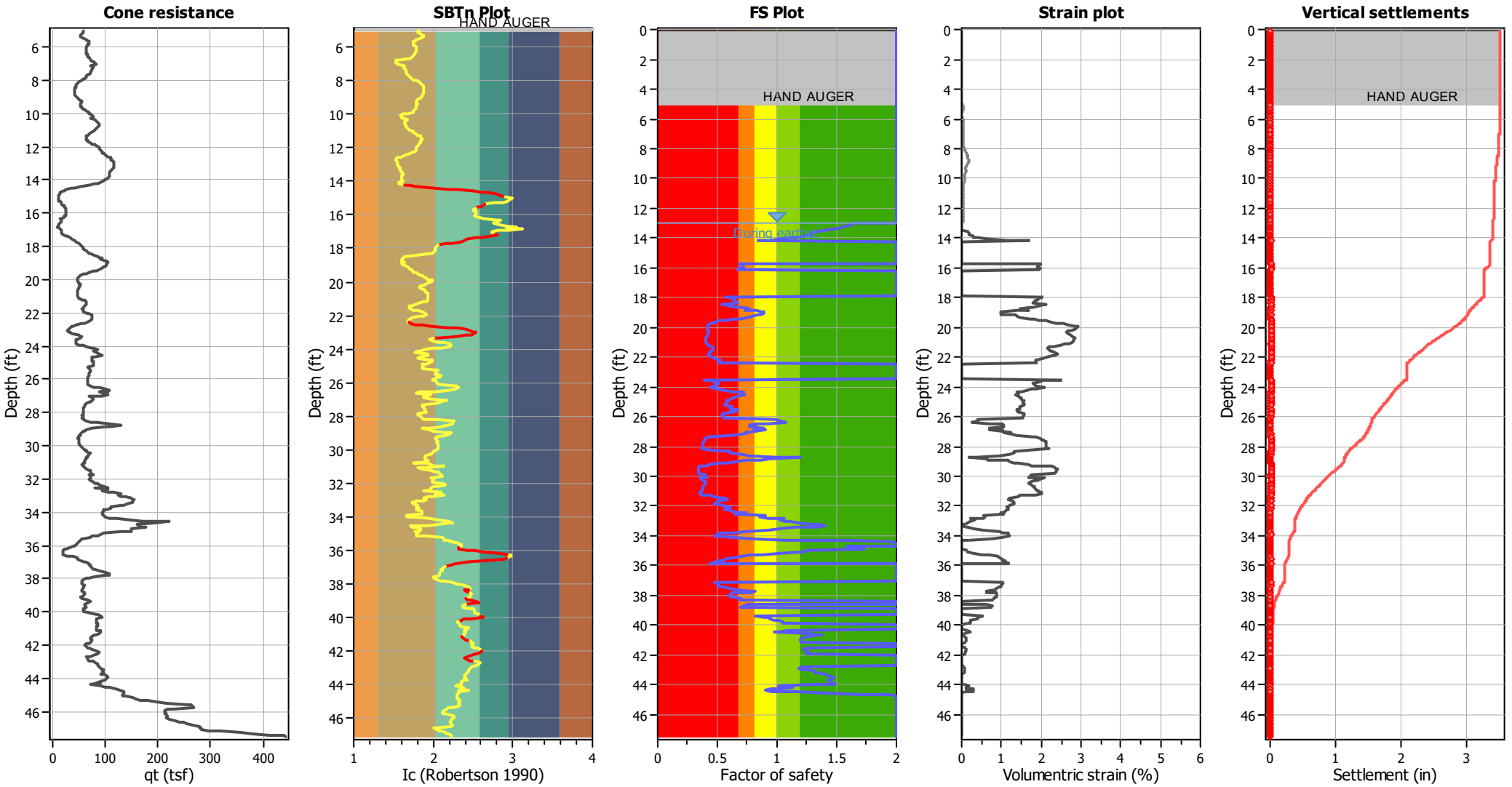
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

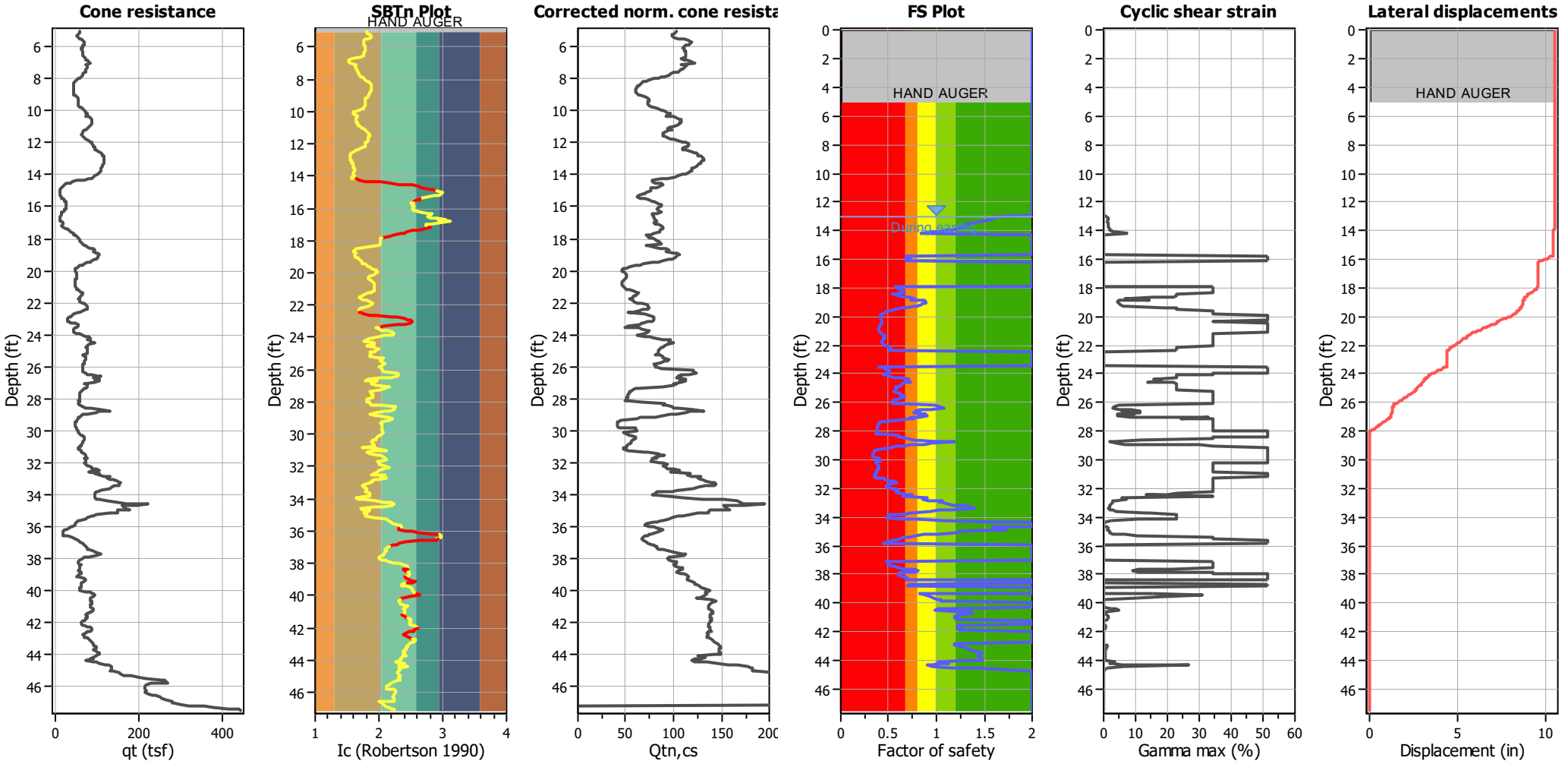


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

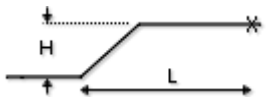
Geometric parameters: Level ground (or gently sloping) with free face (L: 600.00 ft - H: 14.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



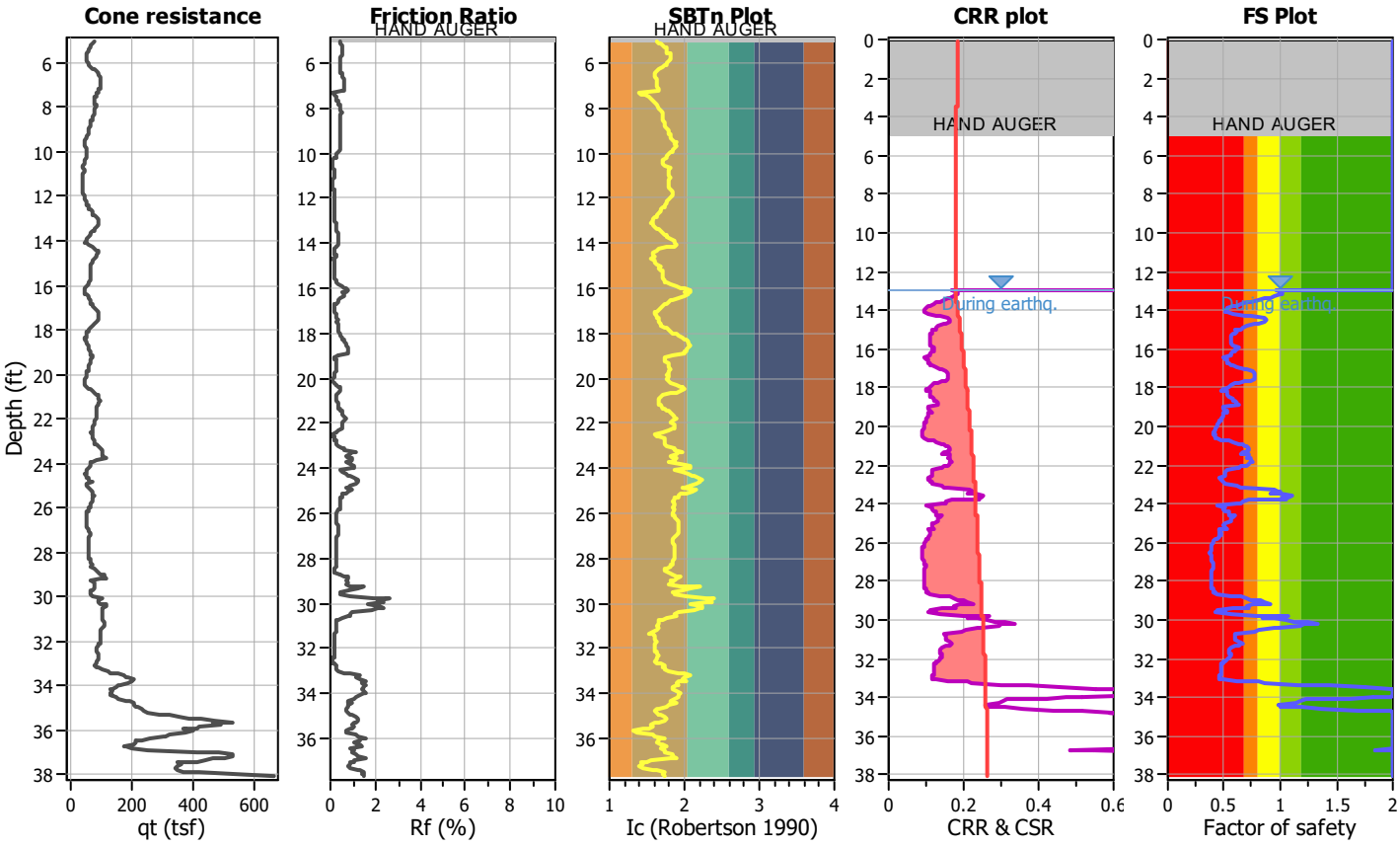
LIQUEFACTION ANALYSIS REPORT

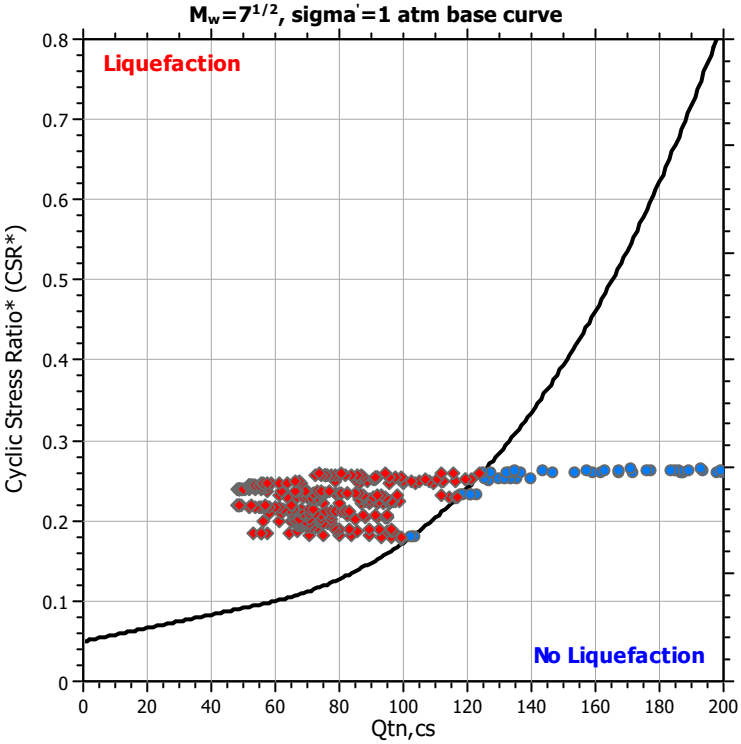
Project title : City Ventures Santee 3 **Location : Santee, California**

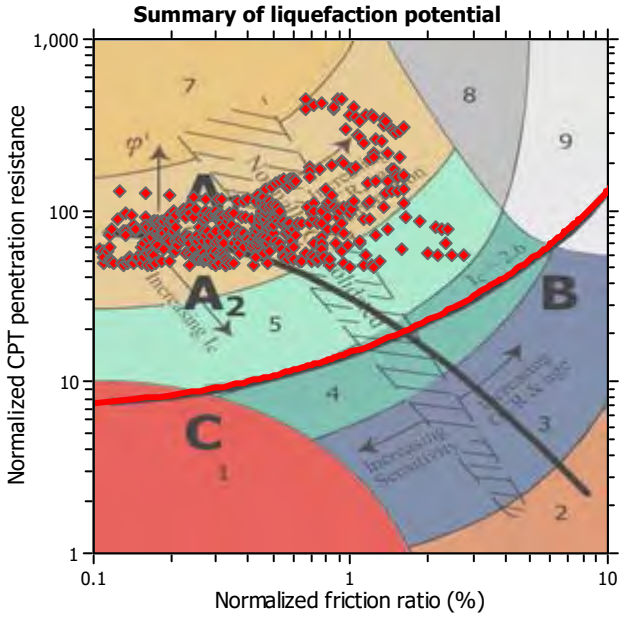
CPT file : CPT-10

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

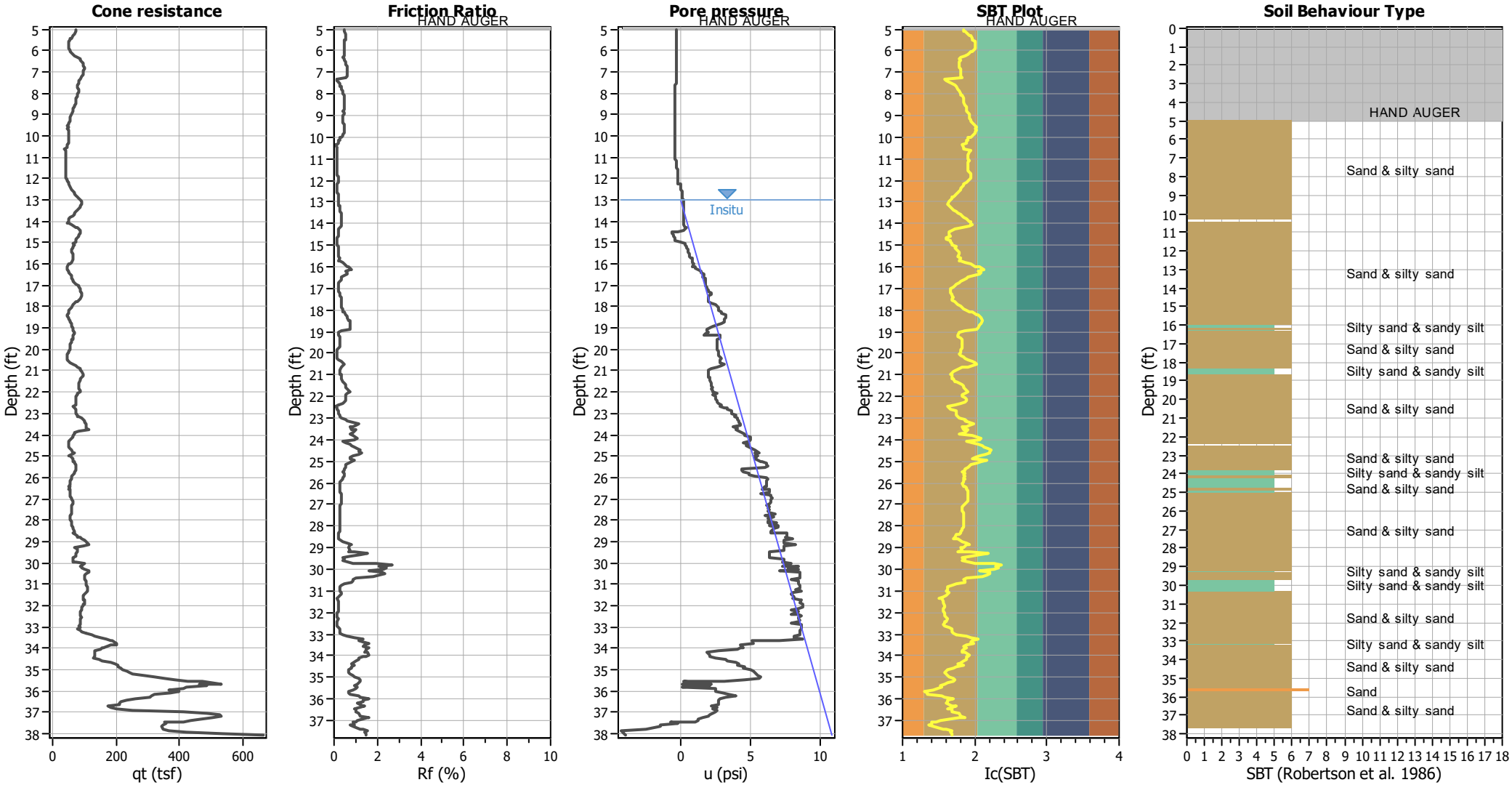






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



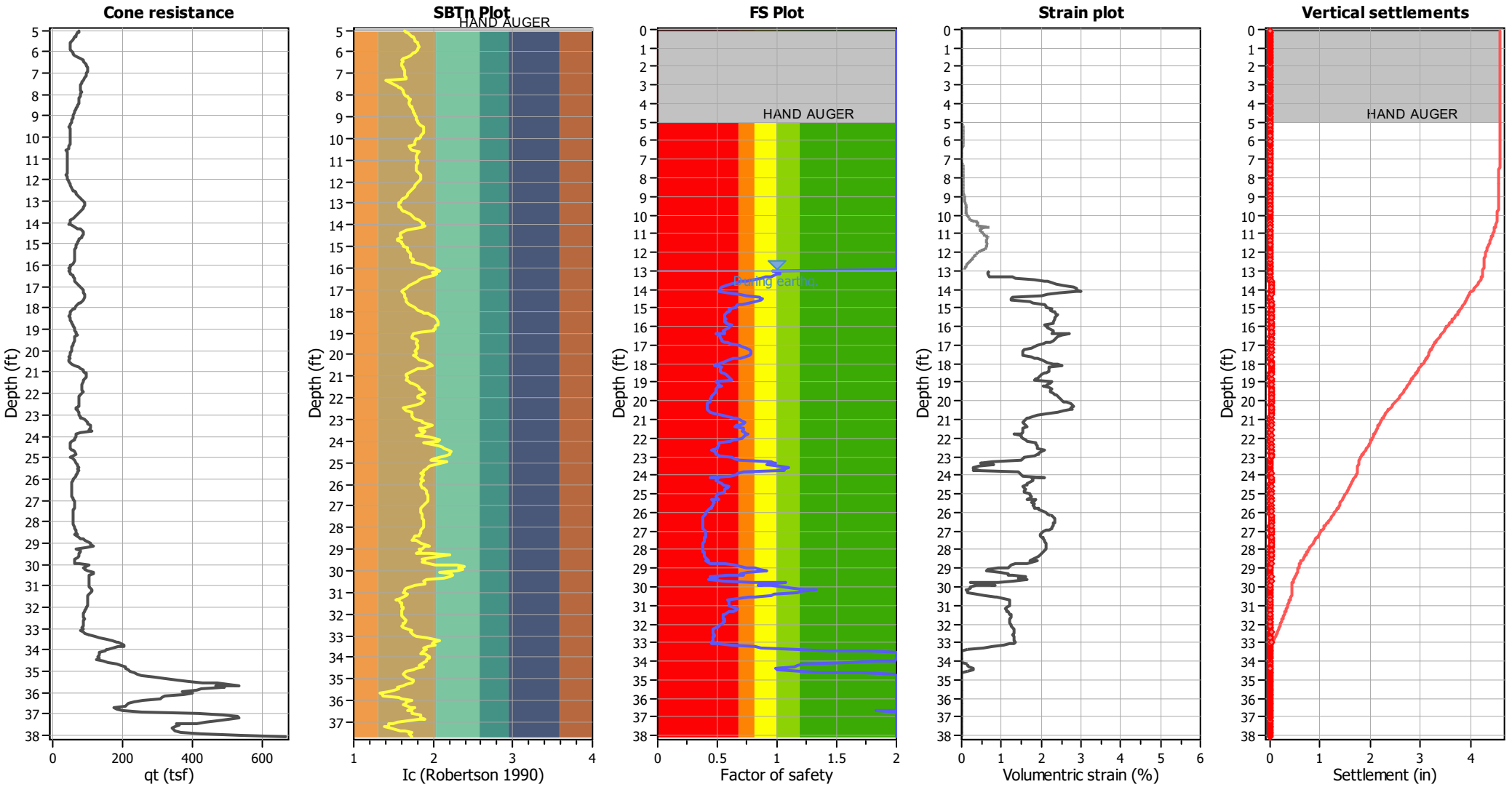
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained	4. Clayey silt to silty	7. Gravely sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

Estimation of post-earthquake settlements

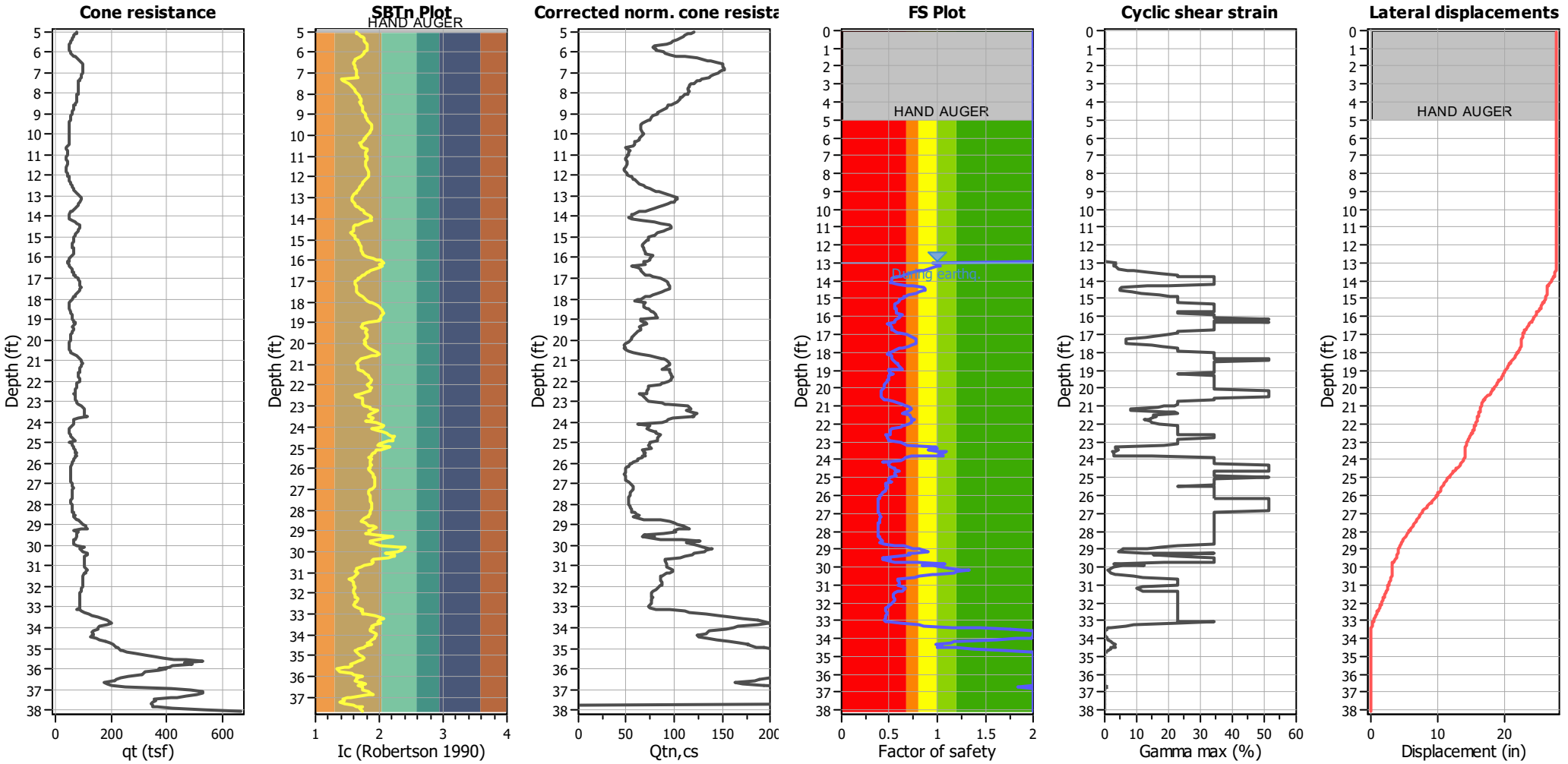


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

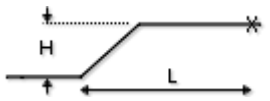
Geometric parameters: Level ground (or gently sloping) with free face (L: 380.00 ft - H: 14.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



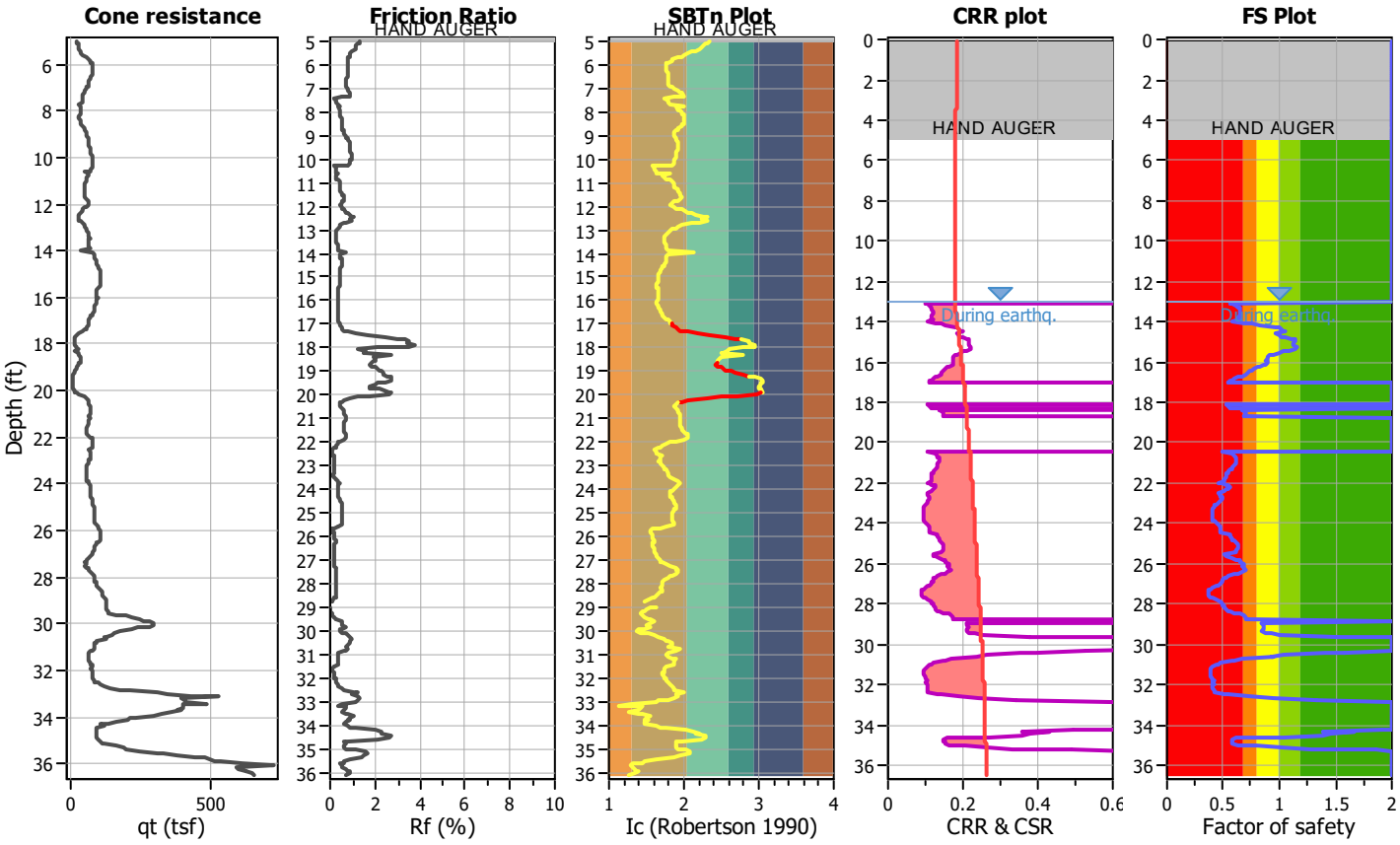
LIQUEFACTION ANALYSIS REPORT

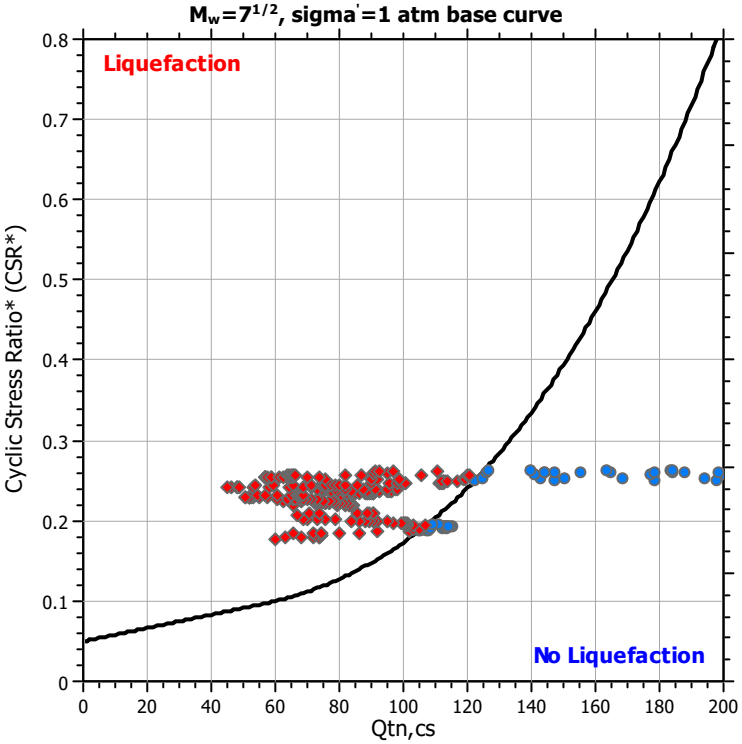
Project title : City Ventures Santee 3 **Location : Santee, California**

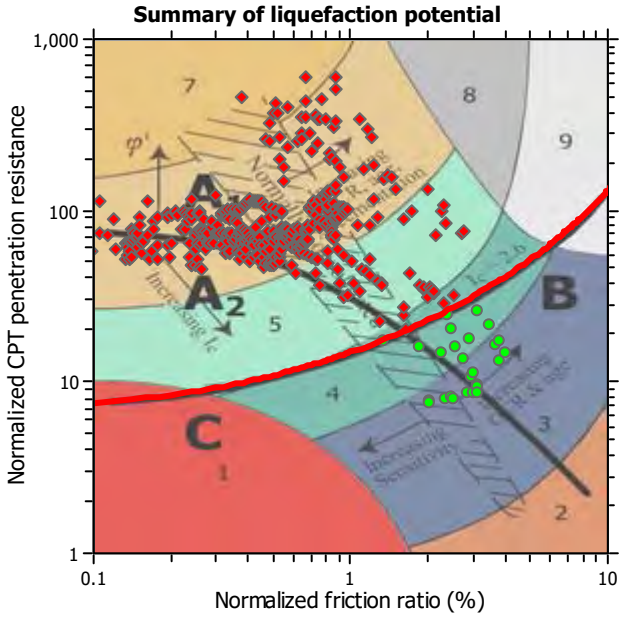
CPT file : CPT-11

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

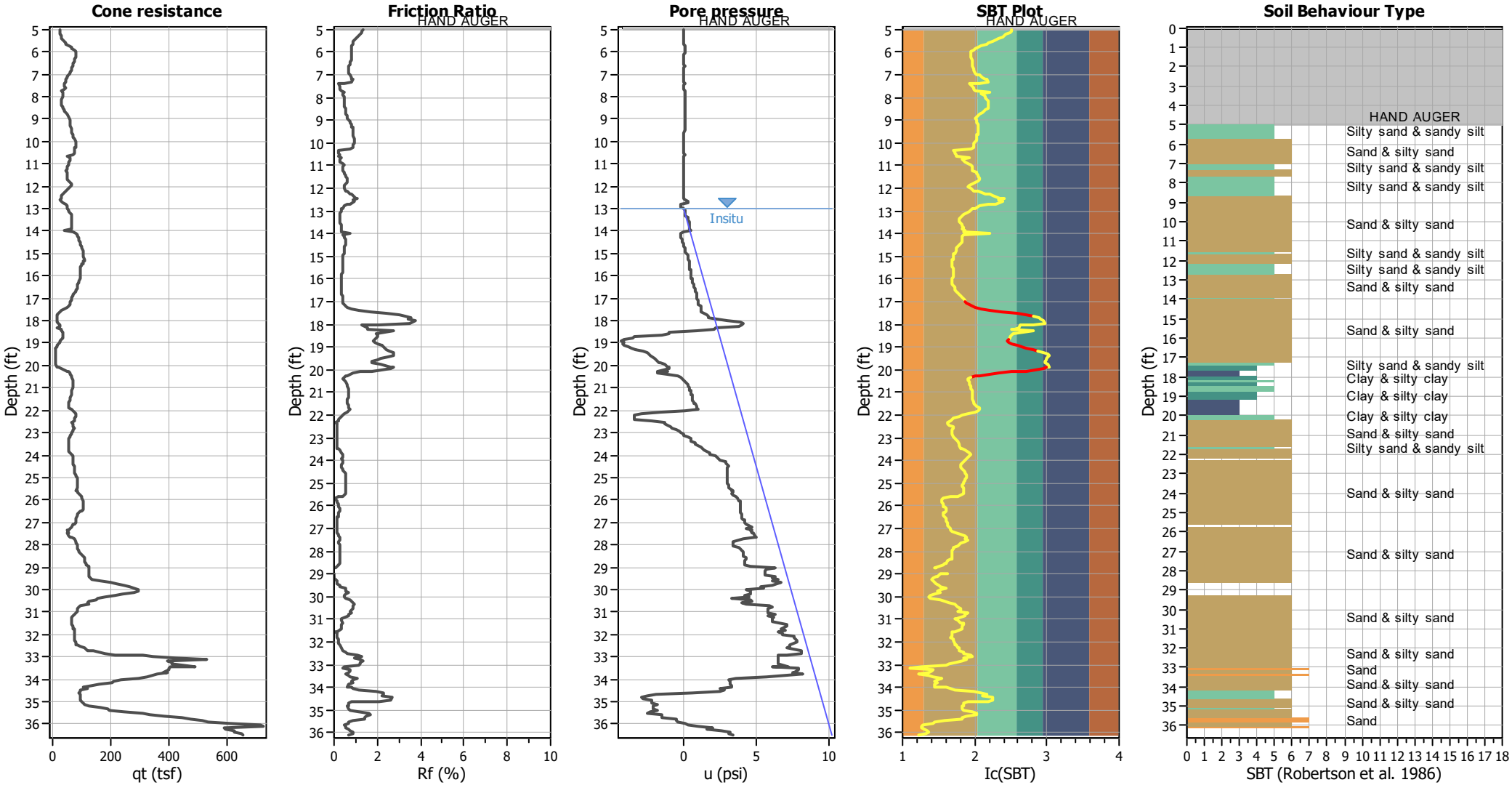






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



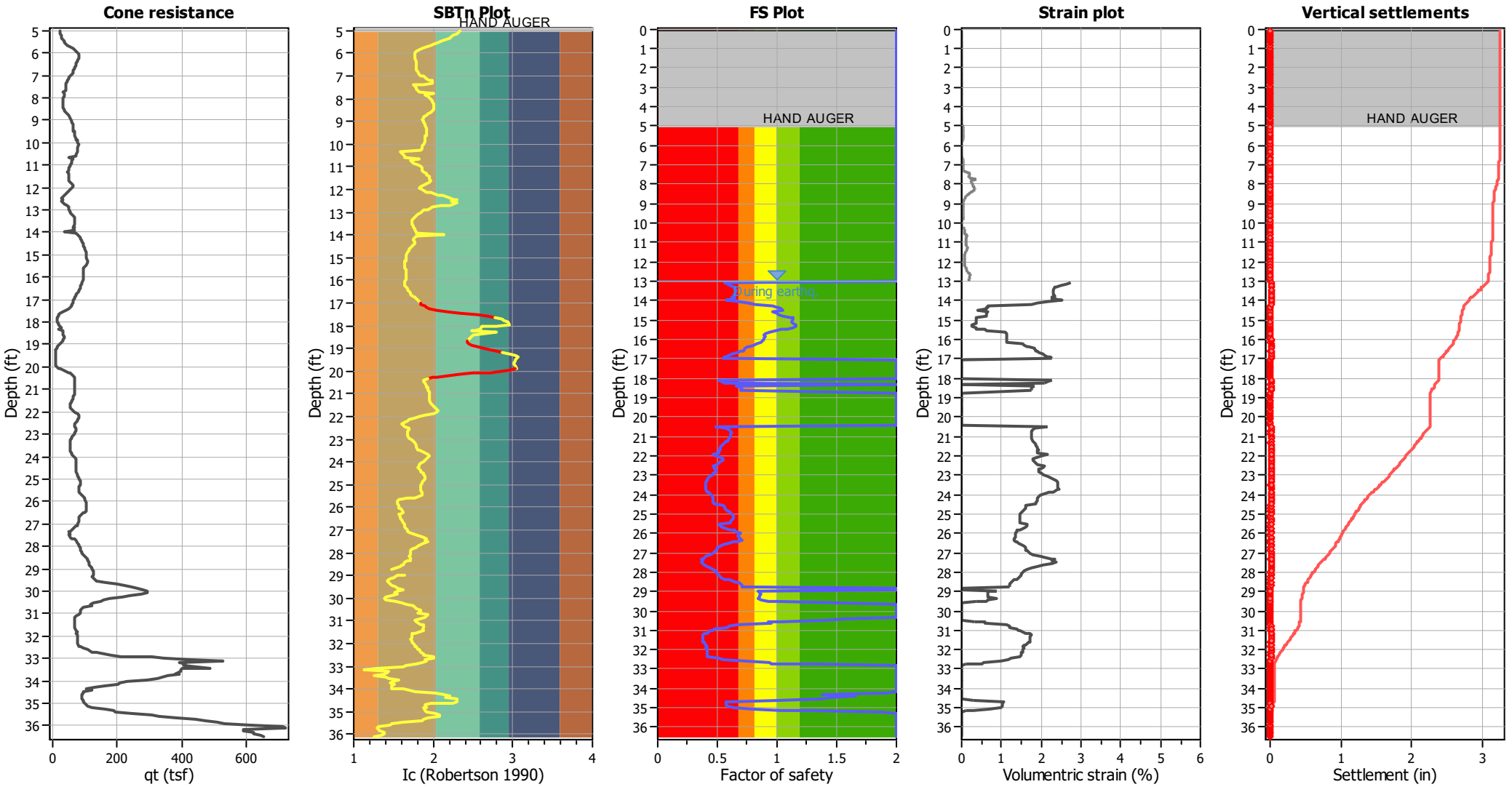
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

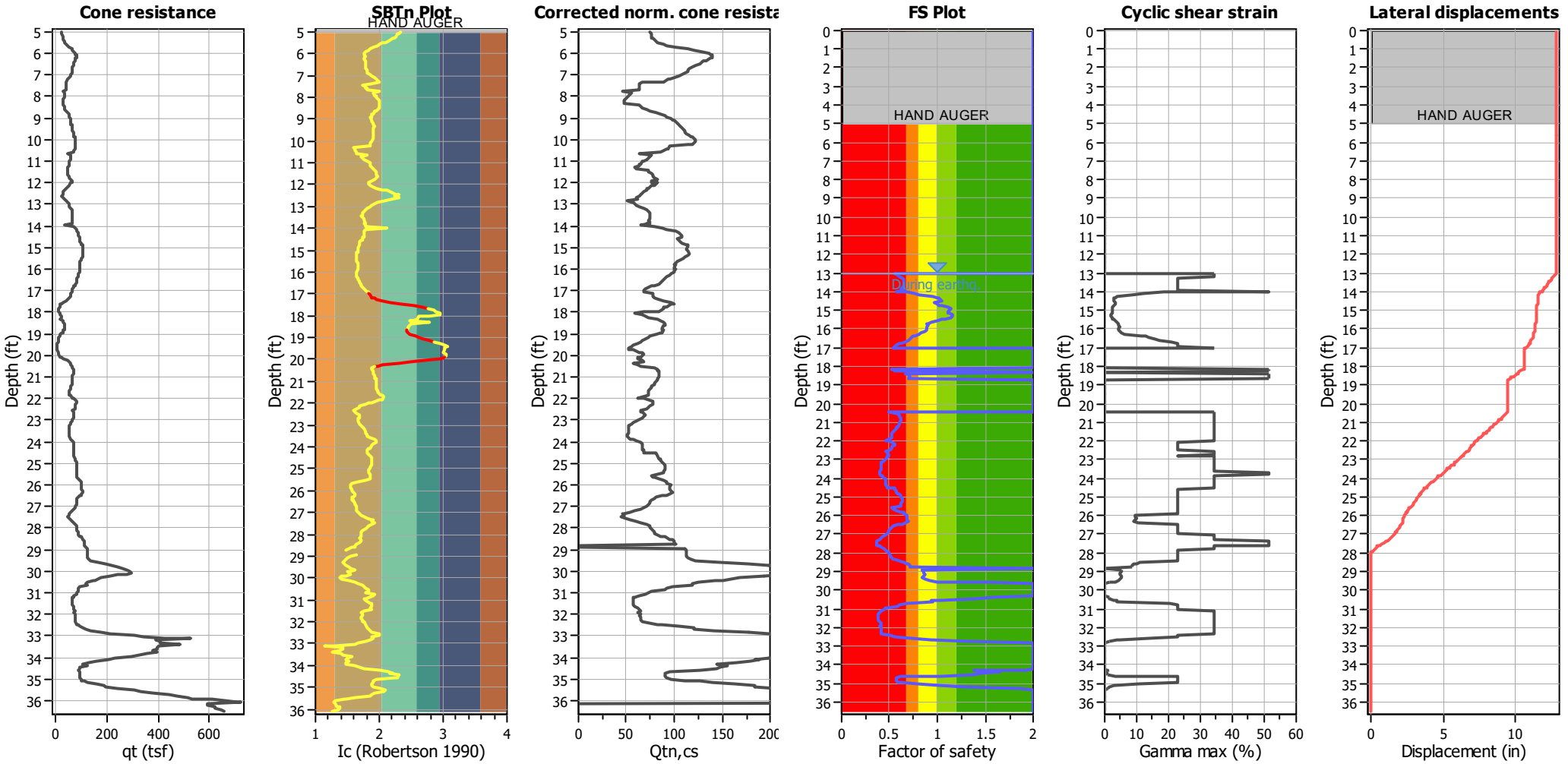


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

Geometric parameters: Level ground (or gently sloping) with free face (L: 480.00 ft - H: 14.00 ft)



Abbreviations

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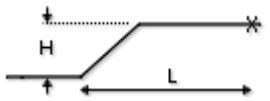
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



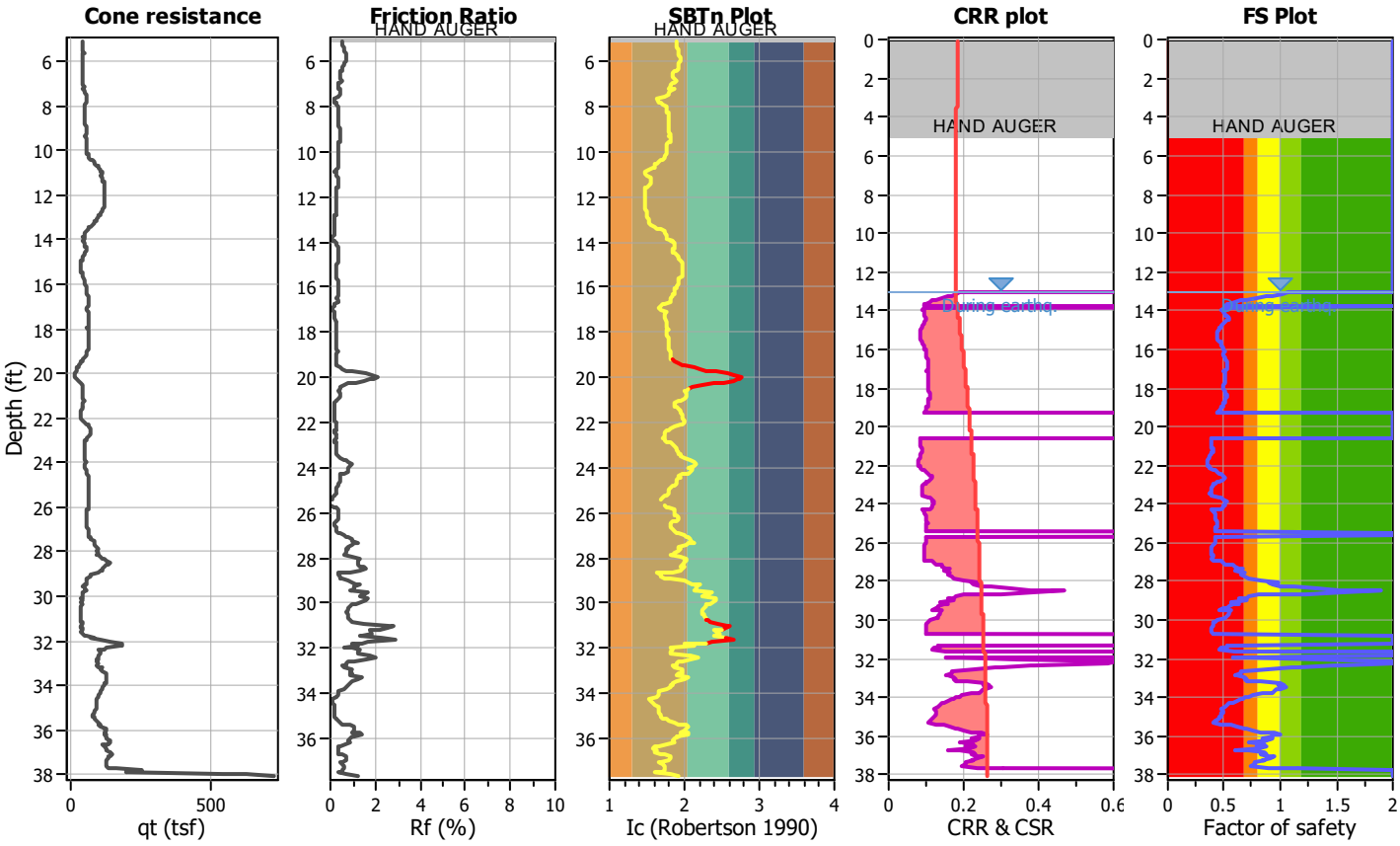
LIQUEFACTION ANALYSIS REPORT

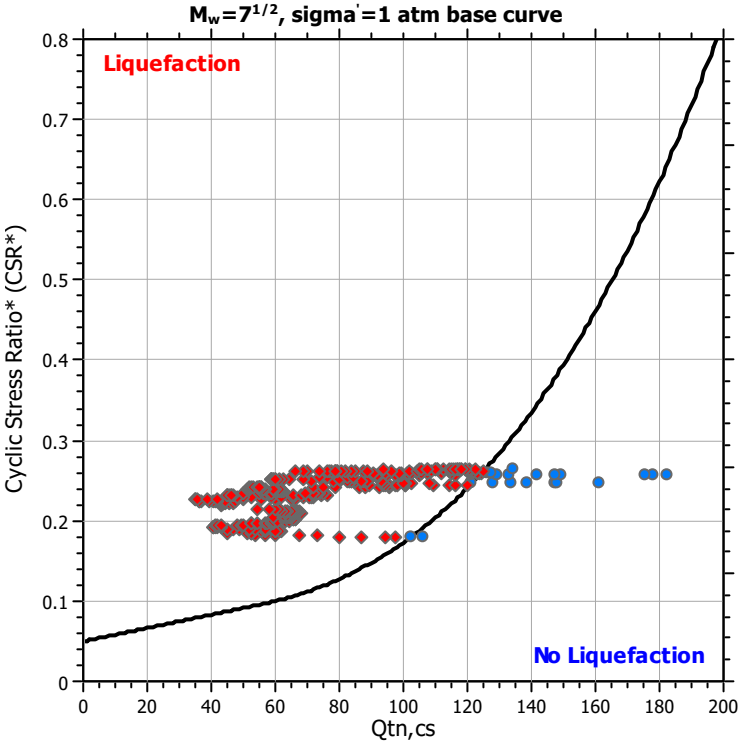
Project title : City Ventures Santee 3 **Location : Santee, California**

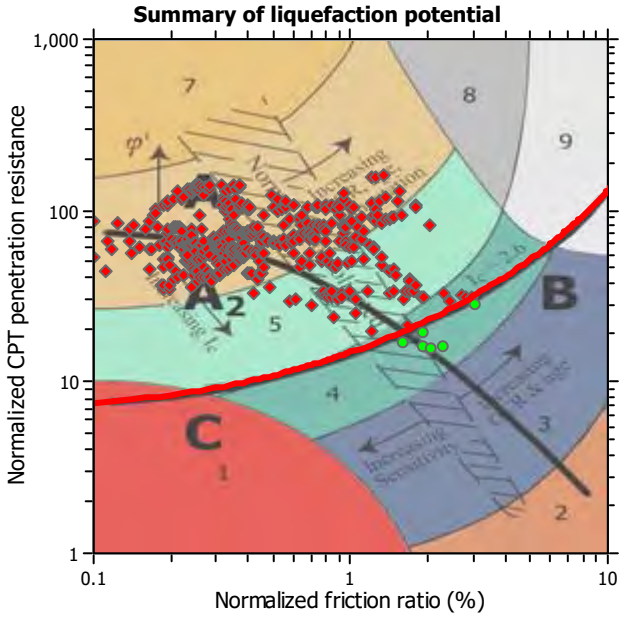
CPT file : CPT-12

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

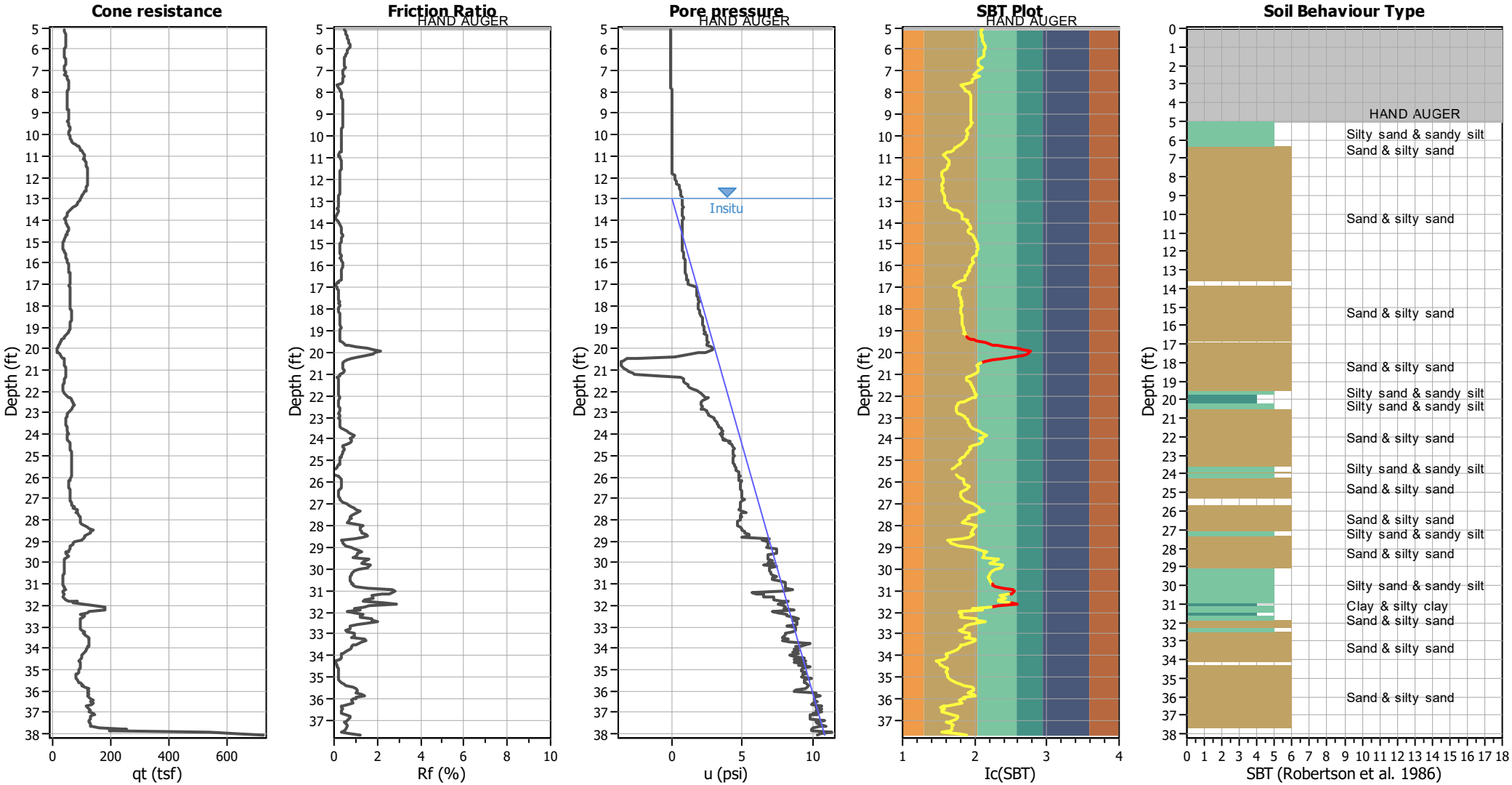






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



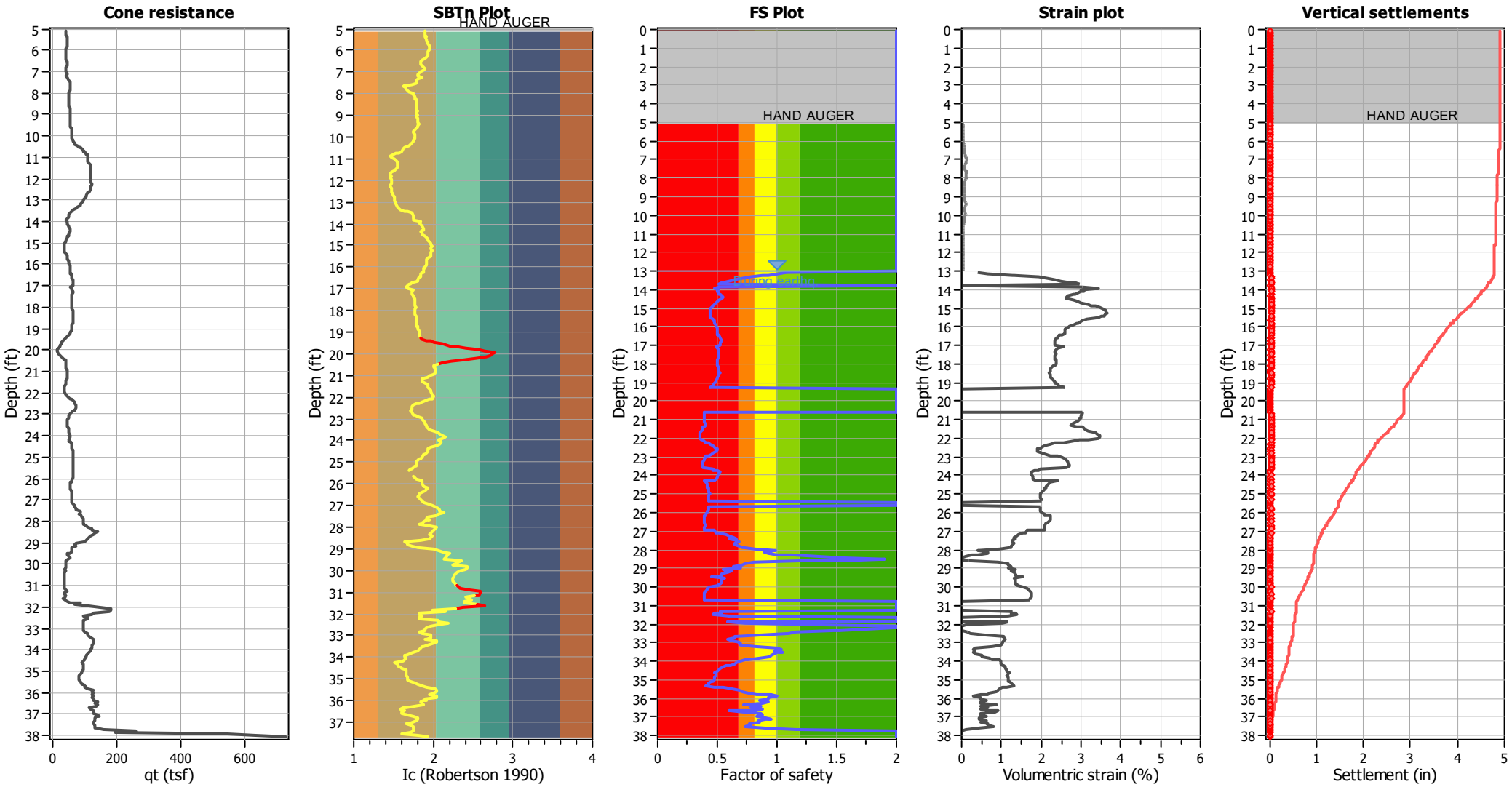
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements

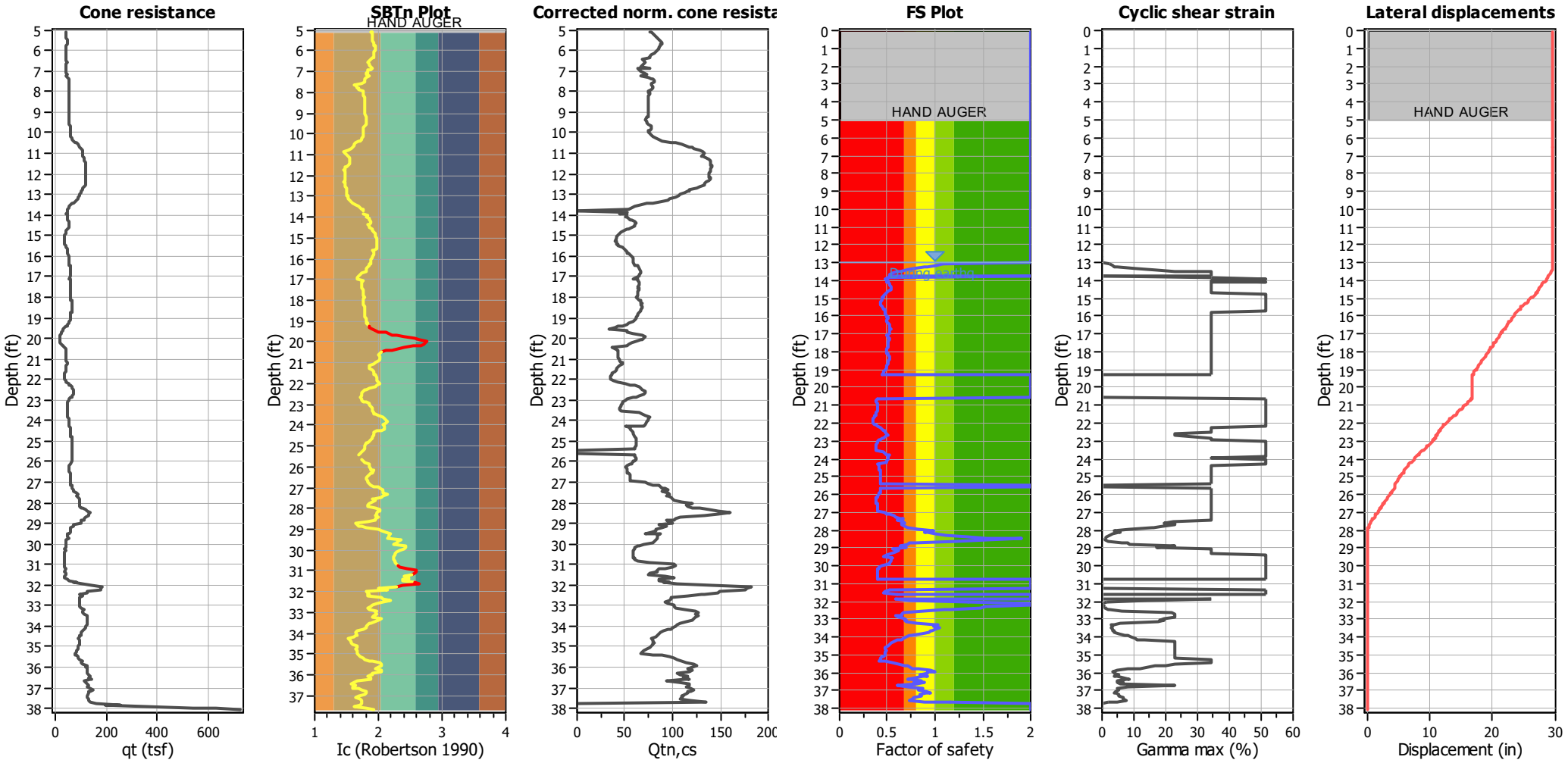


Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

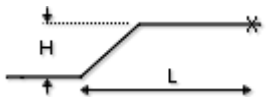
Geometric parameters: Level ground (or gently sloping) with free face (L: 320.00 ft - H: 14.00 ft)



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition



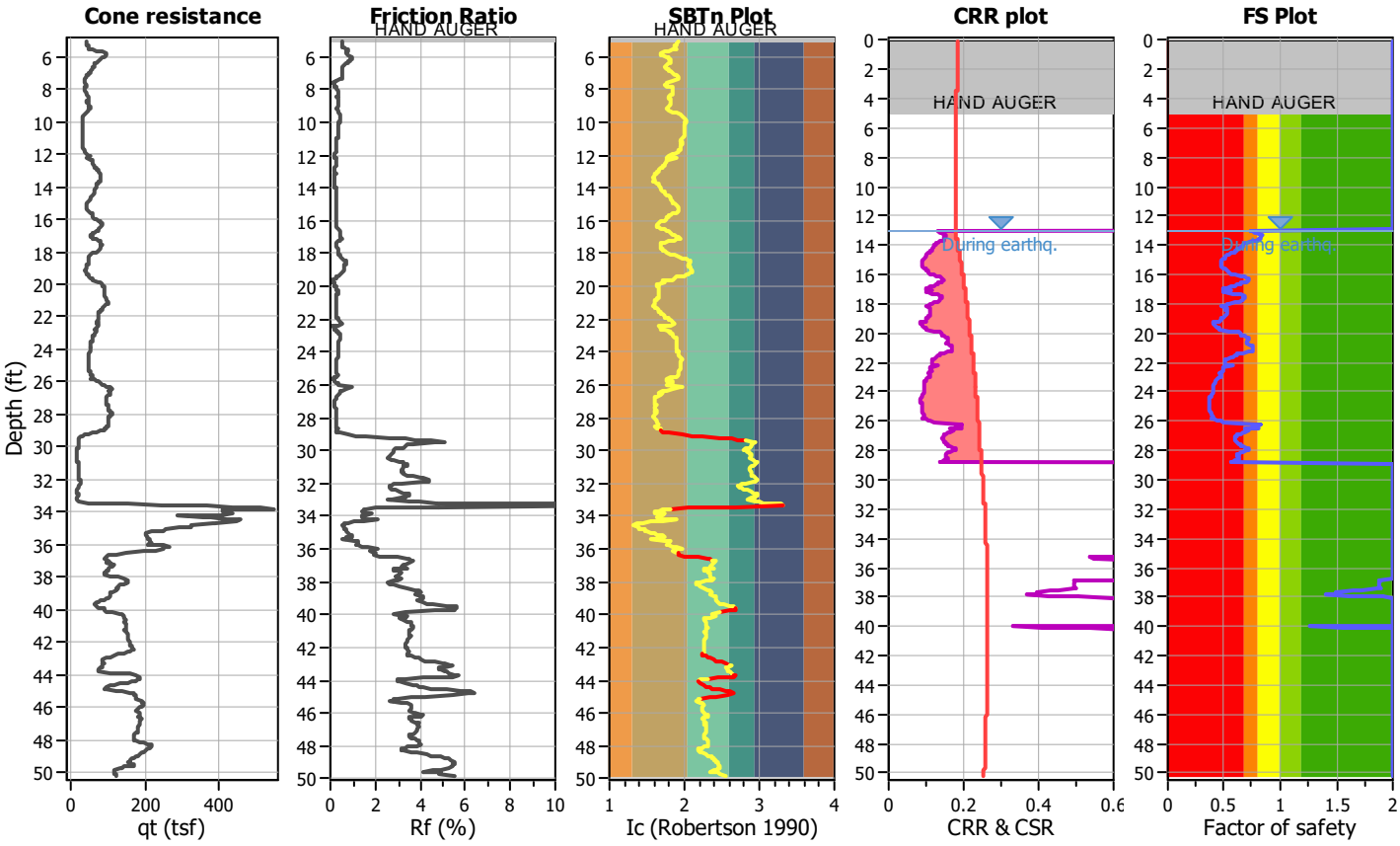
LIQUEFACTION ANALYSIS REPORT

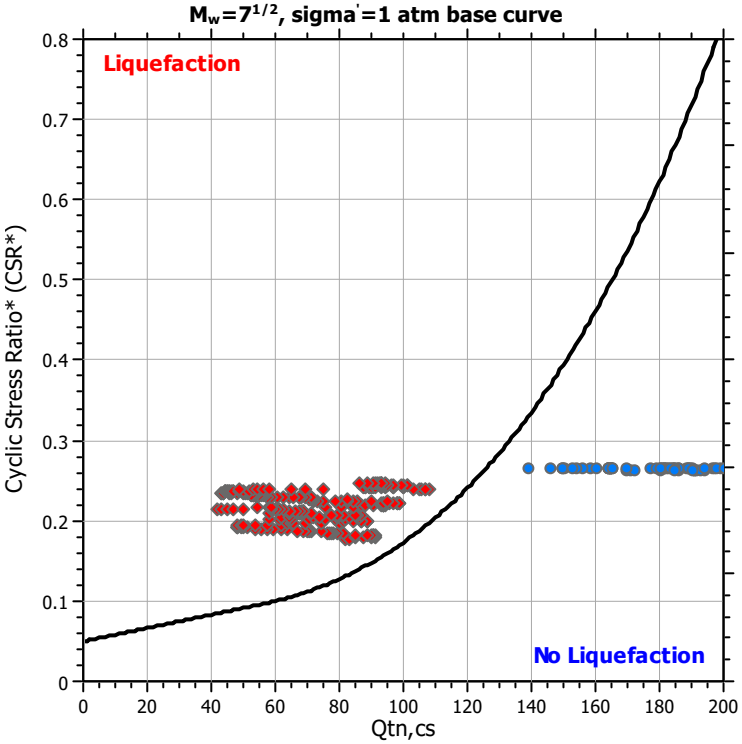
Project title : City Ventures Santee 3 **Location : Santee, California**

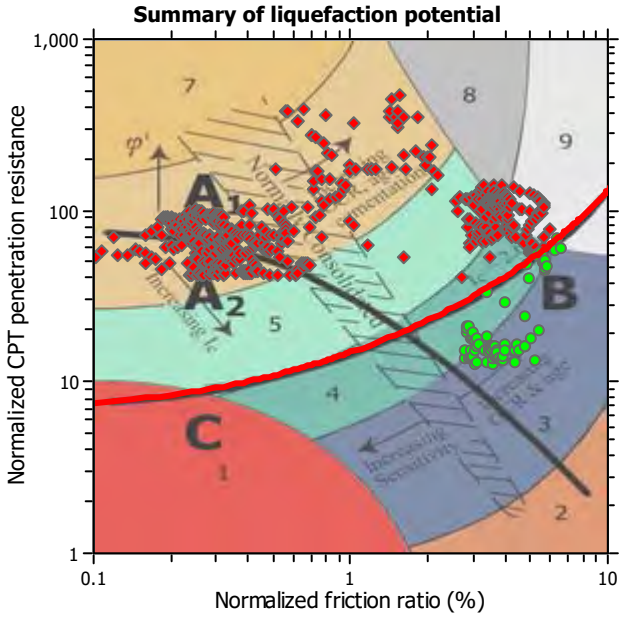
CPT file : CPT-13

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	13.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	13.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.41	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.42	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

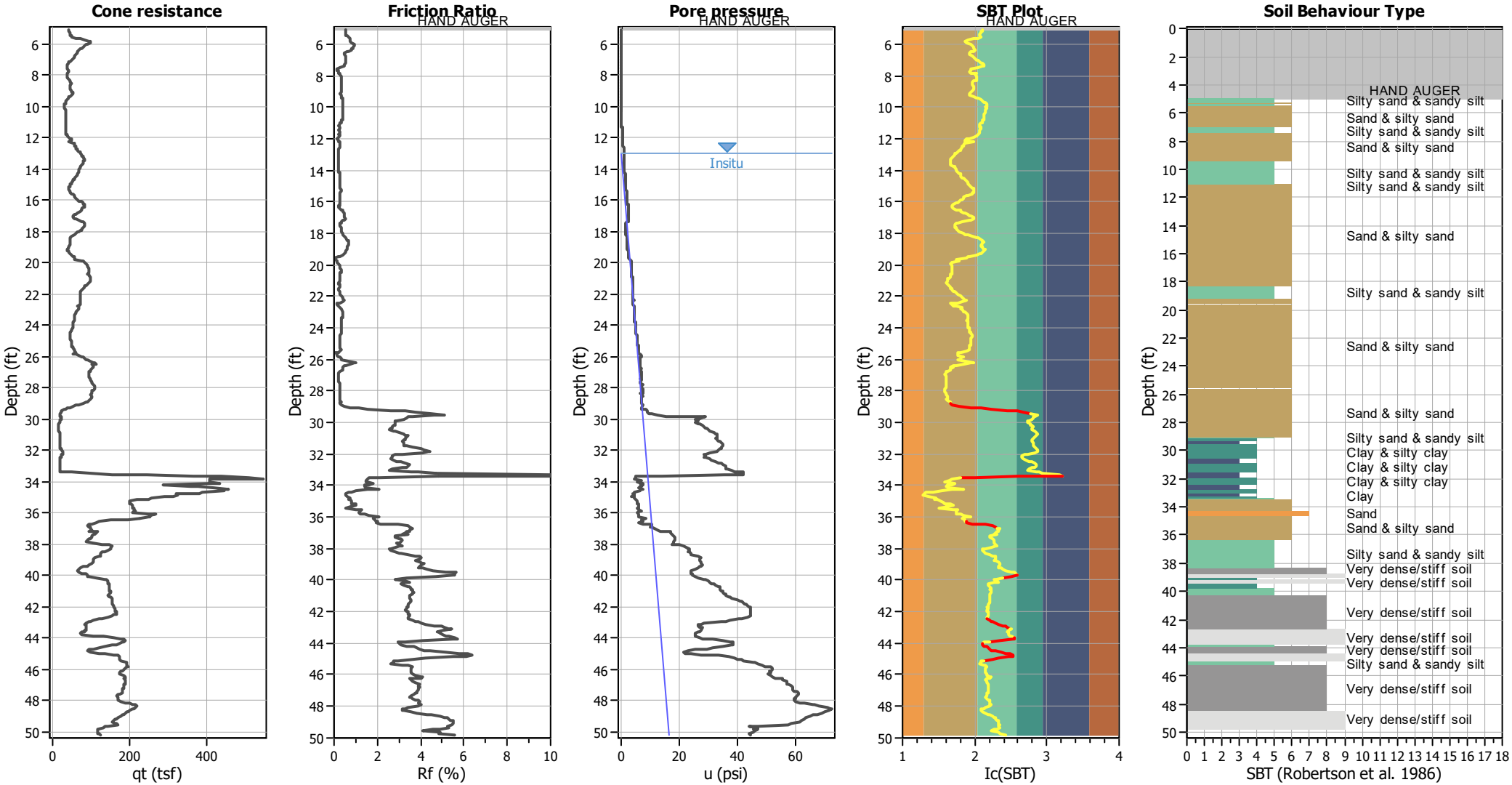






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



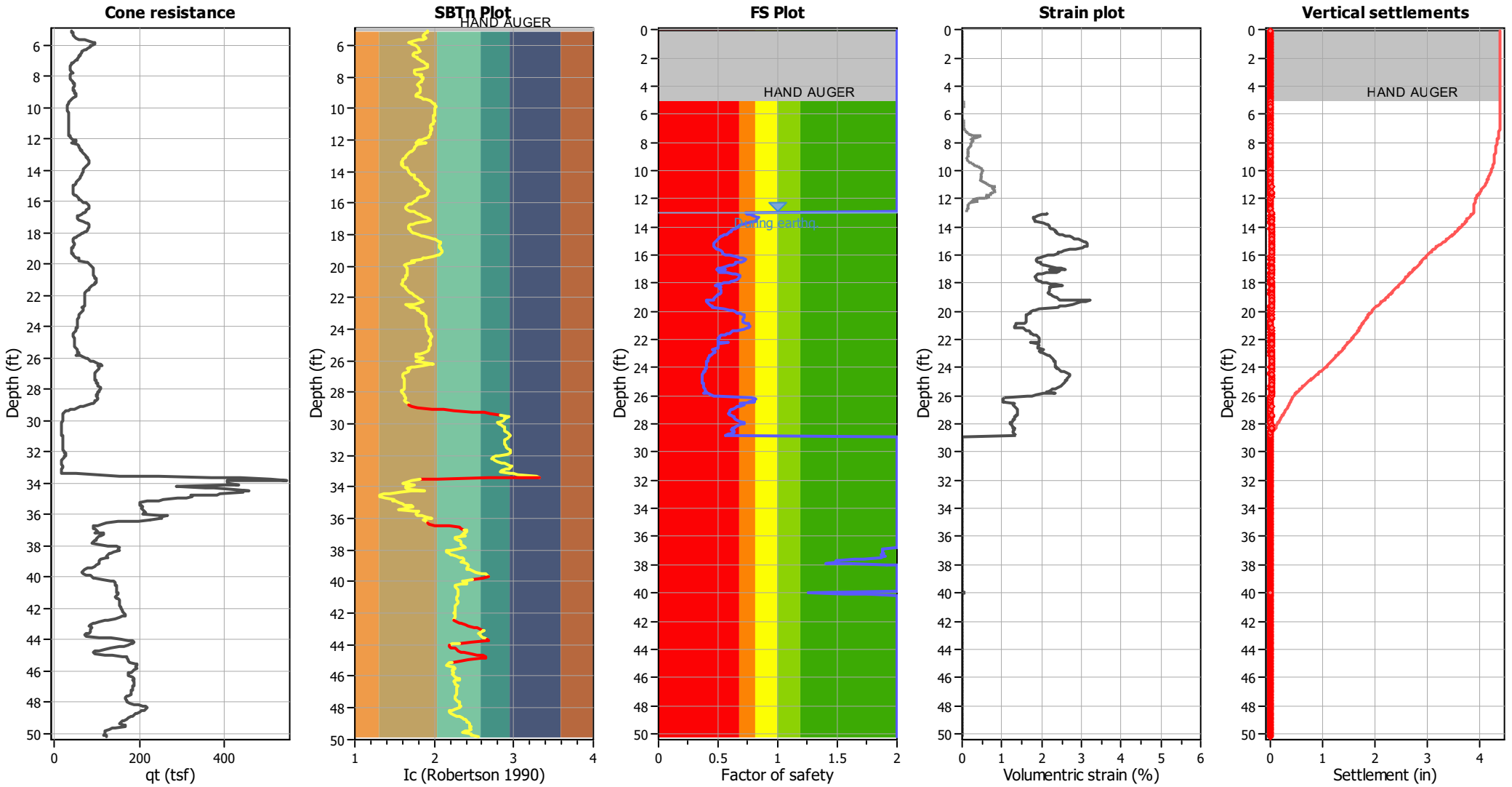
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	13.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.41	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.42	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	13.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Estimation of post-earthquake settlements



Abbreviations

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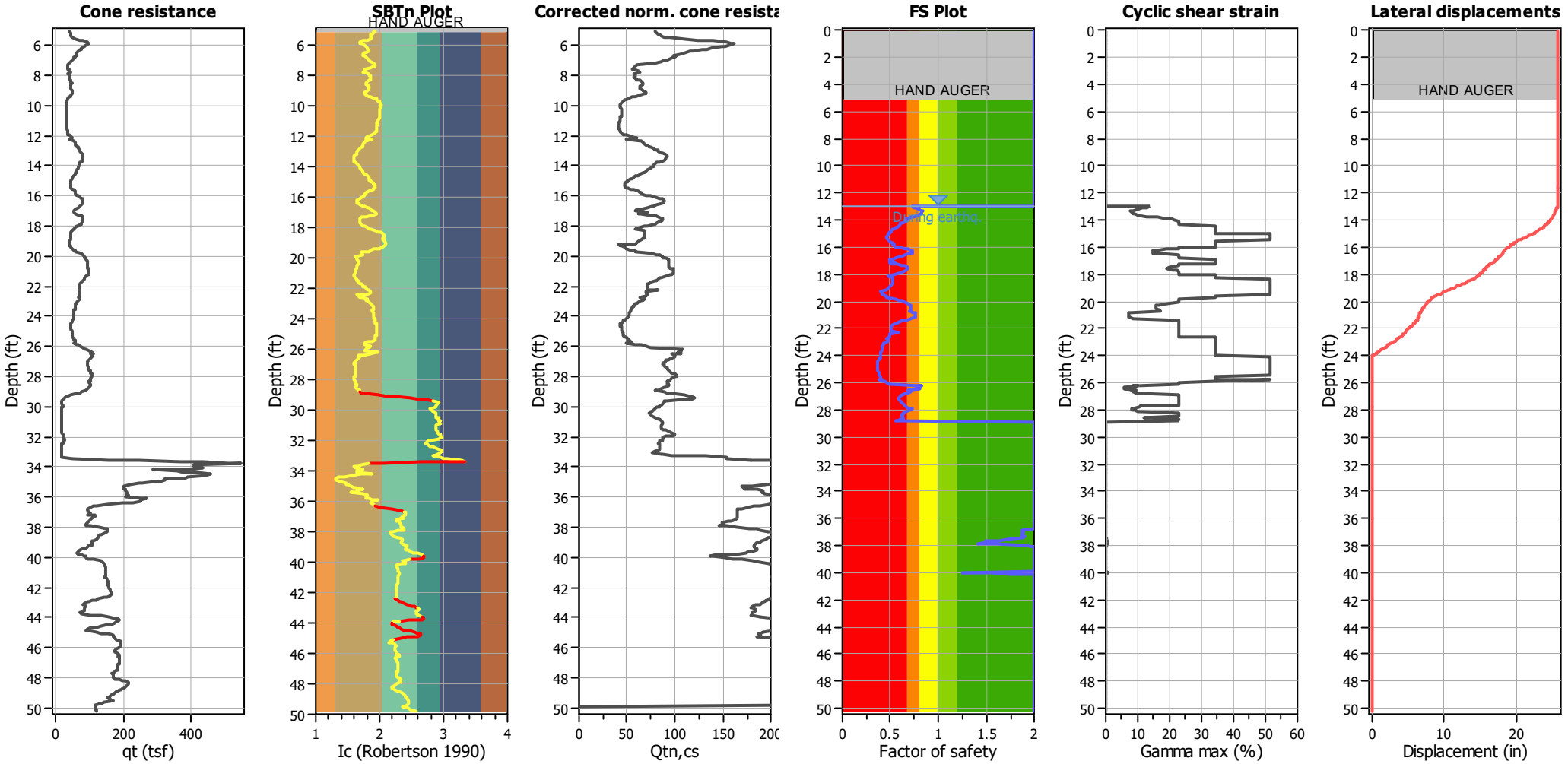
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

Estimation of post-earthquake lateral Displacements

Geometric parameters: Level ground (or gently sloping) with free face (L: 180.00 ft - H: 12.00 ft)



Abbreviations

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I_c: Soil Behaviour Type Index
$Q_{tn,cs}$: Equivalent clean sand normalized CPT total cone resistance
F.S.: Factor of safety
γ_{max}: Maximum cyclic shear strain
LDI: Lateral displacement index

Surface condition

APPENDIX E

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultants shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Overexcavation

In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant

prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field-tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 Safety

The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations.

7.2 Bedding and Backfill

All bedding and backfill of utility trenches shall be performed in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified. Backfill shall be placed and densified to a minimum of 90 percent of relative compaction from 1 foot above the top of the conduit to the surface.

The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

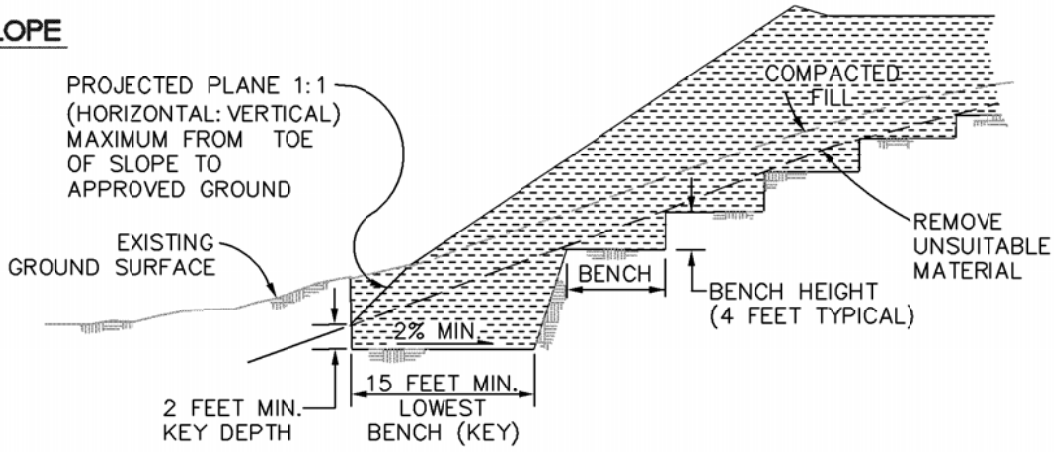
7.3 Lift Thickness

Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

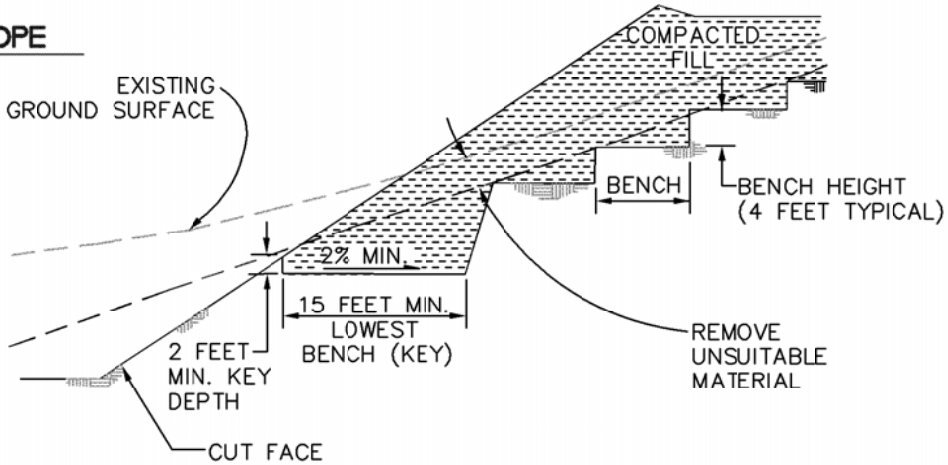
7.4 Observation and Testing

The densification of the bedding around the conduits shall be observed by the Geotechnical Consultant.

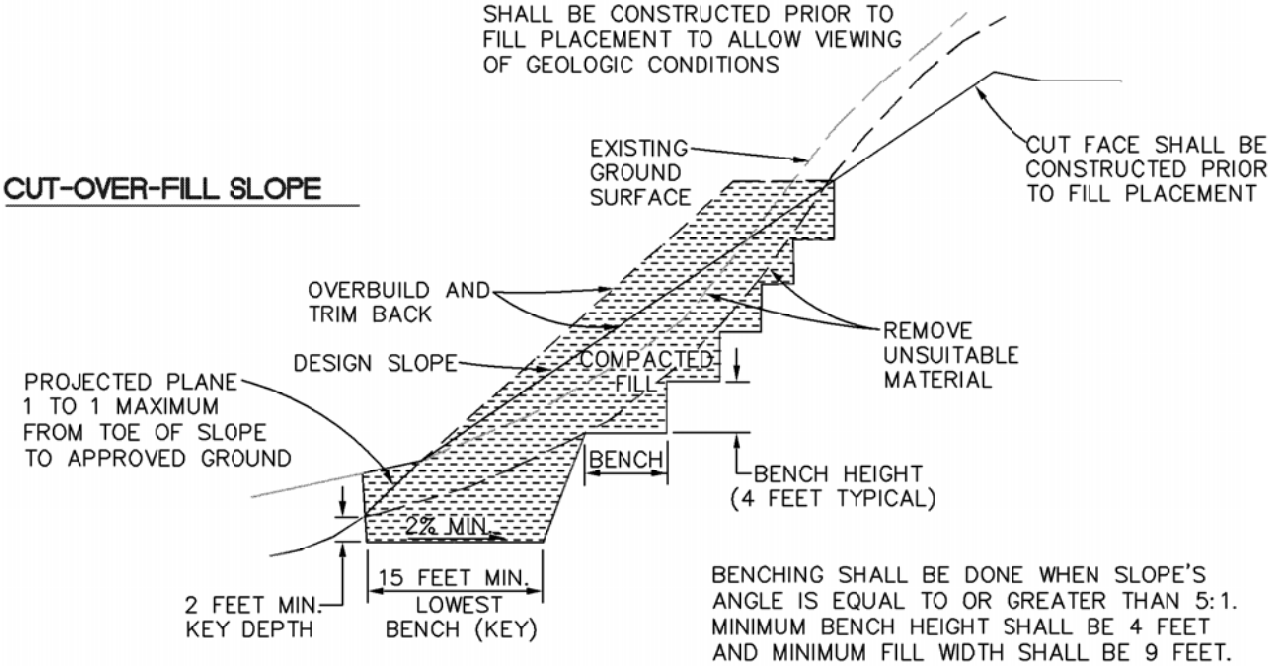
FILL SLOPE



FILL-OVER-CUT SLOPE



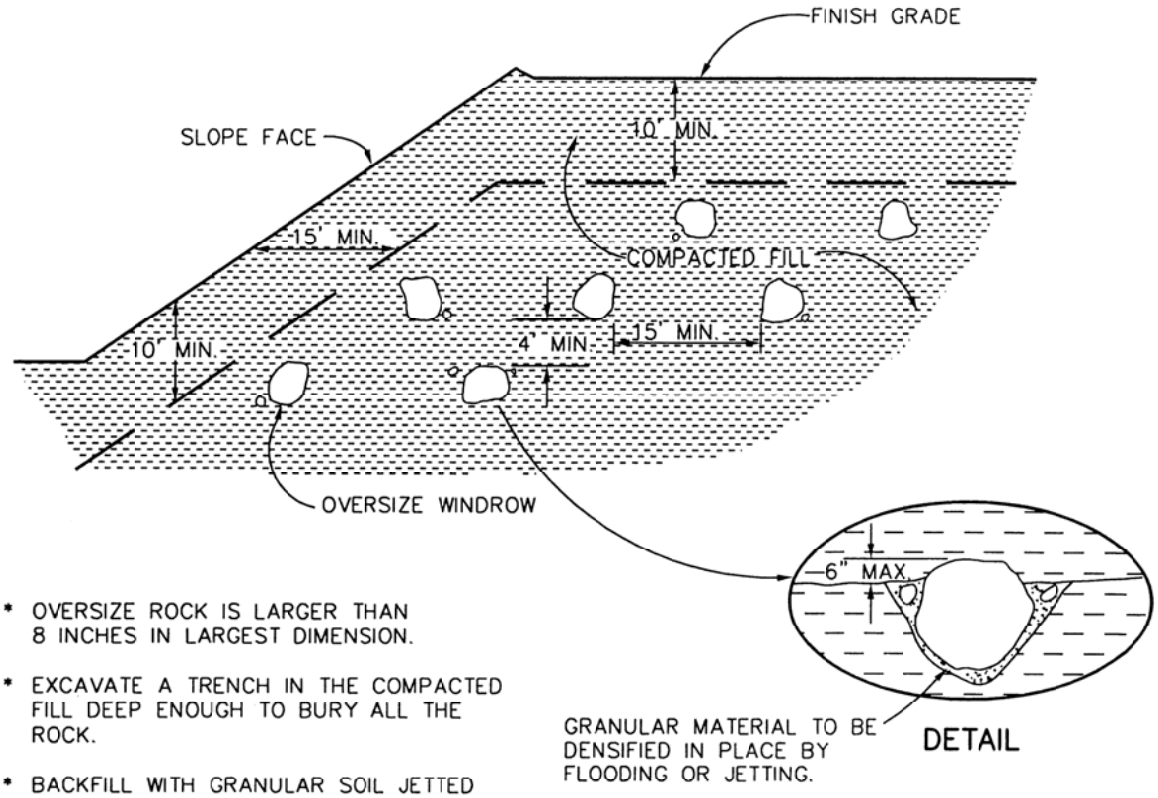
CUT-OVER-FILL SLOPE



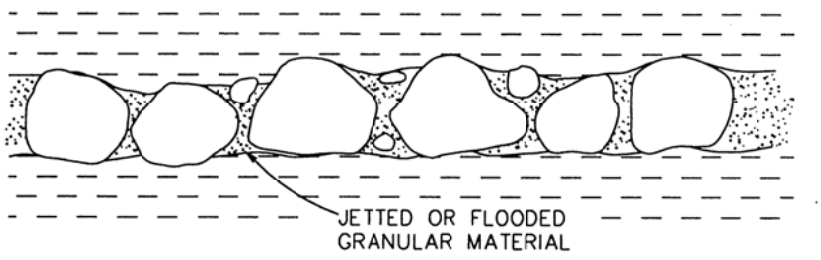
BENCHING SHALL BE DONE WHEN SLOPE'S ANGLE IS EQUAL TO OR GREATER THAN 5:1. MINIMUM BENCH HEIGHT SHALL BE 4 FEET AND MINIMUM FILL WIDTH SHALL BE 9 FEET.

KEYING AND BENCHING

GENERAL EARTHWORK AND
GRADING SPECIFICATIONS
STANDARD DETAIL A



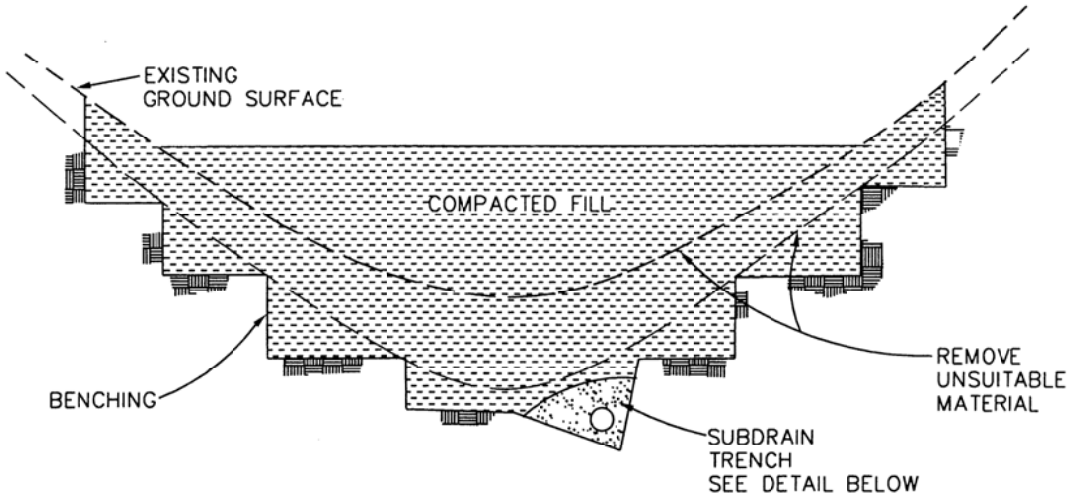
* OVERSIZE ROCK IS LARGER THAN 8 INCHES IN LARGEST DIMENSION.
* EXCAVATE A TRENCH IN THE COMPACTED FILL DEEP ENOUGH TO BURY ALL THE ROCK.
* BACKFILL WITH GRANULAR SOIL JETTED OR FLOODED IN PLACE TO FILL ALL THE VOIDS.
* DO NOT BURY ROCK WITHIN 10 FEET OF FINISH GRADE.
* WINDROW OF BURIED ROCK SHALL BE PARALLEL TO THE FINISHED SLOPE.

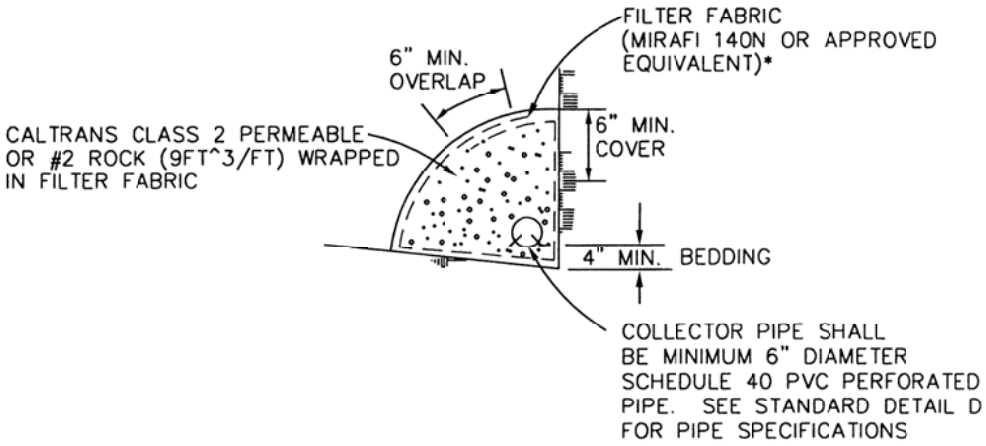


TYPICAL PROFILE ALONG WINDROW

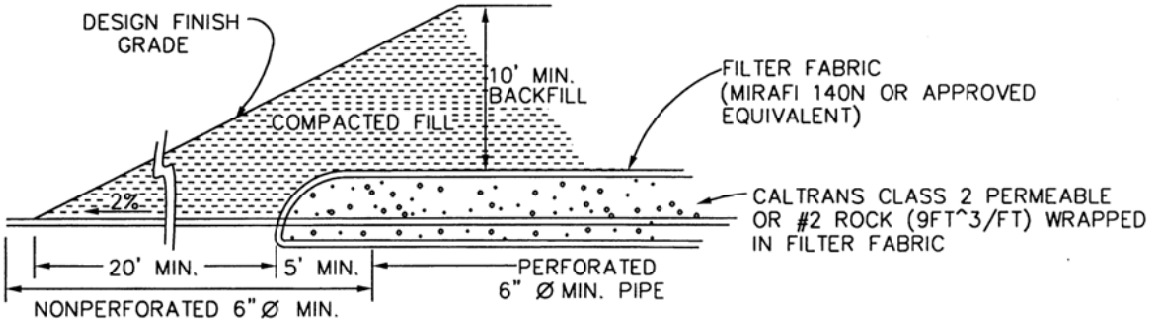
OVERSIZE ROCK DISPOSAL

GENERAL EARTHWORK AND GRADING SPECIFICATIONS
STANDARD DETAIL B





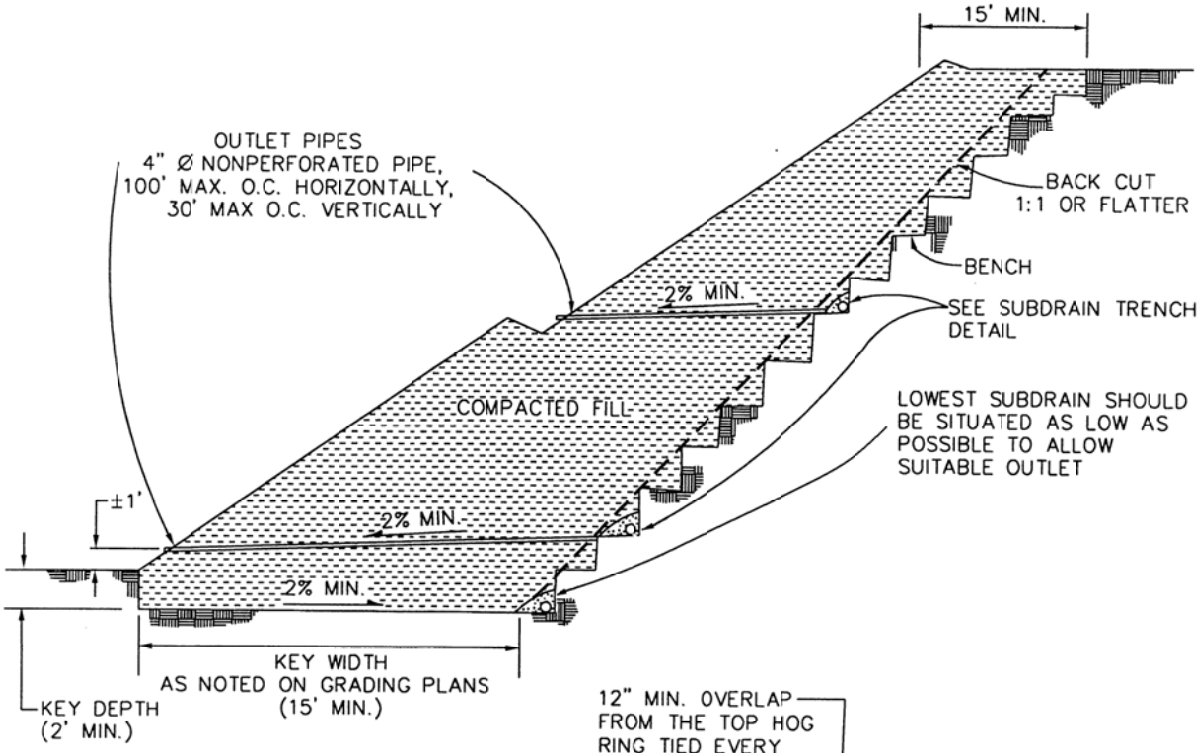
SUBDRAIN DETAIL

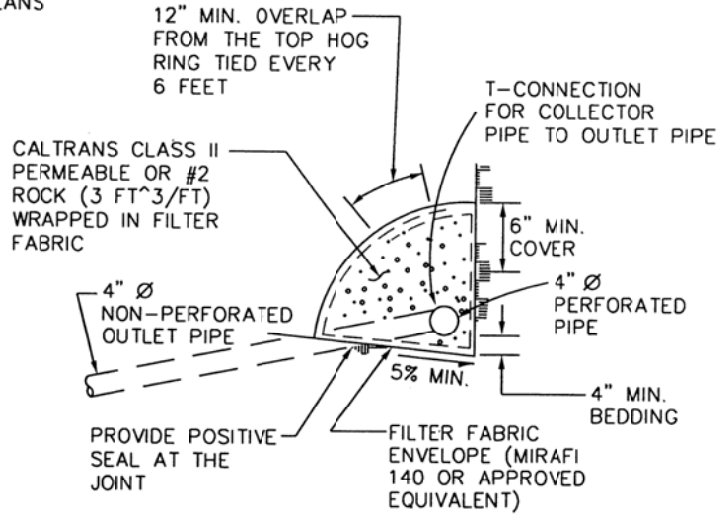


DETAIL OF CANYON SUBDRAIN OUTLET

CANYON SUBDRAINS

GENERAL EARTHWORK AND
GRADING SPECIFICATIONS
STANDARD DETAIL C





SUBDRAIN TRENCH DETAIL

SUBDRAIN INSTALLATION – subdrain collector pipe shall be installed with perforation down or, unless otherwise designated by the geotechnical consultant. Outlet pipes shall be non-perforated pipe. The subdrain pipe shall have at least 8 perforations uniformly spaced per foot. Perforation shall be 1/4" to 1/2" if drill holes are used. All subdrain pipes shall have a gradient of at least 2% towards the outlet.

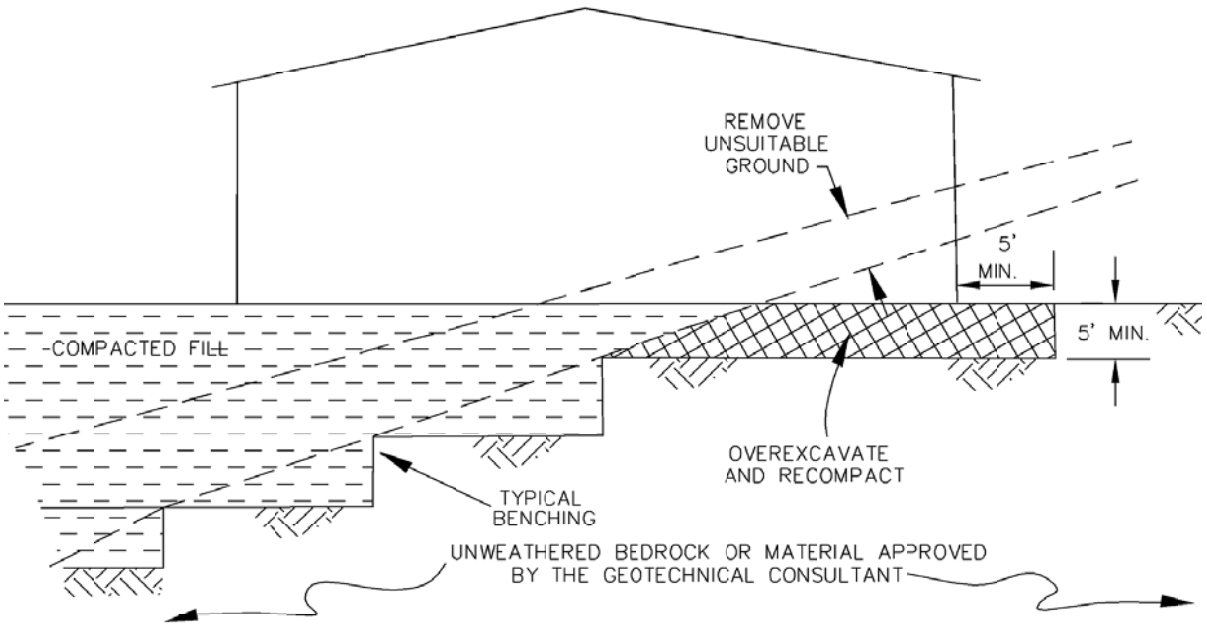
SUBDRAIN PIPE – Subdrain pipe shall be ASTM D2751, SDR 23.5 or ASTM D1527, Schedule 40, or ASTM D3034, SDR 23.5, Schedule 40 Polyvinyl Chloride Plastic (PVC) pipe.

All outlet pipe shall be placed in a trench no wider than twice the subdrain pipe.

BUTTRESS OR REPLACEMENT FILL SUBDRAINS

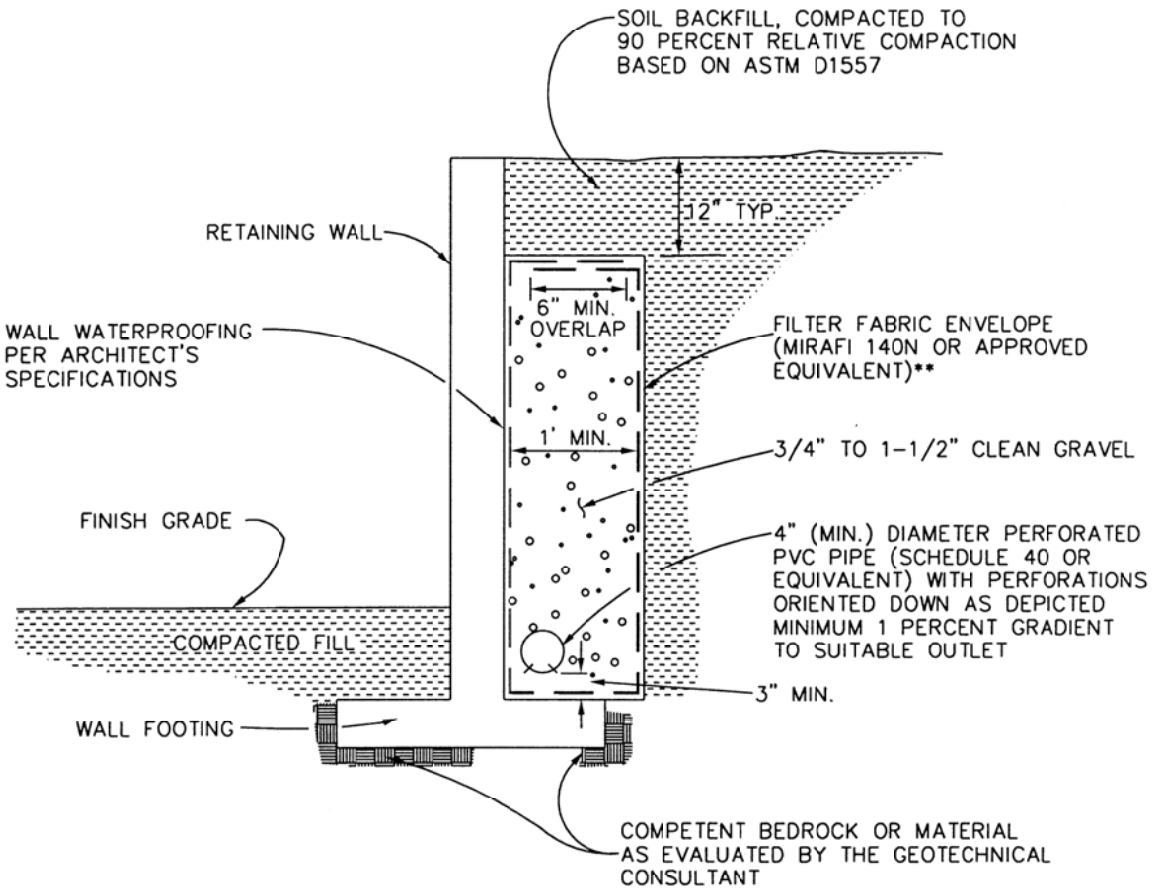
GENERAL EARTHWORK AND GRADING SPECIFICATIONS
STANDARD DETAIL D

CUT–FILL TRANSITION LOT OVEREXCAVATION



TRANSITION LOT FILLS

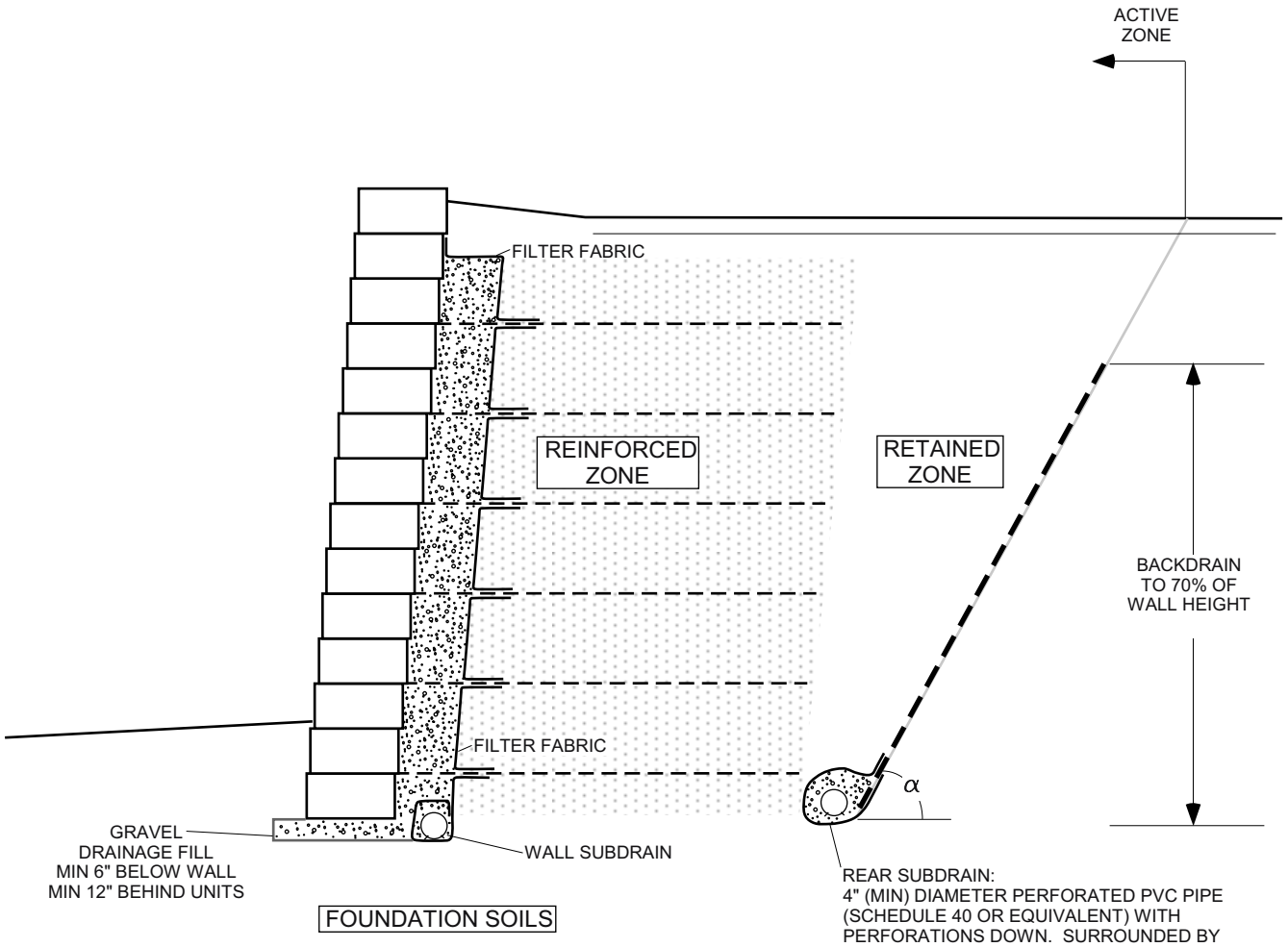
GENERAL EARTHWORK AND
GRADING SPECIFICATIONS
STANDARD DETAIL E



NOTE: UPON REVIEW BY THE GEOTECHNICAL CONSULTANT, COMPOSITE DRAINAGE PRODUCTS SUCH AS MIRADRAIN OR J-DRAIN MAY BE USED AS AN ALTERNATIVE TO GRAVEL OR CLASS 2 PERMEABLE MATERIAL. INSTALLATION SHOULD BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

RETAINING WALL DRAINAGE

GENERAL EARTHWORK AND GRADING SPECIFICATIONS
STANDARD DETAIL F



NOTES:

1) MATERIAL GRADATION AND PLASTICITY

REINFORCED ZONE:

SIEVE SIZE	% PASSING
1 INCH	100
NO. 4	20-100
NO. 40	0-60
NO. 200	0-35

GRAVEL DRAINAGE FILL:

SIEVE SIZE	% PASSING
1 INCH	100
3/4 INCH	75-100
NO. 4	0-60
NO. 40	0-50
NO. 200	0-5

FOR WALL HEIGHT < 10 FEET, PLASTICITY INDEX < 20
FOR WALL HEIGHT 10 TO 20 FEET, PLASTICITY INDEX < 10
FOR TIERED WALLS, USE COMBINED WALL HEIGHTS
WALL DESIGNER TO REQUEST SITE-SPECIFIC CRITERIA FOR WALL HEIGHT > 20 FEET

2) CONTRACTOR TO USE SOILS WITHIN THE RETAINED AND REINFORCED ZONES THAT MEET THE STRENGTH REQUIREMENTS OF WALL DESIGN.

3) GEOGRID REINFORCEMENT TO BE DESIGNED BY WALL DESIGNER CONSIDERING INTERNAL, EXTERNAL, AND COMPOUND STABILITY.

3) GEOGRID TO BE PRETENSIONED DURING INSTALLATION.

4) IMPROVEMENTS WITHIN THE ACTIVE ZONE ARE SUSCEPTIBLE TO POST-CONSTRUCTION SETTLEMENT. ANGLE $\alpha = 45+\phi/2$, WHERE ϕ IS THE FRICTION ANGLE OF THE MATERIAL IN THE RETAINED ZONE.

5) BACKDRAIN SHOULD CONSIST OF J-DRAIN 302 (OR EQUIVALENT) OR 6-INCH THICK DRAINAGE FILL WRAPPED IN FILTER FABRIC. PERCENT COVERAGE OF BACKDRAIN TO BE PER GEOTECHNICAL REVIEW.

SEGMENTAL RETAINING WALLS

GENERAL EARTHWORK AND GRADING SPECIFICATIONS
STANDARD DETAIL G

Appendix D-2
Geotechnical Investigation

ALTA CALIFORNIA
GEOTECHNICAL INC.

170 North Maple Street, Suite 108
Corona, CA 92880
www.altageotechnical.com

CITY VENTURES
3121 Michelson Drive, Suite 150
Irvine, California 92612

January 29, 2025
Project No. 1-0572

Attention: Mr. Michael You

Subject: ***GEOTECHNICAL INVESTIGATION***
Southwest of Cottonwood Avenue and Park Center Drive,
City of Santee, San Diego County, California

References: See Appendix

Dear Mr. You:

Alta California Geotechnical, Inc. (Alta) is pleased to present this geotechnical investigation for the proposed development of the subject site located southwest of Cottonwood Avenue and Park Center Drive in the City of Santee, San Diego County, California. This report is based upon a recent subsurface investigation conducted by Alta and others, laboratory testing, a review of published geologic maps, and Alta's staff's experience with similar projects in this vicinity.

Alta's review of the data indicates that the proposed development is feasible, from a geotechnical perspective, provided that the recommendations presented in this report are incorporated into the grading and improvement plans and implemented during site development.

Included in this report are:

- Discussion of the site geotechnical conditions.
- Recommendations for remedial and site grading, including unsuitable soil removals and rock disposal.
- Geotechnical site construction recommendations.
- Preliminary foundation design parameters.

If you have any questions or should you require any additional information, please contact the undersigned at (951) 509-7090. Alta appreciates the opportunity to provide geotechnical consulting services for your project.

Sincerely,
Alta California Geotechnical, Inc.

LOGAN A. MARQUETTE
Civil Engineering Associate

YOUSSEF F. HIJAZI
Engineering Geology Associate

Reviewed By:

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Certified Engineering Geologis
Manager of Geologic Services

Distribution: (1) Addressee

LAM:YFH: SAG: FJE: eg-1-0572, January 29, 2025 (Geotechnical Investigation, Cottonwood & Park Center, Santee)

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APPENDIX D – Liquefaction Analysis
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APPENDIX F – Earthwork Specifications
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1.0 INTRODUCTION

The following report presents Alta's findings, conclusions, and geotechnical recommendations for the proposed development located southwest of Cottonwood Avenue and Park Center Drive in the City of Santee, San Diego County, California.

1.1 Purpose

The purpose of this report is to examine the existing geotechnical conditions and evaluate their impacts on the proposed development depicted on the accompanying conceptual site plan. This report is suitable for submittal to governing agencies and for use as a bid document.

1.2 Scope of Work

Alta's Scope of Work for this geotechnical investigation included the following:

- Review of the referenced literature, maps, and aerial photos (Appendix A).
- Site geologic mapping.
- Excavating, logging, and sampling of four (4) hollow stem auger borings to a maximum depth of approximately 47.0 feet below existing grade (Appendix B).
- Conducting laboratory testing on samples obtained during our investigation (Appendix C).
- Performing an infiltration study with two (2) additional borings to depths of 10.0- and 5.0-ft bgs to provide an assessment of the infiltration characteristics of the onsite soils and their impact on storm water disposal.
- Review of the Preliminary Geotechnical Investigation, prepared by Leighton and Associates, Inc. (Leighton, 2024). Subsurface data prepared by Leighton is presented in Appendix B-1 and B-2; subsurface data referenced by Leighton is presented in Appendix B-3.
- Evaluating engineering geologic and geotechnical engineering data, including laboratory data, to develop recommendations for site remedial grading, import soil, foundations and utilities.
- Preparing this report and accompanying exhibits.

1.3 Report Limitations

The conclusions and recommendations presented in this report are based on the field and laboratory information generated during this investigation, and a review of the referenced reports. The materials adjacent to or beneath those observed may have different characteristics than those observed, and no representations are made as to the quality or extent of the materials not observed. The information contained in this report is intended to be used as a bid document and preliminary construction cost estimates.

2.0 PROJECT DESCRIPTION

2.1 Site Location and Existing Conditions

The irregular-shaped, approximately ±21.5-acre, site is relatively flat and sloping gently to the west. Six tall trees occupy the eastern portion of the site, and tall bushes occupy the majority of the northwestern edge. The site is bounded to the west by a park, to the north by a parking lot and vacant property, and to the south by a pond and the San Diego River. Historic aerial images are available as far back as 1953 and indicate the site was originally vacant. The site has remained unchanged since.

2.2 Proposed Development

Alta anticipates that the site will be developed into a single-family residential development consisting of 155 row homes and 136 townhomes. Alta anticipates that conventional cut-and-fill grading techniques will be used to develop the site for the support of wood-frame construction with shallow foundations and reinforced concrete slabs-on-grade, and associated improvements.

3.0 SITE INVESTIGATION

3.1 Current Subsurface Investigation

Alta conducted a subsurface investigation on January 6th of 2025, consisting of the drilling, logging, and select sampling of four (4) hollow-stem auger borings to a maximum depth of 47.0 feet below the ground surface. The locations of the exploratory excavations are shown on Plate 1 and the logs are presented in Appendix B.

Laboratory testing was performed on ring and bulk samples obtained during the field investigation. A brief description of the laboratory test procedures and the test results are presented in Appendix C.

3.2 Infiltration Testing

It is Alta's understanding that the project may utilize infiltration systems for storm water disposal. Details of the system are not known at this time.

Infiltration testing was undertaken using two (2) borings to depth of 10.0- and 5.0-ft bgs (P-1 and P-2). The testing was performed in general accordance with the County of San Diego Standards. The testing wells were presoaked at least 24 hours prior to testing. During testing, the water level readings were recorded every 30 to 10 minutes until the readings stabilized.

The data was then adjusted to provide an appropriate infiltration rate utilizing the Porchet Method. The resulting infiltration rates are presented in Table 3-1. The results do not include a factor of safety. Recommendations for infiltration BMP design are presented in Section 6.3.

Table 3-1 Summary of Infiltration Testing (No Factor of Safety)		
Test Designation	P-1	P-2
Approximate Depth of Test	10.0 ft	5.0 ft
Final Time Interval	10 minutes	10 minutes
Radius of Test Hole	4 inches	4 inches
Tested Infiltration Rate	15.6 in/hr	12.3 in/hr

3.3 Previous Subsurface Investigation

Law Crandall conducted a field investigation on April 6th, 1999 that included a boring within the subject site. The boring log is presented in Appendix B. Leighton and Associates, Inc., (Leighton) conducted a subsurface investigation on October 26, 2017 consisting of the excavation of seven (7) CPT soundings to a maximum depth of 51.5 feet below the ground surface. Leighton conducted an additional subsurface investigation on April 24, 2023 consisting of the excavation of six (6) CPT soundings to a maximum depth of 51.5 feet below the ground surface and the excavation of three (3) percolation tests borings to a max depth of 3.0 feet below the ground surface. The boring logs are presented in Appendix B, and the lab results are presented in Appendix C.

3.4 Previous Infiltration Testing

Infiltration testing was performed by Leighton utilizing percolation methods in accordance with County of San Diego Standards (Leighton, 2024). Measured percolation rates were converted to infiltration rates utilizing the Porchet method. The resulting field infiltration rates, with no factor of safety, are presented below in Table 3-2. Recommendations for infiltration BMP design are presented in Section 6.3.

Table 3-2 Summary of Infiltration Testing (With Factor of Safety)			
Test Designation	P-1	P-2	P-3
Approximate Depth of Test	3.0 ft	3.0 ft	3.0 ft
Measured Percolation Rate	1.1 min/in	0.95 min/in	1.0 min/in
Calculated Infiltration Rate	2.35 in/hr	3.04 in/hr	2.86 in/hr

4.0 GEOLOGIC CONDITIONS

4.1 Geologic and Geomorphic Setting

Regionally, the subject site is located in the Peninsular Ranges geomorphic province, which characterizes the southwest portion of Southern California where major right-lateral strike slip active fault zones predominately trend northwest-southeast. The Peninsular Ranges province is composed of plutonic and metamorphic rock, lesser amounts of Tertiary volcanic and sedimentary rock, and Quaternary drainage in-fills and minor sedimentary veneers. The Peninsular Ranges are further divisible into northwest-trending sub-blocks that extend south into Baja California and terminate to the north against the Transverse Ranges province.

4.2 Stratigraphy

Based on Alta's review of geologic literature and our subsurface investigation the site is underlain by young alluvial fan deposits. A description of the geologic units encountered are described below.

4.2.1 Young Alluvial Deposits (Map symbol Qya)

The young, Holocene age alluvial deposits observed onsite primarily consists of silty sand, sand, clayey sand, and a minor lense of clay. The very fine to coarse grained silty sand observed onsite ranges from brown, dark gray, and brownish dark gray in a dry to wet and loose to medium dense condition. The very fine to coarse grained sand observed onsite ranges from gray, brownish gray, and dark gray in a dry to slightly moist

and medium dense to very dense condition. The fine grained clayey sand onsite was observed to be yellowish gray in a slightly moist to moist and hard condition. The minor silty clay lens observed onsite is brown in a wet and firm condition. This unit was logged to a depth of 47.0 feet below the ground surface.

4.3 Geologic Structure

4.3.1 Tectonic Framework

Jennings (1985) defined eight structural provinces within California that have been classified by predominant regional fault trends and similar fold structure. These provinces are in turn divided into blocks and sub-blocks that are defined by "major Quaternary faults". These blocks and sub-blocks exhibit similar structural features. Within this framework, the subject site is located within Structural Province I, which is controlled by the dominant northwest trend of the San Andreas Fault and is divided into two blocks, the Coast Range Block and the Peninsular Range Block. The Peninsular Ranges Block, on which this site is located, is characterized by parallel, northwest trending faults that exhibit right lateral strike-slip movement. These faults are terminated by the Transverse Ranges block to the north and extend southward to the Baja Peninsula. These northwest trending faults divide the Peninsular Range block into eight sub-blocks. The subject site is located on the Santa Ana sub-block, one of eight sub-blocks, which is bound on the east by the Whittier-Elsinore fault zone and on the west by Newport-Inglewood fault zone.

4.3.2 Regionally Mapped Active Faults

Several large, active fault systems, including the Newport-Inglewood/Rose Canyon and Elsinore faults, occur in the region surrounding the subject site. These fault systems have been studied extensively and in a large part control the geologic structure of southern California.

4.3.3 Geologic Structure

Based upon our site investigation and literature review, the onsite alluvial deposits are of Quaternary-age and are not fractured, folded, or faulted.

4.4 Groundwater

Groundwater was encountered during Alta's recent investigation at depths of 18.7, 14.7, 16.8, and 16.2 feet below the ground surface in borings B-1, B-2, B-3, and B-4, respectively. The most recent groundwater data obtained in 2024 from the nearest monitoring well, located approximately 1.1 miles southwest of the subject site, Site Code 328442N1169971W001, indicates the groundwater in the area was at 11.8 feet below the ground surface at that time (CDWR, 2024).

4.5 Earthquake Hazards

The subject site is located in southern California, which is a tectonically active region. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault and the intensity and magnitude of the seismic event. The seismic hazard may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction and/or ground lurching.

4.5.1 Local and Regional Faulting

The site is located on the northwestern portion of the Santa Ana sub-block. The closest known active faults and their distances to the site are presented in Table 4-1 below.

TABLE 4-1 Local and Regional Faulting	
Fault Zone	**Distance to Fault Zone**
Newport-Inglewood	14.0 miles
Rose Canyon	14.0 miles
Palos Verdes	26.4 miles
Coronado Bank	26.4 miles
Elsinore	27.6 miles

4.5.2 Seismicity

Ground shaking hazards caused by earthquakes along other active regional faults exist. The 2022 California Building Code requires use-modified spectral accelerations and velocities for most structural designs. Seismic design parameters using soil profile types identified in the 2022 California Building Code are presented in Section 7.3.

4.5.3 Surface Rupture

Active faults are not known to exist within the project and a review of Special Publication 42 indicates the site is not within a California State designated earthquake fault zone. Accordingly, the potential for fault surface rupture on the subject site is low.

4.5.4 Liquefaction

Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure.

In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must be considered are groundwater, confining stresses, relative density, and the intensity and duration of seismically induced ground shaking.

Alta performed a liquefaction analysis utilizing CPT data obtained during the previous investigations to determine the liquefaction potential of the underlying soils. A description of Alta's analysis and calculations are presented in Appendix D of this report. A groundwater level of 10 feet below the ground surface was assumed. The results of our findings are discussed below under the heading of the specific types of liquefaction which can be manifested during seismic shaking. Conclusions regarding liquefaction are presented in Section 6.3.

- **Loss of Bearing:**

  Liquefaction can potentially cause bearing failure due to ground softening and near-failure in bearing. Further discussion of mitigation strategies to address the potential for loss of bearing is presented in Section 6.3. Based on the liquefaction remediation recommendations presented in this report, Alta anticipates that the potential for loss of bearing will be minimal upon completion of construction.

- **Lateral Spreading:**

  The lateral displacement of surficial blocks of sediment can occur as a result of liquefaction in a subsurface layer. The most pervasive forms of lateral spreading typically involve sites located near a "free-face" (large slopes, channels, etc.), however, it has been noted that lateral spreading can occur on sites with gently sloping (1% or more) ground, such as the subject site.

  Determination of the potential for lateral spread is based on the presence of continuous potentially liquefiable soil layers underneath the structures, the presence of lateral confinement, and various analyses such as empirical modeling. Bartlett, Hansen and Youd (2002) states that surface manifestation of lateral

spread is typically limited to sites with liquefiable soils within 10 meters (32 feet) of grade, and that sites underlain by soils with (N1)60 values 15 and greater do not experience significant displacements from earthquakes with magnitudes less than 8.

Based on our liquefaction analysis, there is a high potential for lateral spreading to occur in the onsite soils. Mitigation strategies are discussed in Section 6.3 of this report.

- **Settlement:**

  Settlement due to seismic shaking can occur as a result of both liquefaction of saturated sediments or rearrangement of dry sand particles. Based on our analysis, settlements on the order of 7.8 inches can occur during seismic shaking. A discussion of settlement analysis results as well as mitigation strategies are presented in Section 6.3. Dynamic settlement design recommendations are presented in Section 7.1.

- **Flow Failure:**

  Due to the relatively flat nature of the site, and the relatively horizontal deposition of the underlying deposits, the potential for flow failure onsite is considered minimal.

4.5.5 Dry Sand Settlement

Dry sand settlement is the process of non-uniform settlement of the ground surface during a seismic event. Based on our subsurface investigation, our removal/recompaction recommendations, and recommendations for ground improvement, the potential for dry sand settlement is anticipated to be minimal. Design dynamic settlement parameters are presented in Table 7-1.

5.0 ENGINEERING PROPERTIES AND ANALYSIS

5.1 Materials Properties

Presented herein is a general discussion of the engineering properties of the onsite materials that will be encountered during construction of the proposed project. Descriptions of the soil (Unified Soil Classification System) are presented on the boring logs in Appendix B.

5.1.1 Excavation Characteristics

Based on the data provided from the subsurface investigations, it is our opinion that the onsite materials possess favorable excavation characteristics such that conventional earth moving equipment can be utilized.

5.1.2 Compressibility

The upper portions of the young alluvium are considered compressible and unsuitable to support the proposed improvements. Recommended removal depths are presented in Section 6.1.2.

5.1.3 Hydro-Consolidation

Hydro-consolidation is the effect of introducing water into soil that is prone to collapse. Upon loading and initial wetting, the soil structure and apparent strength are altered resulting in almost immediate settlement. That settlement can have adverse impacts on engineered structures, particularly in areas where it is manifested differentially. Differential settlements are typically associated with differential wetting, irregularities in the subsurface soil conditions, or irregular loading patterns.

Based on laboratory testing results presented in Appendix C, there minimal potential for hydro-collapse to occur within the young alluvium onsite. Upon the completion of remedial grading recommendations

presented herein, the potential for hydro-collapse shall be minimal and within foundation tolerances.

5.1.4 Expansion Potential

Based on expansion index testing performed during our subsurface investigation (Appendix C), the majority of soils onsite are “very low” to “low” in expansion potential (0≤EI≤50, Appendix C) when tested per ASTM D: 4829.

5.1.5 Earthwork Adjustments

The values presented in Table 5-1 are deemed appropriate for estimating purposes and may be used in an effort to balance earthwork quantities. As is the case with every project, contingencies should be made to adjust the earthwork balance when grading is in-progress and actual conditions are better defined.

TABLE 5-1
Earthwork Adjustment Factors

Geologic Unit	Adjustment Factor Range	Average
Young Alluvium	15% to 19%	17%

5.1.6 Chemical Analyses

Chemical testing was performed on samples of material underlying the proposed site during our subsurface investigation. Soluble sulfate test results indicate that the soluble sulfate concentrations of the soils tested are classified as negligible (Category S0) per ACI 318-14.

Negligible chloride levels were detected in the soils onsite. Based on laboratory results of soluble sulfate, chloride, and pH testing as presented in Appendix C, the onsite soils are classified as “non-corrosive”

(Caltrans, 2022). Additional discussions on corrosion are presented in Section 7.9.

5.2 Engineering Analysis

Presented below is a general discussion of the engineering analysis methods that were utilized to develop the conclusions and recommendations presented in this report.

5.2.1 Bearing Capacity and Lateral Earth Pressures

Ultimate bearing capacity values were obtained using the graphs and formula presented in NAVFAC DM-7.1. Allowable bearing was determined by applying a factor of safety of at least 3 to the ultimate bearing capacity. Static lateral earth pressures were calculated using Rankine methods for active and passive cases. If it is desired to use Coulomb forces, a separate analysis specific to the application can be conducted.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Alta's findings during our subsurface investigation, the laboratory test results, our staff's previous experience in the area, it is Alta's opinion that the development of the site is feasible from a geotechnical perspective. Presented below are recommendations that should be incorporated into site development and construction plans.

6.1 Remedial Grading Recommendations

6.1.1 Site Preparation

Vegetation, construction debris, and other deleterious materials are unsuitable as structural fill material and should be disposed of offsite prior to commencing grading/construction. Any septic tanks, seepage pits or wells should be abandoned as per the County of San Diego Department of Health Services.

Existing concrete should be removed prior to the placement of engineered fill. The demolished concrete may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. Prior to placement as engineered fill any protruding steel rebar should be cut from the concrete pieces and disposed of offsite.

Existing asphaltic concrete should be removed prior to the placement of engineered fill. From a geotechnical perspective, this material may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. The crushed asphalt should not be placed under residential structures, but rather, it can be placed in approved non-residential areas, such as streets, parking areas or open space. These recommendations should be verified by the environmental consultant

6.1.2 Unsuitable Soil Removals

Due to the potential for loss of bearing and dynamic settlement due to liquefaction, mitigation strategies, including unsuitable soil removals are presented in Section 6.3.

The Project Geotechnical Consultant should observe the removal bottom prior to placing fill. If unsuitable soils such as undocumented artificial fill is exposed upon the completion of the removals recommended above, additional removals may be required.

For fill areas in streets, in general, a minimum removal and recompaction of the upper two (2) feet is recommended, however all undocumented artificial fill shall be removed and recompacted. For cuts greater than two (2) feet in street areas, removals are not required. For cuts less than two (2) feet, the two (2) foot removal and recompaction applies.

Material removed as part of the unsuitable soil removals can be used as artificial fill, provided it is free of deleterious materials.

6.2 General Earthwork Recommendations

6.2.1 Compaction Standards

All fill and processed natural ground shall be compacted to a minimum relative compaction of 90 percent, as determined by ASTM Test Method: D-1557. Fill material should be moisture conditioned to optimum moisture or above, and as generally discussed in Alta's Earthwork Specification Section presented in Appendix F. Compaction shall be achieved with the use of sheepsfoot rollers or similar kneading type equipment. Mixing and moisture conditioning will be required in order to achieve the recommended moisture conditions.

6.2.2 Groundwater/Seepage

Depending on the depth of utilities, groundwater may be encountered during infrastructure construction. Utilizing gravel/crushed rock as backfill for utility lines below groundwater should be considered. Perched water conditions could also be encountered depending on the time of year construction occurs.

6.2.3 Documentation of Removals

All removal/over-excavation bottoms should be observed and approved by the project Geotechnical Consultant prior to fill placement. Consideration should be given to surveying the removal bottoms and undercuts after approval by the geotechnical consultant and prior to the placement of fill. Staking should be provided in order to verify undercut locations and depths.

6.2.4 Treatment of Removal Bottoms

At the completion of removals/over-excavation, the exposed removal bottom should be ripped to a minimum depth of eight (8) inches, moisture-conditioned to above optimum moisture content and compacted in-place to the project standards.

6.2.5 Fill Placement

After removals, scarification, and compaction of in-place materials are completed, additional fill may be placed. Fill should be placed in eight-inch bulk maximum lifts, moisture conditioned to optimum moisture content or above, compacted and tested as grading/construction progresses until final grades are attained.

6.2.6 Moisture Content

The moisture content of the upper in-situ soils varies, as shown in the boring logs presented in Appendix B. The majority of onsite soils are below optimum in moisture content and will require moisture conditioning prior to placement as compacted fill.

6.2.7 Mixing

Mixing of materials may be necessary to prevent layering of different soil types and/or different moisture contents. The mixing should be accomplished prior to and as part of compaction of each fill lift.

6.2.8 Import Soils

Import soils, if necessary, should consist of clean, structural quality, low expansive, compactable materials similar to the on-site soils and should be free of trash, debris or other objectionable materials. The project Geotechnical Consultant should be notified not less than 72 hours in advance of the locations of any soils proposed for import. Import sources should be sampled, tested, and approved by the project Geotechnical

Consultant at the source prior to the importation of the soils to the site. The project Civil Engineer should include these requirements on plans and specifications for the project.

6.2.9 Utility Trenches

6.2.9.1 Excavation

Utility trenches should be supported, either by laying back excavations or shoring, in accordance with applicable OSHA standards. The existing site soils are classified as Soil Types "B" and "C" per OSHA standards. Upon completion of the recommended removals and recompaction, the artificial fill will be classified as Soil Type “B”. The Project Geotechnical Consultant should be notified if geologic conditions vary from what is presented in this report.

6.2.9.2 Backfill

Trench backfill should be compacted to at least 90 percent of maximum dry density as determined by ASTM D-1557. Onsite soils will not be suitable for use as bedding material but will be suitable for use in backfill provided oversized materials are removed. No surcharge loads should be imposed above excavations. This includes spoil piles, lumber, concrete trucks, or other construction materials and equipment. Drainage above excavations should be directed away from the banks. Care should be taken to avoid saturation of the soils. Compaction should be accomplished by mechanical means. Jetting of native soils will not be acceptable.

Under-slab trenches should also be compacted to project specifications. If select granular backfill (SE > 30) is used, compaction by flooding will be acceptable.

6.2.10 Backcut Stability

Temporary backcuts, if required during unsuitable soil removals, should be made no steeper than 1:1 without review and approval of the geotechnical consultant. Flatter backcuts may be necessary where geologic conditions dictate and where minimum width dimensions are to be maintained.

Care should be taken during remedial grading operations in order to minimize risk of failure. Should failure occur, complete removal of the disturbed material will be required.

In consideration of the inherent instability created by temporary construction backcuts for removals, it is imperative that grading schedules are coordinated to minimize the unsupported exposure time of these excavations. Once started, these excavations and subsequent fill operations should be maintained to completion without intervening delays imposed by avoidable circumstances. In cases where five-day workweeks comprise a normal schedule, grading should be planned to avoid exposing at-grade or near-grade excavations through a non-work weekend. Where improvements may be affected by temporary instability, either on or offsite, further restrictions such as slot cutting, extending workdays, implementing weekend schedules, and/or other requirements considered critical to serving specific circumstances may be imposed.

6.3 Liquefaction

As presented in Section 4.5.4 of this report, there is potential for liquefaction to occur at the site during seismic shaking. More specifically, liquefaction could cause differential settlement. Typically, half to two thirds of that settlement should be considered differential (California Division of Mines and Geology, 2008, Special Publication 117a). If the analysis is based on multiple borings, seismic induced differential settlement may be determined as one-half the total settlement (City of Los Angeles, 2020). The maximum amount of settlement shown in Leighton's 2024 analysis was approximately 7.1-inches.

Due to the potential for liquefaction to occur at the subject site, it is recommended that ground improvements be utilized below the proposed structures. A consultant who specializes in deep ground modification techniques for liquefaction should be used for the project. Ground improvements may include the use of rammed aggregate piers, deep soil mixing, compaction grouting, or other strategies the consultant recommends. The ground improvement techniques should be designed to reduce the potential for settlement for the proposed structures to levels acceptable as defined by the structural engineer, as well as reduce the potential for lateral spread. The intention of the proposed ground improvements is to reduce the effects of liquefaction to an acceptable level of risk. Note, some repairs may still be necessary if liquefaction occurs.

Improvements outside of the ground improvements shall be subject to the effects of liquefaction. These improvements include pavement, flatwork, utilities, and storm drain improvements. See Section 7.12 for additional recommendations

6.4 Storm Water Infiltration Systems

From a geotechnical perspective, allowing storm water to infiltrate the onsite soil in concentrated areas increases the potential for settlement, liquefaction, and water-related damage to structures/improvements, such as wet slabs or pumping subgrade, and should be avoided where possible. If infiltration systems are required on this site, care should be taken in designing systems that control the storm water as much as possible.

Infiltration testing was undertaken within the area of the proposed basin as presented in Plate 1. The testing resulted in infiltration rates of 15.6 and 12.3 inches per hour for P-1 and P-2, respectively. The Project Geotechnical Consultant should review the WQMP plans and observe the WQMP excavations during construction to verify that the infiltration rates presented herein are appropriate.

6.5 Boundary Conditions

Construction of retaining/screen walls along site boundaries may require additional geotechnical recommendations concerning unsuitable soil removals and foundation design parameters. Boundary conditions for the project should be reviewed by the Project Geotechnical Consultant as the design progresses.

7.0 DESIGN CONSIDERATIONS

7.1 Structural Design

It is anticipated that multi-story wood-framed residential structures with slab on-grade and shallow foundations will be constructed. Upon the completion of rough grading, finish grade samples should be collected and tested in order to provide specific recommendations as they relate to the individual building pads. These test results and corresponding design recommendations should be presented in a final rough grading report. Final slab and foundation design

recommendations should be made based upon specific structure sitings, loading conditions, and as-graded soil conditions.

It is anticipated that the majority of onsite soils will possess “very low” to “low” expansion potential when tested in general accordance with ASTM Test Method D: 4829.

The following foundation design requirements are presented with the assumption that ground improvement designs, as prepared by a consultant who specialized in deep ground modification techniques, reduces the potential for dynamic settlement and lateral spreading to levels within foundation tolerances.

7.1.1 Foundation Design

Foundations may be preliminary designed based on the values presented in Table 7-1 below.

Table 7-1
Foundation Design Parameters*

Allowable Bearing	2000 lbs/ft^2 (assuming a minimum embedment depth and width of 12 inches)
Lateral Bearing	250 lbs/ft^2 at a depth of 12 inches plus 250 lbs/ft^2 for each additional 12 inches of embedment to a maximum of 2000 lbs/ft^2.
Sliding Coefficient	0.30
Settlement	Static Settlement – 0.5 inch in 40 feet Dynamic Settlement – 1.5 inch in 40 feet

*These values may be increased as allowed by Code to resist transient loads such as wind or seismic. Building code and structural design considerations may govern depth and reinforcement requirements and should be evaluated.

7.1.2 Post-Tensioned Slabs/Foundation Design Recommendations

Post-tensioned slabs for the project may be designed utilizing the parameters presented in Tables 7-1 and 7-2. The parameters presented herein are based on methodology provided in the Design of Post-Tensioned Slabs-On-Ground, Third Edition, by the Post-Tensioning Institute, in accordance with the 2022 CBC.

TABLE 7-2
POST-TENSION SLAB DESIGN PARAMETERS

Category	Expansion Potential	Minimum Embedment*	Edge Lift		Center Lift	
			Em (ft)	Ym (inch)	Em (ft)	Ym (inch)
I	Very Low to Low	12 inches	5.4	0.61	9.0	0.26
Slab Subgrade Moisture						
Category I	Minimum 110% of optimum moisture to a depth of 12 inches prior to pouring concrete					
Embedment*						
The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code. If mat slabs are utilized, alternate embedment depths can be provided.						
Moisture Barrier						
A moisture barrier should be provided in accordance with the recommendations presented in Section 7.2						
The parameters presented herein are based on procedures presented in the Design of Post-Tensioned Slabs-On-Ground, Third Edition. No corrections for vertical barriers at the edge of the slab, or for adjacent vegetation have been assumed. The design parameters are based on a Constant Suction Value of 3.9 pF.						

7.2 Moisture Barrier

A moisture and vapor retarding system should be placed below the slabs-on-grade in portions of the structure considered to be moisture sensitive and should be capable of effectively preventing the migration of water and reducing the transmission of water vapor to acceptable levels. Historically, a 10-mil plastic membrane, such as Visqueen, placed between two to four inches of clean sand, has been used for this purpose. The use of this system or other systems can be considered, at the discretion of the designer, provided the system reduces the vapor transmission rates to acceptable levels.

7.3 Seismic Design

The site classes were determined based on the referenced reports and published geologic maps in the area in general conformance with Chapter 20 of ASCE 7-16. Based on the density of the underlying soils, a Site Class of D (shear wave velocity of 259 m/s) was selected. The seismic design parameters were calculated using a program based on the USGS website and ASCE 7-16

procedures. The resulting values are presented in Table 7-3. These values are applicable providing the exceptions presented in Supplements 2 and 3 of ASCE 7-16 are utilized in the design of the structure. If the design does not include the exception methodology, then a site-specific analysis shall be conducted.

TABLE 7-3 Seismic Ground Motion Values
2022 CBC and ASCE 7-16

Parameter	*Value*
Site Class	D
Site Latitude	32.8484
Site Longitude	-116.9755
Spectral Response Acceleration Parameter, S_S	0.769
Spectral Response Acceleration Parameter, S_1	0.283
Site Coefficient, F_a	1.192
Site Coefficient, F_v	2.0
MCE Spectral Response Acceleration Parameter, S_{MS}	0.917
MCE Spectral Response Acceleration Parameter, S_{M1}	0.566
Design Spectral Response Acceleration Parameter, S_{DS}	0.612
Design Spectral Response Acceleration Parameter, S_{D1}	0.377
Peak Ground Acceleration, PGA_M	0.419

7.4 Block Walls

Block walls, if used, should be embedded a minimum of 2 feet below the lowest adjacent grade. Construction joints (not more than 20 feet apart) should be included in the block wall construction. Side yard walls should be structurally separated from the rear yard wall.

7.5 Footing Excavations

Soils from the footing excavations should not be placed in slab-on-grade areas unless properly compacted and tested. The excavations should be cleaned of all loose/sloughed materials and be neatly trimmed at the time of concrete placement.

7.6 Retaining Wall Design

Retaining walls should be founded on compacted fill and should be backfilled with granular soils that allow for drainage behind the wall. Foundations may be designed in accordance with the recommendations presented in Table 7-1, above. Unrestrained walls, free to rotate at least 0.001 radians, may be designed to resist lateral pressures imposed by a fluid with a unit weight determined in accordance with the Table 7-4 below. The table also presents design parameters for restrained retaining walls. These parameters may be used to design retaining walls that may be considered as restrained due to the method of construction or location (corner sections of unrestrained retaining walls).

TABLE 7-4
Equivalent Fluid Pressures for 90% Compacted Fill

Backfill	Active Pressure (psf/ft)	At-Rest Pressure (psf/ft)
Level	35	55

Per the requirements of the CBC, the seismic force acting on the retaining walls with backfill exceeding 6-feet in height may be resolved utilizing the formula 8.5H2 lb/lineal ft (H=height of the wall). This force acts at approximately 0.6H above the base of the wall (inverted triangle). The seismic value can be converted as required by the retaining wall engineer. Retaining walls should be designed in general accordance with Section 1807A.2 of the 2022 CBC.

- Restrained retaining walls should be designed for "at-rest" conditions, utilizing at-rest pressure.
- The design loads presented in the above table are to be applied on the retaining wall in a horizontal fashion and as such friction between wall and retained soils should not be allowed in the retaining wall analyses.
- Additional allowances should be made in the retaining wall design to account for the influence of construction loads, temporary loads, and possible nearby structural footing loads.
- Select backfill should be granular, structural quality backfill with a Sand Equivalent of 20 or better and an ASCE Expansion Index of 20 or less. The backfill must encompass the full active wedge area. The upper one foot of backfill should be comprised of native on-site soils (see Plate A).
- The wall design should include waterproofing (where appropriate) and backdrains or weep holes for relieving possible hydrostatic pressures. The backdrain should be comprised of a 4-inch perforated PVC pipe in a 1 ft. by 1 ft., ¾-inch gravel matrix, wrapped with a geofabric. The backdrain should be installed with a minimum gradient of 2 percent and should be outletted to an appropriate location.
- No backfill should be placed against concrete until minimum design strengths are achieved.

It should be noted that the allowable bearing and lateral bearing values presented in Table 7-1 are based on level conditions at the toe. Modified design parameters can be presented for retaining walls with sloping condition at the toe. Other conditions should be evaluated on a case-by-case basis.

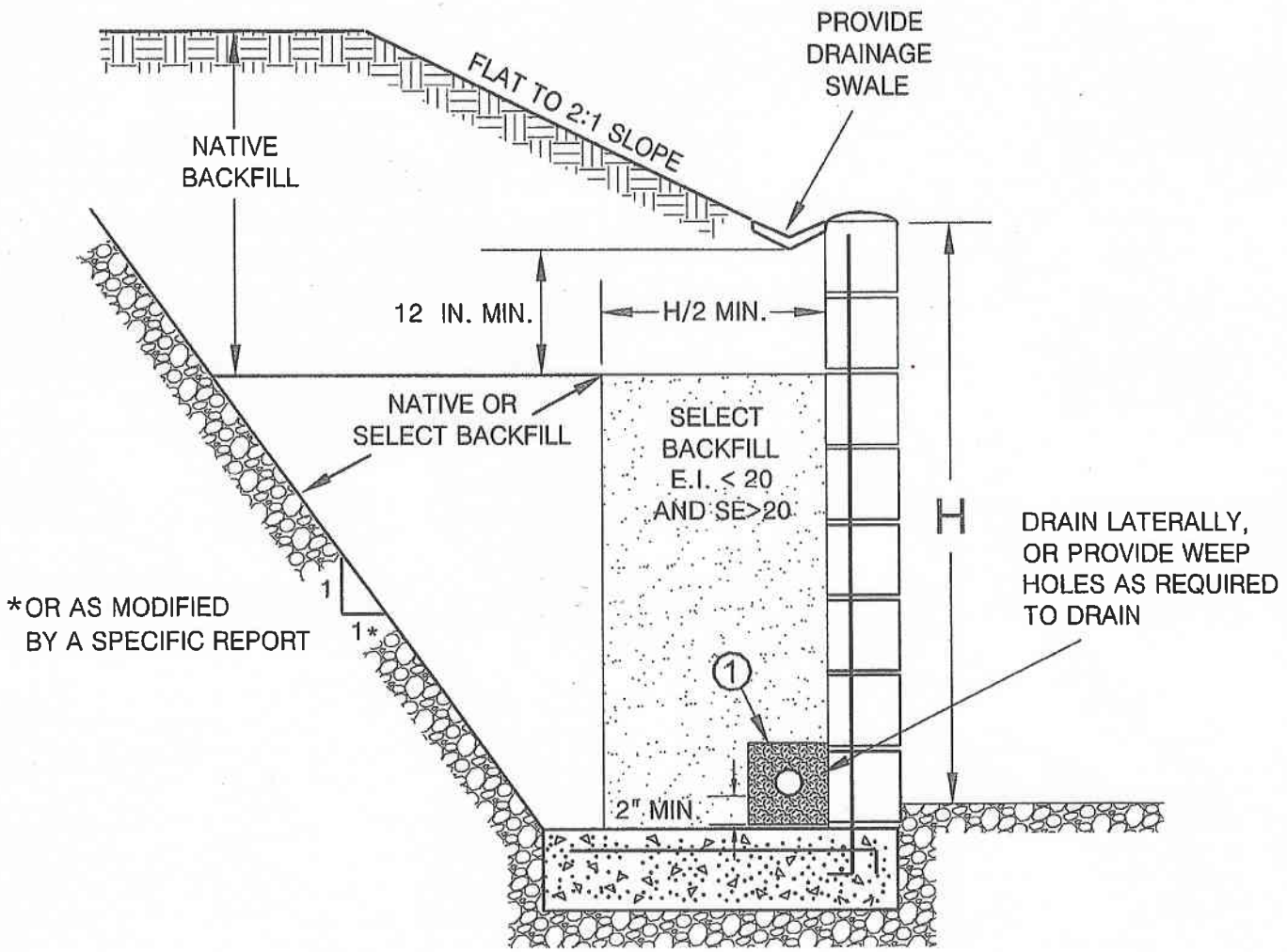
7.7 Exterior Slabs and Walkways

Exterior concrete slabs and walkways should be designed and constructed in consideration of the following recommendations.

7.7.1 Subgrade Compaction

The subgrade below exterior concrete slabs should be compacted to a minimum of 90 percent relative compaction as determined by ASTM Test Method: D 1557.

RETAINING WALL BACKFILL DETAIL



(1)

PIPE: 4-INCH PERFORATED PVC, SCHEDULE 40, SDR35 OR APPROVED ALTERNATE MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE

ROCK: MINIMUM VOLUME OF 1 CU. FT. OF 3/4-IN. MAX. ROCK PER. LINEAL FOOT OF PIPE, OR APPROVED ALTERNATE

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT

7.7.2 Subgrade Moisture

The subgrade below concrete slabs should be moisture conditioned to a minimum of 110 percent of optimum moisture content prior to concrete placement.

7.7.3 Concrete Slab Thickness

Concrete flatwork and driveways should be designed utilizing four-inch minimum thickness.

7.7.4 Concrete Slab Reinforcement

Utilization of reinforcement for flatwork and driveways is subject to a cost/benefit analysis for the developer. Reinforcement will decrease the amount of cracking that may occur in flatwork, however, planning for occasional repairs may be more cost effective. The majority of the soils onsite are classified as very low in expansion potential. Consideration should be given to reinforcing flatwork with irregular (non-square/rectangular) shapes.

7.7.5 Control Joints

Weakened plane joints should be installed on walkways at intervals of approximately eight feet. Exterior slabs should be designed to withstand shrinkage of the concrete.

7.8 Concrete Design

As stated in Section 5.1.6, negligible concentrations of sulfates were detected in the onsite soils. Therefore, the use of sulfate resistant concrete is not required per ACI 318-14 at this time. Post-grading conditions should be evaluated, and final recommendations made at that time.

7.9 Corrosion

Based on preliminary testing from our investigation and the previous investigation, the onsite soils are classified as "non-corrosive" (Caltrans, 2022). Consideration should be given to protecting buried metals from corrosion. Typical measures may include using non-corrosive backfill, protective coatings, wrapping, plastic pipes, or a combination of these methods. A corrosion engineer should be consulted if specific design recommendations are required by the improvement designer.

Per ACI 318-14, an exposure class of C1 would be applicable to metals encased in concrete (rebar in footings) due to being exposed to moisture from surrounding soils. Per Table 19.3.2.1 of ACI 318-14, the requirements for concrete with an exposure class of C1 are a minimum compressive strength of 2500 psi and a maximum water-soluble chloride ion content in concrete of 0.30 (percent by weight of cement).

7.10 Pavement Design

Pavement sections for the proposed streets shall be designed based on laboratory testing conducted on samples taken from the soil subgrade. Preliminarily, based on an assumed R-Value of 30, the pavement may be designed utilizing the sections presented in Table 7-5. These sections should be verified upon the completion of grading, based on R-Value testing. The ultimate pavement section design for public streets is under the City of Santee's purview.

Table 7-5
Preliminary Pavement Sections

Traffic Index	Pavement Section Options OR	
5.0	3-inch AC on 6-inch AB	4-inch AC on 4-inch AB
5.5	3-inch AC on 7-inch AB	4-inch AC on 5-inch AB
6.0	3.5-inch AC on 7.5-inch AB	4-inch AC on 6.5-inch AB
AC-Asphalt Concrete AB-Caltrans Class II Base		

Construction of the streets should be accomplished in accordance with the current criteria of the City of Santee. Prior to the placement of base material, the subgrade should be suitably moisture conditioned, processed and compacted to a minimum 95 percent of the laboratory maximum density (ASTM: D 1557) to at least twelve (12) inches below subgrade. After subgrade compaction, the exposed grade should then be "proof"-rolled with heavy equipment to ensure the grade does not "pump" and is verified as non-yielding. Aggregate base material should be placed on the compacted subgrade and compacted in-place to a minimum 95 percent of the laboratory standard obtained per ASTM: D 1557.

7.11 Site Drainage

Positive drainage away from the proposed structures should be provided and maintained. Roof, pad, and lot drainage should be collected and directed away from the structures toward approved disposal areas through drainage terraces, gutters, down drains, and other devices. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures.

7.12 Utility Design

As discussed in Section 6.3, areas outside of the rammed aggregate piers shall be subject to the effects of liquefaction. Repairs shall be required if liquefaction occurs. Utility lines should include automatic shut-off valves and flexible connections where possible.

8.0 LOT MAINTENANCE

Ongoing maintenance of the improvements is essential to the long-term performance of structures and slopes. As such, the owners must implement certain maintenance procedures. The attached "Maintenance and Improvement Considerations" presented in the Appendix D should be reviewed for issues related to drainage, slopes, maintenance, backyard improvements, etc. The following recommendations should also be implemented.

8.1 Lot Drainage

Roof, pad and lot drainage should be collected and directed away from structures and slopes and toward approved disposal areas. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures and slopes. Residents should be made aware that they are responsible for maintenance and cleaning of all drainage terraces, down drains, and other devices that have been installed to promote structure and slope stability.

8.2 Burrowing Animals

Residents or owners should undertake a program for the elimination of burrowing animals. This should be an ongoing program in order to maintain slope stability.

9.0 FUTURE PLAN REVIEWS

This report represents a geotechnical review of the tract map. As the project design progresses, site specific geologic and geotechnical issues need to be considered in the design and construction of the project. Consequently, future plan reviews may be necessary. These reviews may include reviews of:

- Grading Plans
- Foundation plans

- Utility Plans

These plans should be forwarded to the Project Geotechnical Consultant for review.

10.0 CLOSURE

10.1 Geotechnical Review

For the purposes of this report, multiple working hypotheses were established for the project, utilizing the available data and the most probable model is used for the analysis. Future information collected during the proposed grading operations is intended to evaluate the hypothesis and as such, some of the assumptions summarized in this report may need to be changed. Some modifications of the grading recommendations may become necessary, should the conditions encountered in the field differ from the conditions hypothesized in this report.

Plans and sections of the project specifications should be reviewed by Alta, to evaluate conformance with the intent of the recommendations contained in this report. If the project description or final design varies from that described in herein, Alta must be consulted regarding the applicability of the recommendations contained herein and whether any changes are required. Alta accepts no liability for any use of its recommendations if the project description or final design varies and Alta is not consulted regarding the alterations.

10.2 Limitations

This report is based on the following: 1) the project as presented on the attached plan; 2) the information obtained from the subsurface investigation at the approximate locations indicated on the plans included herein; and 3) from the information presented in the referenced reports. The findings and recommendations are based on the results of the subsurface investigation, laboratory testing, and office analysis combined with an interpolation and

extrapolation of conditions between and beyond the subsurface excavation locations. However, the materials adjacent to or beneath those observed may have different characteristics than those observed, and no precise representations are made as to the quality or extent of the materials not observed. The results reflect an interpretation of the direct evidence obtained. Work performed by Alta has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality under similar conditions. No other representation, either expressed or implied, and no warranty or guarantee is included or intended.

The recommendations presented in this report are based on the assumption that an appropriate level of field review will be provided by a geotechnical consultant who is familiar with the design and site geologic conditions. That field review shall be sufficient to confirm that geotechnical and geologic conditions exposed during grading are consistent with the geologic representations and corresponding recommendations presented in this report.

The conclusions and recommendations included in this report are applicable to the specific design of this project as discussed in this report. They have no applicability to any other project or to any other location and any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of Alta.

Alta has no responsibility for construction means, methods, techniques, sequences, procedures, safety precautions, programs in connection with the construction, acts or omissions of the CONTRACTOR or any other person

performing any of the construction, or for the failure of any of them to carry out the construction in accordance with the final design drawings and specifications

APPENDIX A

REFERENCES

APPENDIX A

Selected References

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APPENDIX B

Subsurface Investigation

APPENDIX B

Subsurface Investigation

Alta's subsurface investigation consisted of excavating, logging, and sampling five (5) hollow-stem auger borings. Details of the subsurface investigation are presented in Table B-1. The approximate locations of the exploratory excavations are shown on the accompanying Plate 1 and the Geotechnical Logs are attached.

TABLE B-1
SURFACE INVESTIGATION DETAILS

Equipment	Range of Depths	Sampling Methods	Sample Locations
8" Hollow-Stem Auger	Up to 47.0 feet	1. Bulk Samples 2. Ring Samples 3. SPT Samples	1. Bulk-Select Depths 2. Ring-Every 2.5 or 5.0 feet. 3. SPT-At depths below 30 feet.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		grf	ltr	Description
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravel and Gravelly Soils: More than 50% of coarse fraction retained on No. 4 sieve		GW	Well-graded gravels or gravel sand mixtures, little or no fines
			GP	Poorly-graded gravels or gravel sand mixture, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sand and Sandy Soils: More than 50% of coarse fraction passes on No. 4 sieve		SW	Well-graded sands or gravelly sands, little or no fines
			SP	Poorly-graded sands or gravelly sands, little or no fines
			SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, and-clay mixtures

Major Divisions		grf	ltr	
Fine Grained Soils: More than 50% passes on No. 200 sieve	Silts And Clays LL,<50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silt-clays of low plasticity
	Silts And Clays LL,<50		MH	Inorganic silts, micaceous or diatomaceous fine or silty soils, elastic silts
			VH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat and other highly organic soils

BOUNDARY CLASSIFICATION: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"	12"	
Silts and Clays	Sand			Gravel		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

RELATIVE DENSITY

Sands and Gravels	Blows/Foot (SPT)
Very Loose	<4
Loose	4-10
Medium Dense	11-30
Dense	31-50
Very Dense	>50

CONSISTENCY CLASSIFICATION

Silts and Clays	Criteria
Very Soft	Thumb penetrates soil >1 in.
Soft	Thumb penetrates soil 1 in.
Firm	Thumb penetrates soil 1/4 in.
Stiff	Readily indented with thumbnail
Very Stiff	Thumbnail will not indent soil

HARDNESS

Bedrock
Soft
Moderately Hard
Hard
Very Hard

LABORATORY TESTS

Symbol	Test
DS	Direct Shear
DSR	Direct Shear (Remolded)
CON	Consolidation
SA	Sieve Analysis
MAX	Maximum Density
RV	Resistance (R) Value
EI	Expansion Index
SE	Sand Equivalent
AL	Atterberg Limits
CHEM	Chemical Analysis
HY	Hydrometer Analysis

SOIL MOISTURE

Increasing Visual Moisture Content

Dry - Dry to touch

Moist - Damp, but no visible free water

wet - Visible free water

SIZE PROPORTIONS

Trace - <5%

Few - 5 to 10%

Some - 15 to 25%

KEY TO EXPLORATORY BORING LOGS

ALTA CALIFORNIA GEOTECHNICAL INC.

PLATE B

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	341	BORING DESIG.	B-1
DATE FINISHED	1/6/25	GW DEPTH (FT)	19	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	340				SW	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	14		SP	@2.5 ft. SAND, very fine to fine grained, gray, slightly moist, medium dense, trace silt, micaceous.	3.3	94	11	
5		R	21			@5.0 ft. some iron oxide, some silt.	1.1	96	4	CON
	335									
10		R	16			@10.0 ft. fine to medium grained.	6.8	90	22	
	330									
15		R	14			@15.0 ft. wet, with roots, trace clay.	20.3	98	78	
	325									
						▼ @18.7 ft. groundwater encountered.				
20		R	14		SM	@20.0 ft. SILTY SAND, very fine to fine grained, dark gray, wet, medium dense, with roots, micaceous.	30.6	87	91	
	320									
25		R	41			@25.0 ft. dense.	11.4			
	315					TOTAL DEPTH 26.0 FEET GROUNDWATER AT 18.7 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-1

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	341	BORING DESIG.	B-2
DATE FINISHED	1/6/25	GW DEPTH (FT)	15	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	340				SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	13		SP	@2.5 ft. SAND, very fine to fine grained, brownish gray, dry, medium dense, micaceous.	1.9	96	7	
5		R	14			@5.0 ft. fine to medium grained.	1.2			MAX, EI, HY, CHEM
	335									
10		R	16			@10.0 ft. moist.	18.5	101	76	
	330									
15		R	17		SM	@14.7 ft. groundwater encountered. @15.0 ft. SILTY SAND, fine grained, dark gray, wet, medium dense, trace clay, micaceous.	19.3	104	86	
	325									
20		R	18			@20.0 ft. fine to medium grained, some clay.	26.3	92	87	
	320									
25		R	16			@25.0 ft. fine grained.	18.6			
	315									
30		S	3,4,9		SP	@30.0 ft. SAND, fine to medium grained, dark gray, wet, medium dense.	11.6			
	310				SM	@31.0 ft. SILTY SAND, fine grained, dark gray, wet, medium dense.				
35		S	36,50 for 3"		SP	@35.0 ft. SAND, fine to medium grained, dark gray, wet, very dense, some gravel.	21.1			
	305									

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	341	BORING DESIG.	B-2
DATE FINISHED	1/6/25	GW DEPTH (FT)	15	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	300	S	15,17,23		SC	@40.0 ft. CLAYEY SAND, fine grained, yellowish gray, slightly moist, hard.	10.1			
45	295	S	13,30,50 for 5"		SP	@45.0 ft. SAND, fine to coarse grained, dark gray to gray, slightly moist, very dense, some gravel.				
						TOTAL DEPTH 47.0 FEET; REFUSAL AT 47.0 FEET GROUNDWATER AT 14.7 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	344	BORING DESIG.	B-3
DATE FINISHED	1/6/25	GW DEPTH (FT)	17	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	12		SP	@2.5 ft. SAND, fine to medium grained, brownish gray, slightly moist, medium dense, trace silt.	5.0	93	17	
	340									
5		R	15		SM	@5.0 ft. SILTY SAND, fine grained, dark gray, slightly moist, medium dense.	4.2	96	15	CON, HY
	335									
10		R	14		SP	@10.0 ft. SAND, fine grained, gray, slightly moist, medium dense.	6.9	91	22	
	330									
15		R	16			@15.0 ft. medium to coarse grained, brownish gray, moist.	9.5	93	33	
						@16.8 ft. groundwater encountered.				
	325									
20		R	37			@20.0 ft. wet, dense, trace silt.	14.7	103	65	
	320									
25		R	28		SM	@25.0 ft. SILTY SAND, fine to coarse grained, brownish dark gray, wet, medium dense.	15.1			
						TOTAL DEPTH 26.0 FEET GROUNDWATER AT 16.8 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-3

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	344	BORING DESIG.	B-4
DATE FINISHED	1/6/25	GW DEPTH (FT)	16	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	13		SP	@2.5 SAND, fine grained, brownish gray, slightly moist, medium dense.	4.9	104	22	MAX, EI, HY, CHEM
	340									
5		R	18			@5.0 ft. trace silt, micaceous.	3.0	89	9	
	335									
10		R	27			@10.0 ft. fine to coarse grained, gray, slightly moist, medium dense.	3.1	94	11	
	330									
15		R	18			@15.0 ft. brownish gray, wet.	17.2	94	60	
						@16.2 ft. groundwater encountered.				
	325									
20		R	27				11.1			
	320									
25		R	15		CL	@25.0 ft. SILTY CLAY, brown, wet, firm.	26.0	91	83	
	315									
30		S	3,7,12				23.3			
	310									
35		S	50 for 1"		SP	@35.0 ft. SAND, coarse grained, brownish gray, slightly moist, very dense.	22.6			
		S	50 for 4"				13.4			
						TOTAL DEPTH 36.0 FEET; REFUSAL AT 36.0 FEET GROUNDWATER AT 16.2 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-4

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	339	BORING DESIG.	P-1
DATE FINISHED	1/6/25	GW DEPTH (FT)		LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.		NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP			

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
					SP	@2.5 ft. SAND, very fine to fine grained, gray, slightly moist, medium dense, trace silt, micaceous.				
	335									
5						@5.0 ft. some iron oxide, trace silt.				
	330									
10						TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-5

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	339	BORING DESIG.	P-2
DATE FINISHED	1/6/25	GW DEPTH (FT)		LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.		NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP			

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
					SP	@2.5 ft. SAND, very fine to fine grained, brownish gray, slightly moist, medium dense, trace silt, micaceous.				
	335									
5						TOTAL DEPTH 5.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-6

APPENDIX B-1

Previous Subsurface Data (Leighton, 2024)

SUMMARY

OF

CONE PENETRATION TEST DATA

Project:

City Ventures – Santee 3 Geoinv
Cottonwood Avenue & Claudia Avenue
Santee, CA
April 24, 2023

Prepared for:

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1. **INTRODUCTION**
2. **SUMMARY OF FIELD WORK**
3. **FIELD EQUIPMENT & PROCEDURES**
4. **CONE PENETRATION TEST DATA & INTERPRETATION**

APPENDIX

- CPT Plots
- CPT Classification/Soil Behavior Chart
- CPT Data Files (sent via email)

SUMMARY
OF
CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the City Ventures – Santee 3 Geoinv project located at Cottonwood Avenue & Claudia Avenue in Santee, California. The work was performed by Kehoe Testing & Engineering (KTE) on April 24, 2023. The scope of work was performed as directed by Leighton & Associates personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at six locations to determine the soil lithology. A summary is provided in **TABLE 2.1**.

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-8	46	Refusal
CPT-9	47	Refusal
CPT-10	38	Refusal
CPT-11	36	Refusal
CPT-12	38	Refusal
CPT-13	50	

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm^2 cone with a cone net area ratio of 0.83. The following parameters were recorded at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed

The above parameters were recorded and viewed in real time using a laptop computer. Data is stored at the KTE office for up to 2 years for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. These plots were generated using the CPeT-IT program. Penetration depths are referenced to ground surface. The soil behavior type on the CPT plots is derived from the attached CPT SBT plot (Robertson, "Interpretation of Cone Penetration Test…", 2009) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used along with cone resistance to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

The CPT data files have also been provided. These files can be imported in CPeT-IT (software by GeoLogismiki) and other programs to calculate various geotechnical parameters.

It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgement and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING

Steven P. Kehoe
President

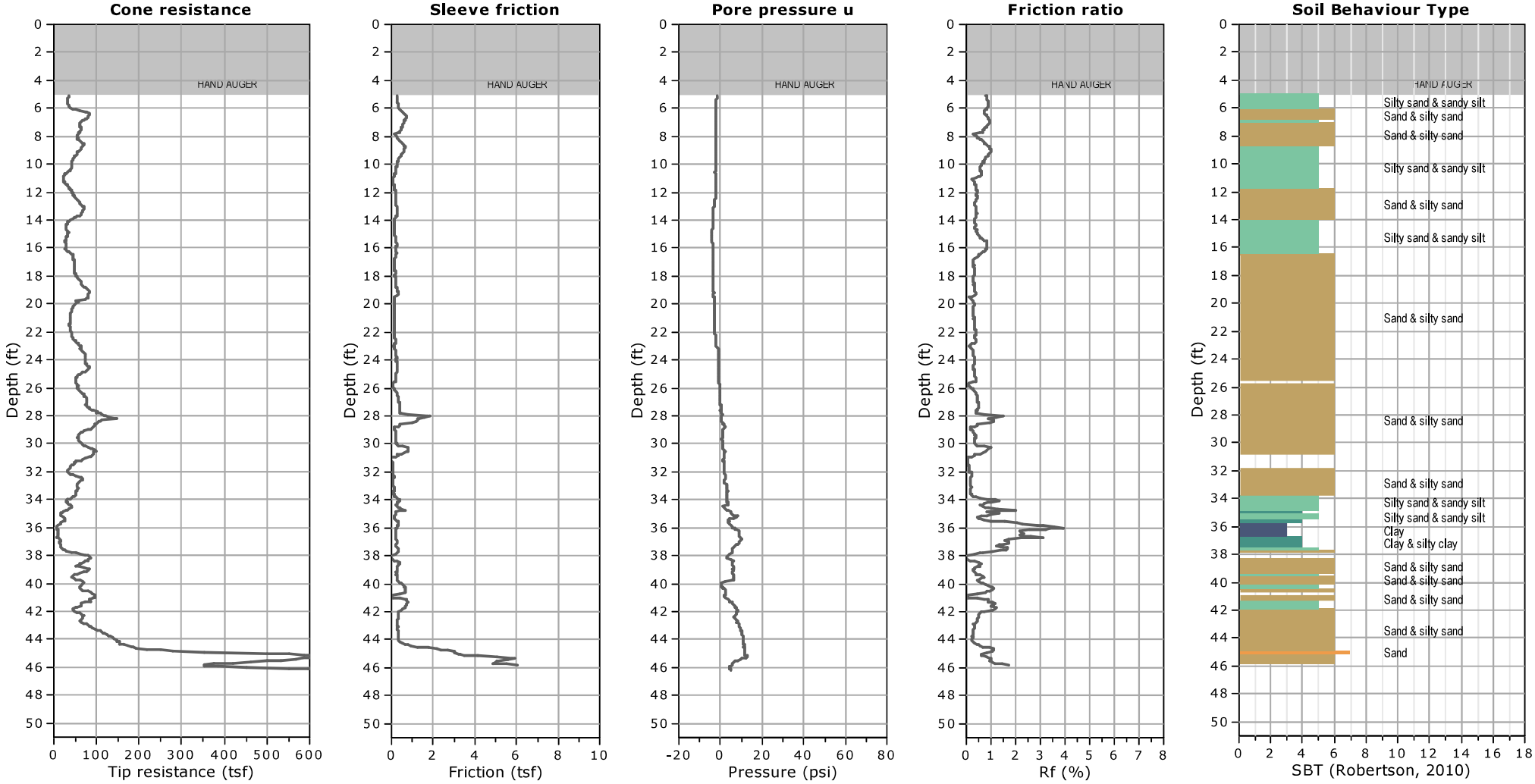
04/27/23-aga-5234

APPENDIX

Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: Leighton & Associates / City Ventures - Santee 3 Geoinv
Location: Cottonwood Ave & Claudia Ave, Santee, CA

CPT-8
Total depth: 46.20 ft, Date: 4/24/2023



Kehoe Testing and Engineering
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steve@kehoetesting.com
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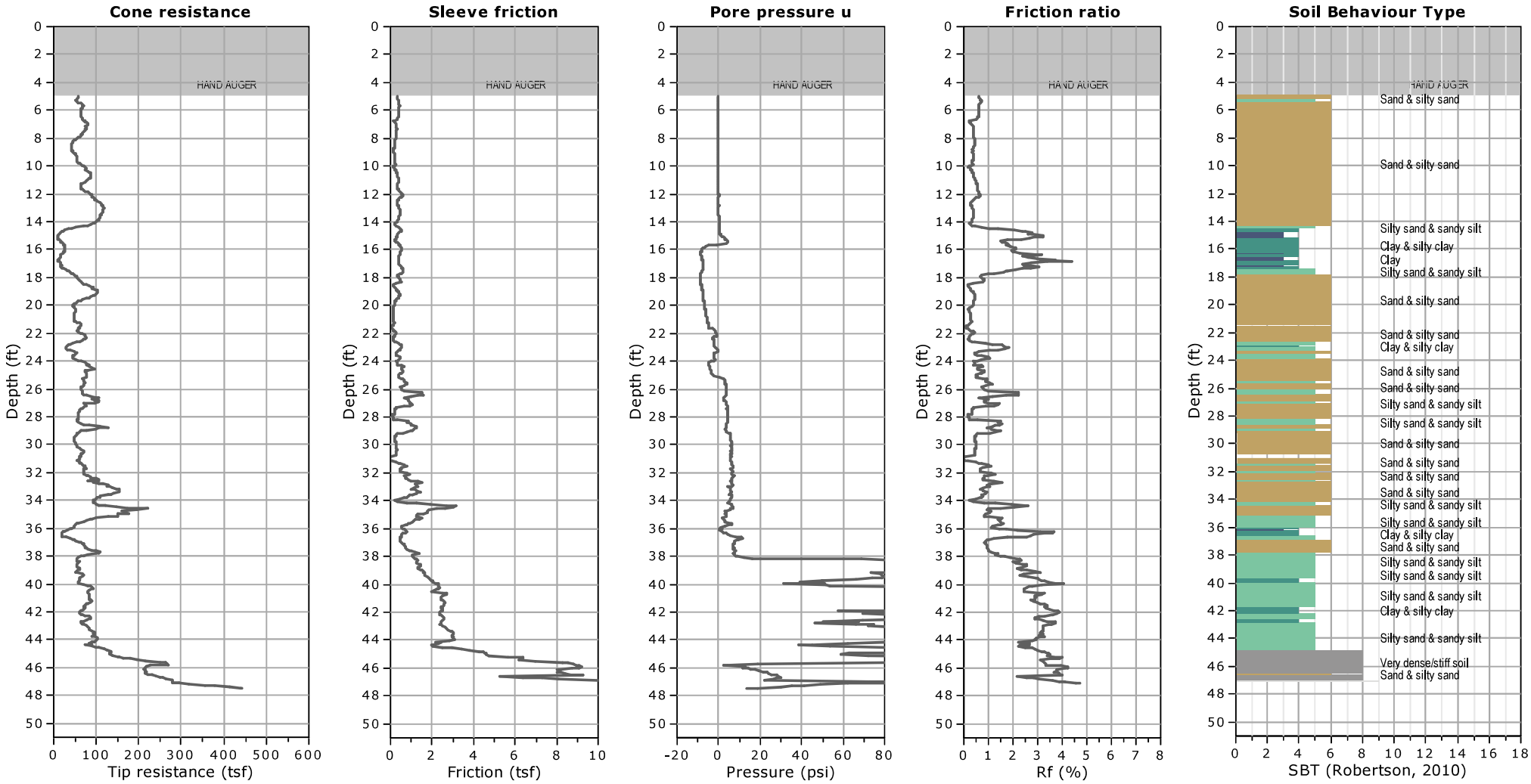
Project: Leighton & Associates / City Ventures - Santee 3 Geoinv
Location: Cottonwood Ave & Claudia Ave, Santee, CA

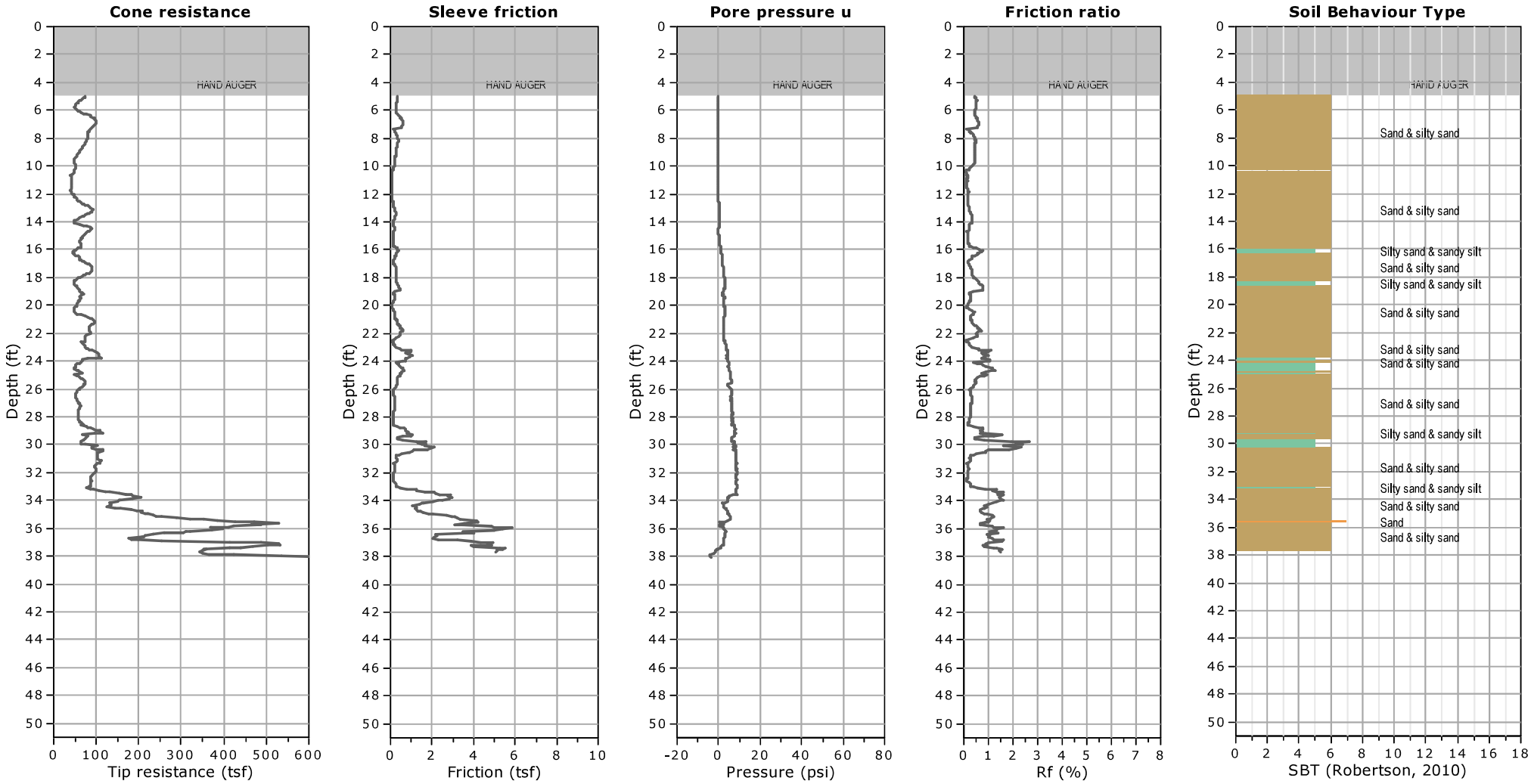
CPT-9
Total depth: 47.51 ft, Date: 4/24/2023



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: Leighton & Associates / City Ventures - Santee 3 Geoinv
Location: Cottonwood Ave & Claudia Ave, Santee, CA

CPT-10
Total depth: 38.06 ft, Date: 4/24/2023



Kehoe Testing and Engineering
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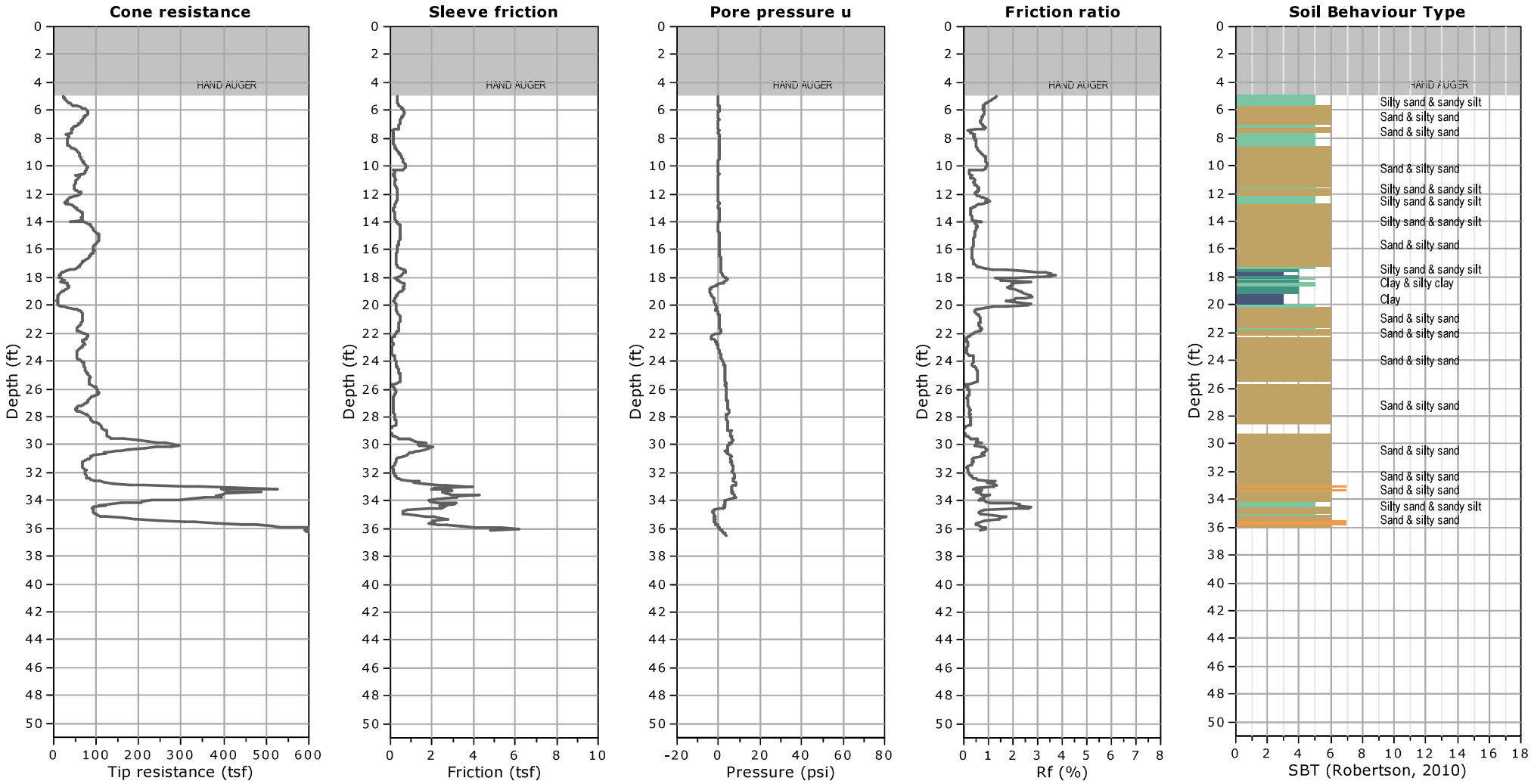
steve@kehoetesting.com
www.kehoetesting.com

Project: Leighton & Associates / City Ventures - Santee 3 Geoinv
Location: Cottonwood Ave & Claudia Ave, Santee, CA

CPT-11
Total depth: 36.49 ft, Date: 4/24/2023



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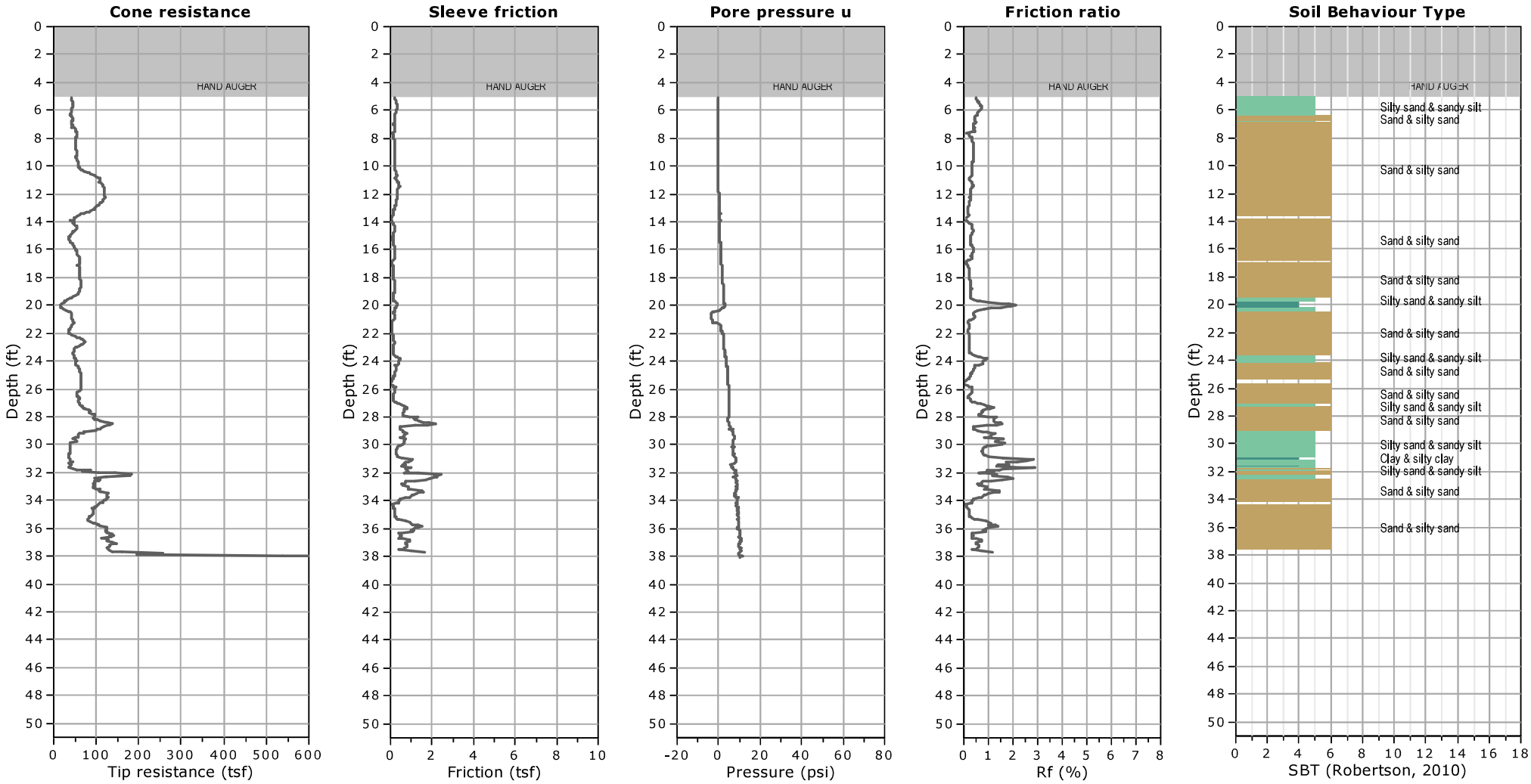
steve@kehoetesting.com
www.kehoetesting.com

Project: Leighton & Associates / City Ventures - Santee 3 Geoinv
Location: Cottonwood Ave & Claudia Ave, Santee, CA

CPT-12
Total depth: 38.06 ft, Date: 4/24/2023



Kehoe Testing and Engineering
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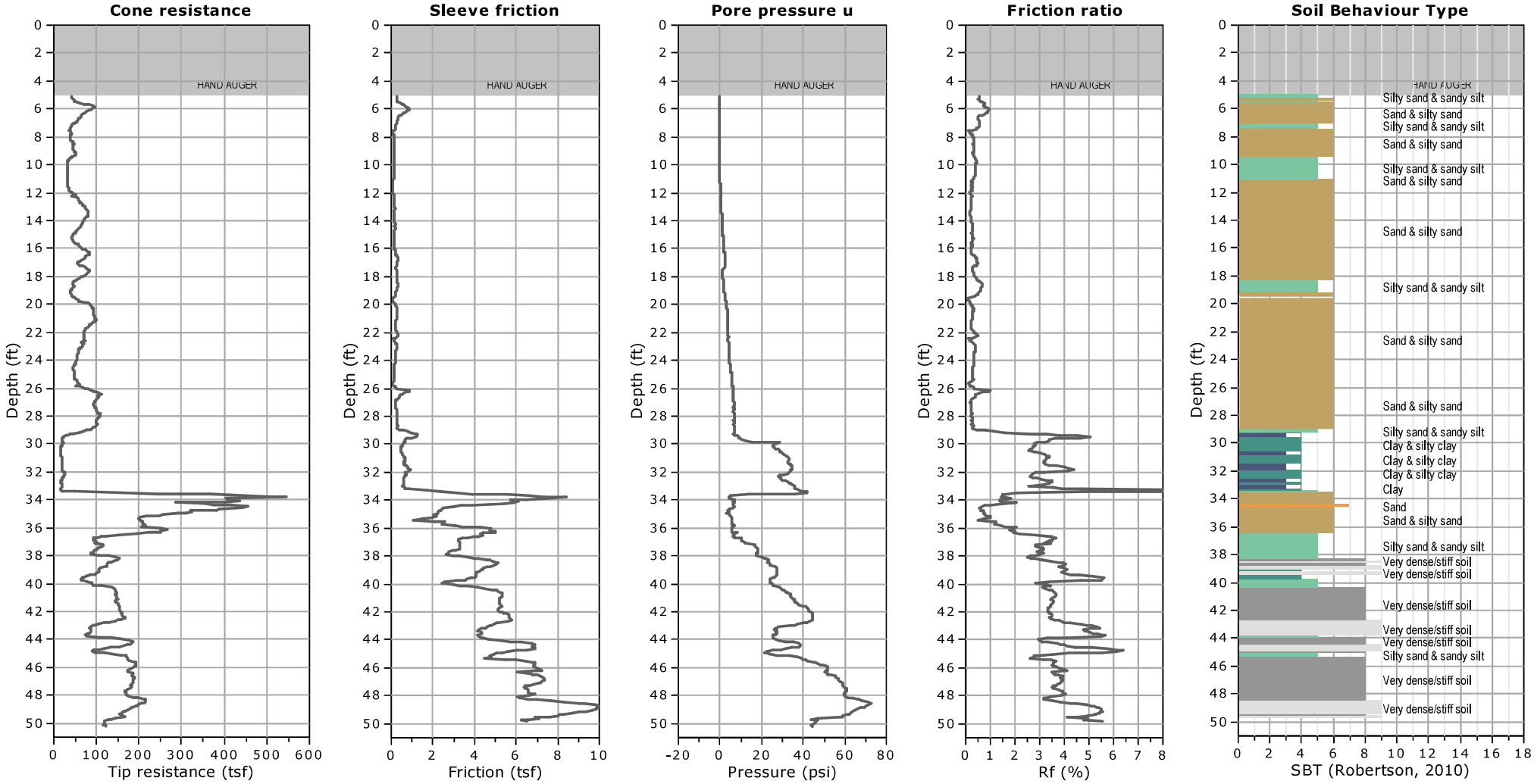
www.kehoetesting.com

Project: Leighton & Associates / City Ventures - Santee 3 Geoinv
Location: Cottonwood Ave & Claudia Ave, Santee, CA

CPT-13
Total depth: 50.22 ft, Date: 4/24/2023



Kehoe Testing and Engineering
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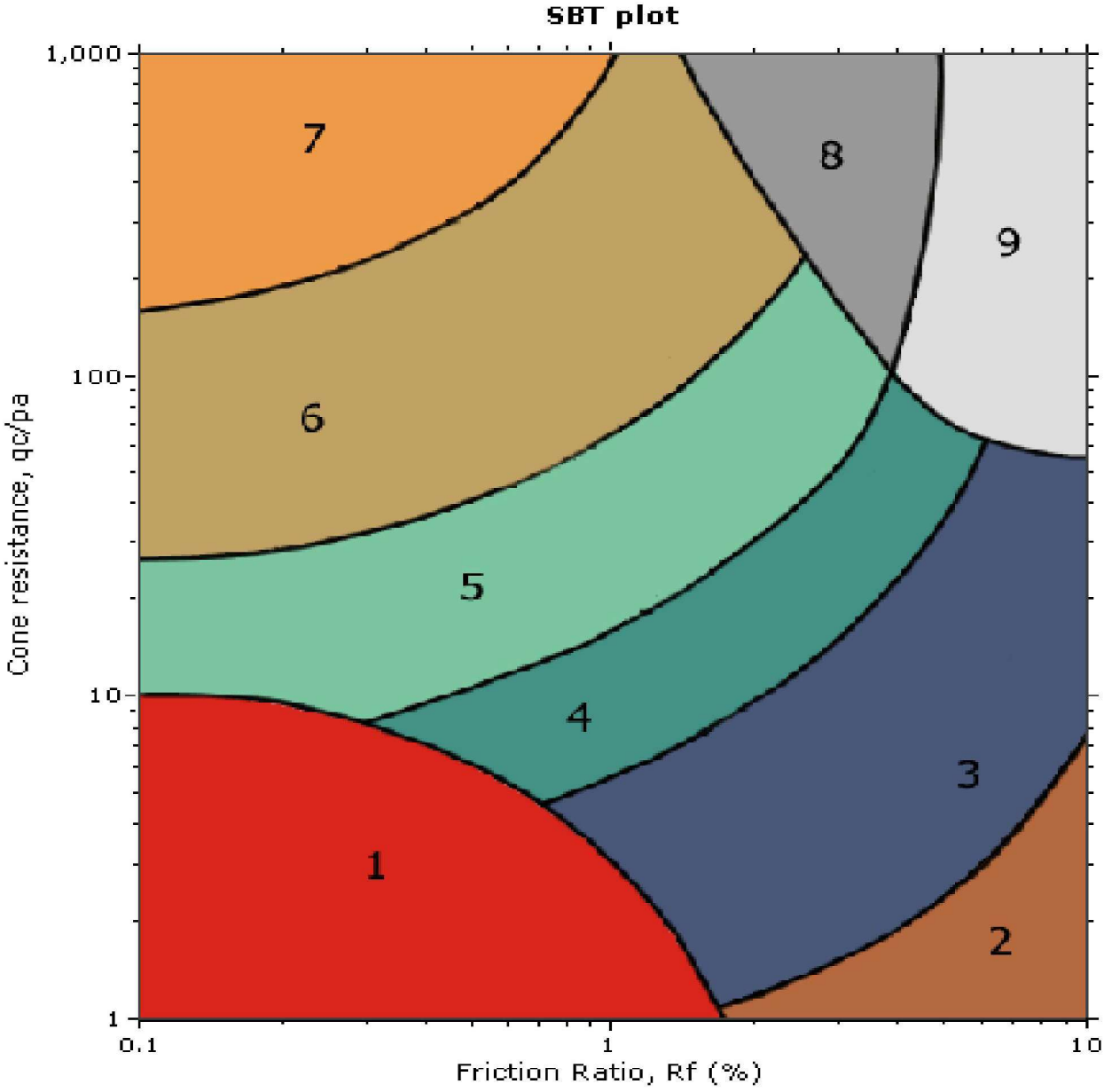


SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

APPENDIX B-2

Previous Subsurface Data (Leighton, 2017)

GREGG DRILLING & TESTING, INC.
GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

10/27/17

Leighton and Associates
Attn: Mike Jensen

Subject: CPT Site Investigation
City Ventures/Santee B
Santee, California
GREGG Project Number: 17-638SH

Dear Mr. Jensen:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☐
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	UVOST Laser Induced Fluorescence	(UVOST)	☐
5	Groundwater Sampling	(GWS)	☐
6	Soil Sampling	(SS)	☐
7	Vapor Sampling	(VS)	☐
8	Pressuremeter Testing	(PMT)	☐
9	Vane Shear Testing	(VST)	☐
10	Dilatometer Testing	(DMT)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG Drilling & Testing, Inc.

Frank Stolfi
HRSC Division Manager, Gregg Drilling & Testing, Inc.

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (feet)	Depth of Groundwater Samples (feet)	Depth of Soil Samples (feet)	Depth of Pore Pressure Dissipation Tests (feet)
CPT-1	10/26/17	43	-	-	-
CPT-2	10/26/17	43	-	-	-
CPT-3	10/26/17	46	-	-	-
CPT-4	10/26/17	51	-	-	-
CPT-5	10/26/17	46	-	-	-
CPT-6	10/26/17	25	-	-	-
CPT-7	10/26/17	32	-	-	-

Bibliography

Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 0 419 23750, 1997

Roberston, P.K., "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, Vol. 27, 1990 pp. 151-158.

Mayne, P.W., "NHI (2002) Manual on Subsurface Investigations: Geotechnical Site Characterization", available through www.ce.gatech.edu/~geosys/Faculty/Mayne/papers/index.html, Section 5.3, pp. 107-112.

Robertson, P.K., R.G. Campanella, D. Gillespie and A. Rice, "Seismic CPT to Measure In-Situ Shear Wave Velocity", Journal of Geotechnical Engineering ASCE, Vol. 112, No. 8, 1986 pp. 791-803.

Robertson, P.K., Sully, J., Woeller, D.J., Lunne, T., Powell, J.J.M., and Gillespie, D.J., "Guidelines for Estimating Consolidation Parameters in Soils from Piezocone Tests", Canadian Geotechnical Journal, Vol. 29, No. 4, August 1992, pp. 539-550.

Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

Campanella, R.G. and I. Weemees, "Development and Use of An Electrical Resistivity Cone for Groundwater Contamination Studies", Canadian Geotechnical Journal, Vol. 27 No. 5, 1990 pp. 557-567.

DeGroot, D.J. and A.J. Lutenegger, "Reliability of Soil Gas Sampling and Characterization Techniques", International Site Characterization Conference - Atlanta, 1998.

Woeller, D.J., P.K. Robertson, T.J. Boyd and Dave Thomas, "Detection of Polyaromatic Hydrocarbon Contaminants Using the UVIF-CPT", 53rd Canadian Geotechnical Conference Montreal, QC October pp. 733-739, 2000.

Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

Cone Penetration Testing Procedure (CPT)

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*.

The cone takes measurements of tip resistance (q_c), sleeve resistance (f_s), and penetration pore water pressure (u_2). Measurements are taken at either 2.5 or 5 cm intervals during penetration to provide a nearly continuous profile. CPT data reduction and basic interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored electronically for further analysis and reference. All CPT soundings are performed in accordance with revised ASTM standards (D 5778-12).

The 5mm thick porous plastic filter element is located directly behind the cone tip in the u_2 location. A new saturated filter element is used on each sounding to measure both penetration pore pressures as well as measurements during a dissipation test (*PPDT*). Prior to each test, the filter element is fully saturated with oil under vacuum pressure to improve accuracy.

When the sounding is completed, the test hole is backfilled according to client specifications. If grouting is used, the procedure generally consists of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

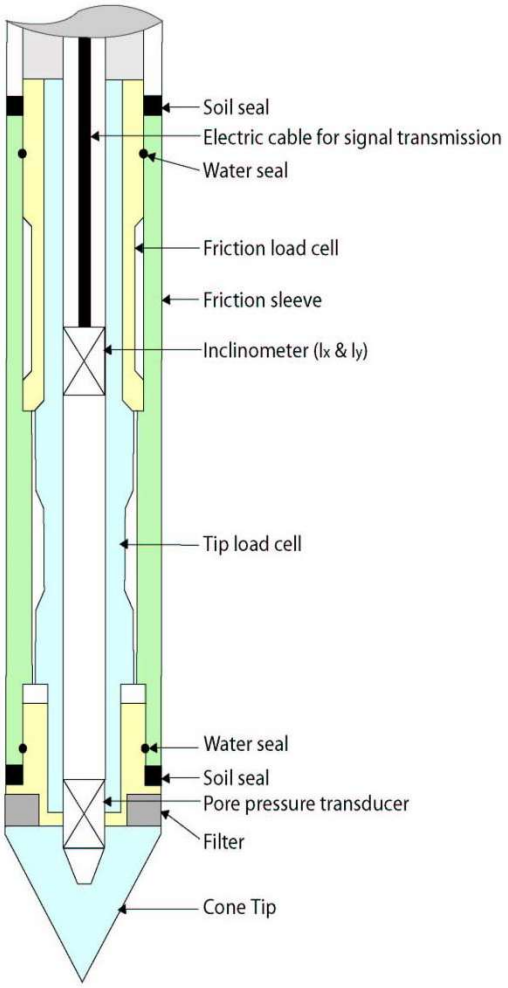


Figure CPT

Gregg 15cm^2 Standard Cone Specifications

Dimensions	
Cone base area	15 cm^2
Sleeve surface area	225 cm^2
Cone net area ratio	0.80
Specifications	
Cone load cell	
Full scale range	180 kN (20 tons)
Overload capacity	150%
Full scale tip stress	120 MPa (1,200 tsf)
Repeatability	120 kPa (1.2 tsf)
Sleeve load cell	
Full scale range	31 kN (3.5 tons)
Overload capacity	150%
Full scale sleeve stress	1,400 kPa (15 tsf)
Repeatability	1.4 kPa (0.015 tsf)
Pore pressure transducer	
Full scale range	7,000 kPa (1,000 psi)
Overload capacity	150%
Repeatability	7 kPa (1 psi)

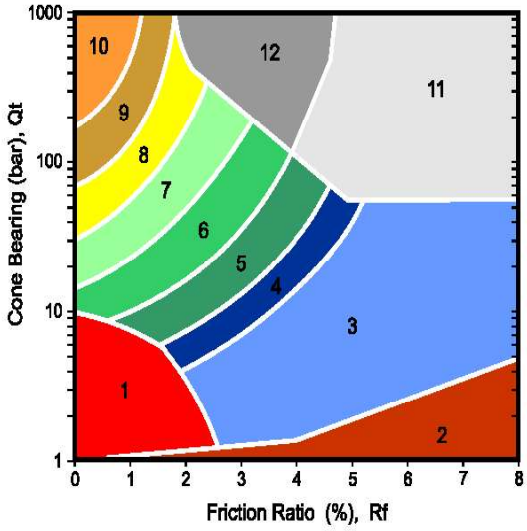
Note: The repeatability during field use will depend somewhat on ground conditions, abrasion, maintenance and zero load stability.

Cone Penetration Test Data & Interpretation

The Cone Penetration Test (CPT) data collected are presented in graphical and electronic form in the report. The plots include interpreted Soil Behavior Type (SBT) based on the charts described by Robertson (1990). Typical plots display SBT based on the non-normalized charts of Robertson et al (1986). For CPT soundings deeper than 30m, we recommend the use of the normalized charts of Robertson (1990) which can be displayed as SBTn, upon request. The report also includes spreadsheet output of computer calculations of basic interpretation in terms of SBT and SBTn and various geotechnical parameters using current published correlations based on the comprehensive review by Lunne, Robertson and Powell (1997), as well as recent updates by Professor Robertson (Guide to Cone Penetration Testing, 2015). The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg Drilling & Testing Inc. does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software. Some interpretation methods require input of the groundwater level to calculate vertical effective stress. An estimate of the in-situ groundwater level has been made based on field observations and/or CPT results, but should be verified by the user.

A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Note that it is not always possible to clearly identify a soil type based solely on q_t, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the correct soil behavior type.



ZONE		SBT
1		Sensitive, fine grained
2		Organic materials
3		Clay
4		Silty clay to clay
5		Clayey silt to silty clay
6		Sandy silt to clayey silt
7		Silty sand to sandy silt
8		Sand to silty sand
9		Sand
10		Gravely sand to sand
11		Very stiff fine grained*
12		Sand to clayey sand*

*over consolidated or cemented

Figure SBT (After Robertson et al., 1986) – Note: Colors may vary slightly compared to plots

Cone Penetration Test (CPT) Interpretation

Gregg uses a proprietary CPT interpretation and plotting software. The software takes the CPT data and performs basic interpretation in terms of soil behavior type (SBT) and various geotechnical parameters using current published empirical correlations based on the comprehensive review by Lunne, Robertson and Powell (1997). The interpretation is presented in tabular format using MS Excel. The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for any use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software.

The following provides a summary of the methods used for the interpretation. Many of the empirical correlations to estimate geotechnical parameters have constants that have a range of values depending on soil type, geologic origin and other factors. The software uses 'default' values that have been selected to provide, in general, conservatively low estimates of the various geotechnical parameters.

Input:

1 Units for display (Imperial or metric) (atm. pressure, p_a = 0.96 tsf or 0.1 MPa)
2 Depth interval to average results (ft or m). Data are collected at either 0.02 or 0.05m and can be averaged every 1, 3 or 5 intervals.
3 Elevation of ground surface (ft or m)
4 Depth to water table, z_w (ft or m) – input required
5 Net area ratio for cone, a (default to 0.80)
6 Relative Density constant, C_{Dr} (default to 350)
7 Young's modulus number for sands, α (default to 5)
8 Small strain shear modulus number
  a. for sands, S_G (default to 180 for SBT_n 5, 6, 7)
  b. for clays, C_G (default to 50 for SBT_n 1, 2, 3 & 4)
9 Undrained shear strength cone factor for clays, N_{kt} (default to 15)
10 Over Consolidation ratio number, k_{ocr} (default to 0.3)
11 Unit weight of water, (default to γ_w = 62.4 lb/ft^3 or 9.81 kN/m^3)

Column

1 Depth, z, (m) – CPT data is collected in meters
2 Depth (ft)
3 Cone resistance, q_c (tsf or MPa)
4 Sleeve resistance, f_s (tsf or MPa)
5 Penetration pore pressure, u (psi or MPa), measured behind the cone (i.e. u_2)
6 Other – any additional data
7 Total cone resistance, q_t (tsf or MPa) $q_t = q_c + u\,(1-a)$

8	Friction Ratio, R_f (%)	$R_f = (f_s/q_t) \times 100\%$
9	Soil Behavior Type (non-normalized), SBT	see note
10	Unit weight, γ (pcf or kN/m^3)	based on SBT, see note
11	Total overburden stress, σ_v (tsf)	$\sigma_{vo} = \sigma\, z$
12	In-situ pore pressure, u_o (tsf)	$u_o = \gamma_w (z - z_w)$
13	Effective overburden stress, σ'_{vo} (tsf)	$\sigma'_{vo} = \sigma_{vo} - u_o$
14	Normalized cone resistance, Q_{t1}	$Q_{t1} = (q_t - \sigma_{vo}) / \sigma'_{vo}$
15	Normalized friction ratio, F_r (%)	$F_r = f_s / (q_t - \sigma_{vo}) \times 100\%$
16	Normalized Pore Pressure ratio, B_q	$B_q = u - u_o / (q_t - \sigma_{vo})$
17	Soil Behavior Type (normalized), SBT_n	see note
18	SBT_n Index, I_c	see note
19	Normalized Cone resistance, Q_{tn} (n varies with I_c)	see note
20	Estimated permeability, k_{SBT} (cm/sec or ft/sec)	see note
21	Equivalent SPT N_{60}, blows/ft	see note
22	Equivalent SPT $(N_1)_{60}$ blows/ft	see note
23	Estimated Relative Density, D_r, (%)	see note
24	Estimated Friction Angle, ϕ', (degrees)	see note
25	Estimated Young's modulus, E_s (tsf)	see note
26	Estimated small strain Shear modulus, Go (tsf)	see note
27	Estimated Undrained shear strength, s_u (tsf)	see note
28	Estimated Undrained strength ratio	s_u/σ_v'
29	Estimated Over Consolidation ratio, OCR	see note

Notes:

1 Soil Behavior Type (non-normalized), SBT (Lunne et al., 1997 and table below)

2 Unit weight, γ either constant at 119 pcf or based on Non-normalized SBT (Lunne et al., 1997 and table below)

3 Soil Behavior Type (Normalized), SBT_n Lunne et al. (1997)

4 SBT_n Index, I_c $I_c = ((3.47 - \log Q_{t1})^2 + (\log F_r + 1.22)^2)^{0.5}$

5 Normalized Cone resistance, Q_{tn} (n varies with Ic)

$Q_{tn} = ((q_t - \sigma_{vo})/pa)\ (pa/(\sigma'_{vo})^n$ and recalculate I_c, then iterate:

When $I_c < 1.64$, n = 0.5 (clean sand)
When $I_c > 3.30$, n = 1.0 (clays)
When $1.64 < I_c < 3.30$, $n = (I_c - 1.64)0.3 + 0.5$
Iterate until the change in n, $\Delta n < 0.01$

6 Estimated permeability, k_{SBT} based on Normalized SBT_n (Lunne et al., 1997 and table below)

7 Equivalent SPT N_{60}, blows/ft Lunne et al. (1997)

$$\frac{(q_t/p_a)}{N_{60}} = 8.5\left(1 - \frac{I_c}{4.6}\right)$$

8 Equivalent SPT $(N_1)_{60}$ blows/ft $(N_1)_{60} = N_{60}\, C_N$,
where $C_N = (pa/\sigma'_{vo})^{0.5}$

9 Relative Density, D_r, (%) $D_r^2 = Q_{tn} / C_{Dr}$
Only SBT_n 5, 6, 7 & 8 *Show 'N/A' in zones 1, 2, 3, 4 & 9*

10 Friction Angle, ϕ', (degrees) $\tan\phi' = \frac{1}{2.68}\left[\log\left(\frac{q_c}{\sigma'_{vo}}\right) + 0.29\right]$
Only SBT_n 5, 6, 7 & 8 *Show'N/A' in zones 1, 2, 3, 4 & 9*

11 Young's modulus, E_s $E_s = \alpha\, q_t$
Only SBT_n 5, 6, 7 & 8 *Show 'N/A' in zones 1, 2, 3, 4 & 9*

12 Small strain shear modulus, Go

a. $G_o = S_G (q_t\ \sigma'_{vo}\ pa)^{1/3}$ *For SBT_n 5, 6, 7*

b. $G_o = C_G\, q_t$ *For SBT_n 1, 2, 3& 4*

Show 'N/A' in zones 8 & 9

13 Undrained shear strength, s_u $s_u = (q_t - \sigma_{vo}) / N_{kt}$
Only SBT_n 1, 2, 3, 4 & 9 *Show 'N/A' in zones 5, 6, 7 & 8*

14 Over Consolidation ratio, OCR $OCR = k_{ocr}\, Q_{t1}$
Only SBT_n 1, 2, 3, 4 & 9 *Show 'N/A' in zones 5, 6, 7 & 8*

The following updated and simplified SBT descriptions have been used in the software:

SBT Zones		**SBT_n Zones**	
1	sensitive fine grained	1	sensitive fine grained
2	organic soil	2	organic soil
3	clay	3	clay
4	clay & silty clay	4	clay & silty clay
5	clay & silty clay		
6	sandy silt & clayey silt		

7	silty sand & sandy silt	5	silty sand & sandy silt
8	sand & silty sand	6	sand & silty sand
9	sand		
10	sand	7	sand
11	very dense/stiff soil*	8	very dense/stiff soil*
12	very dense/stiff soil*	9	very dense/stiff soil*

*heavily overconsolidated and/or cemented

Track when soils fall with zones of same description and print that description (i.e. if soils fall only within SBT zones 4 & 5, print 'clays & silty clays')

Estimated Permeability (see Lunne et al., 1997)

SBT_n	Permeability (ft/sec)	(m/sec)
1	$3x\ 10^{-8}$	$1x\ 10^{-8}$
2	$3x\ 10^{-7}$	$1x\ 10^{-7}$
3	$1x\ 10^{-9}$	$3x\ 10^{-10}$
4	$3x\ 10^{-8}$	$1x\ 10^{-8}$
5	$3x\ 10^{-6}$	$1x\ 10^{-6}$
6	$3x\ 10^{-4}$	$1x\ 10^{-4}$
7	$3x\ 10^{-2}$	$1x\ 10^{-2}$
8	$3x\ 10^{-6}$	$1x\ 10^{-6}$
9	$1x\ 10^{-8}$	$3x\ 10^{-9}$

Estimated Unit Weight (see Lunne et al., 1997)

SBT	Approximate Unit Weight (lb/ft^3)	(kN/m^3)
1	111.4	17.5
2	79.6	12.5
3	111.4	17.5
4	114.6	18.0
5	114.6	18.0
6	114.6	18.0
7	117.8	18.5
8	120.9	19.0
9	124.1	19.5
10	127.3	20.0
11	130.5	20.5
12	120.9	19.0

Pore Pressure Dissipation Tests (PPDT)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals can be used to measure equilibrium water pressure (at the time of the CPT). If conditions are hydrostatic, the equilibrium water pressure can be used to determine the approximate depth of the ground water table. A PPDT is conducted when penetration is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (*u)* with time is measured behind the tip of the cone and recorded.

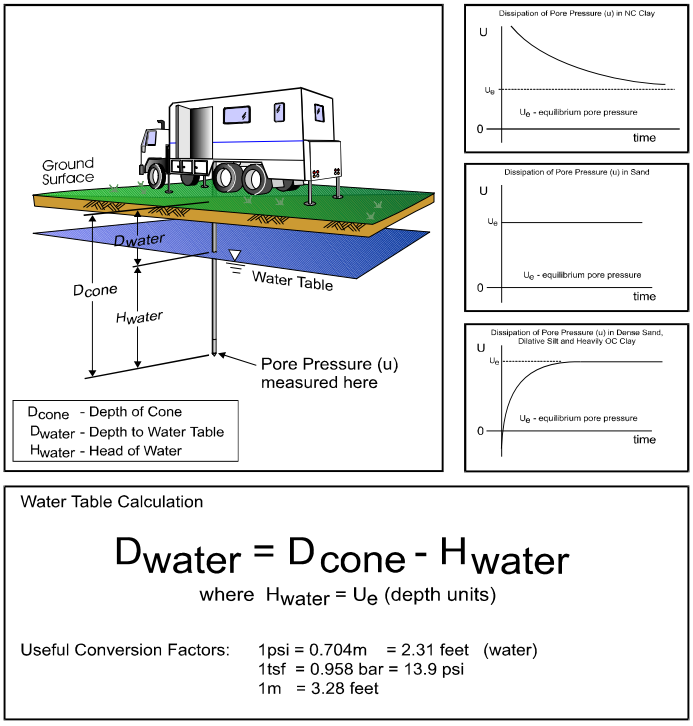
Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permeability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until it reaches equilibrium, *Figure PPDT*. This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992 and Lunne et al. 1997.

A summary of the pore pressure dissipation tests are summarized in Table 1.



Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

Figure PPDT

Seismic Cone Penetration Testing (SCPT)

Seismic Cone Penetration Testing (SCPT) can be conducted at various intervals during the Cone Penetration Test. Shear wave velocity (Vs) can then be calculated over a specified interval with depth. A small interval for seismic testing, such as 1-1.5m (3-5ft) allows for a detailed look at the shear wave profile with depth. Conversely, a larger interval such as 3-6m (10-20ft) allows for a more average shear wave velocity to be calculated. Gregg's cones have a horizontally active geophone located 0.2m (0.66ft) behind the tip.

To conduct the seismic shear wave test, the penetration of the cone is stopped and the rods are decoupled from the rig. An automatic hammer is triggered to send a shear wave into the soil. The distance from the source to the cone is calculated knowing the total depth of the cone and the horizontal offset distance between the source and the cone. To calculate an interval velocity, a minimum of two tests must be performed at two different depths. The arrival times between the two wave traces are compared to obtain the difference in time (Δt). The difference in depth is calculated (Δd) and velocity can be determined using the simple equation: $v = \Delta d/\Delta t$

Multiple wave traces can be recorded at the same depth to improve quality of the data.

A complete reference on seismic cone penetration tests is presented by Robertson et al. 1986 and Lunne et al. 1997.

A summary the shear wave velocities, arrival times and wave traces are provided with the report.

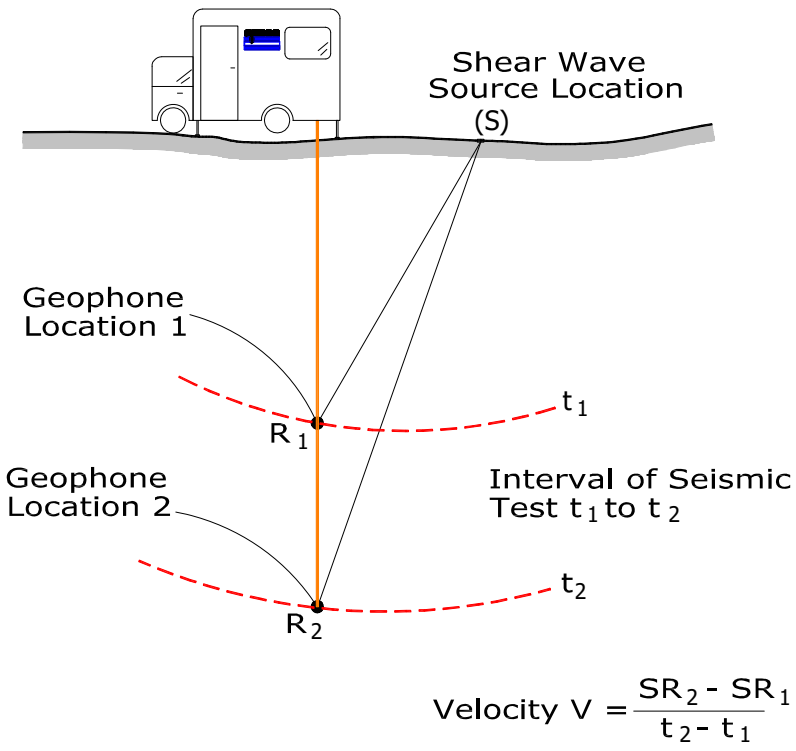


Figure SCPT

Groundwater Sampling

Gregg Drilling & Testing, Inc. conducts groundwater sampling using a sampler as shown in *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the pushing equipment to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 44.5mm (1¾ inch) hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

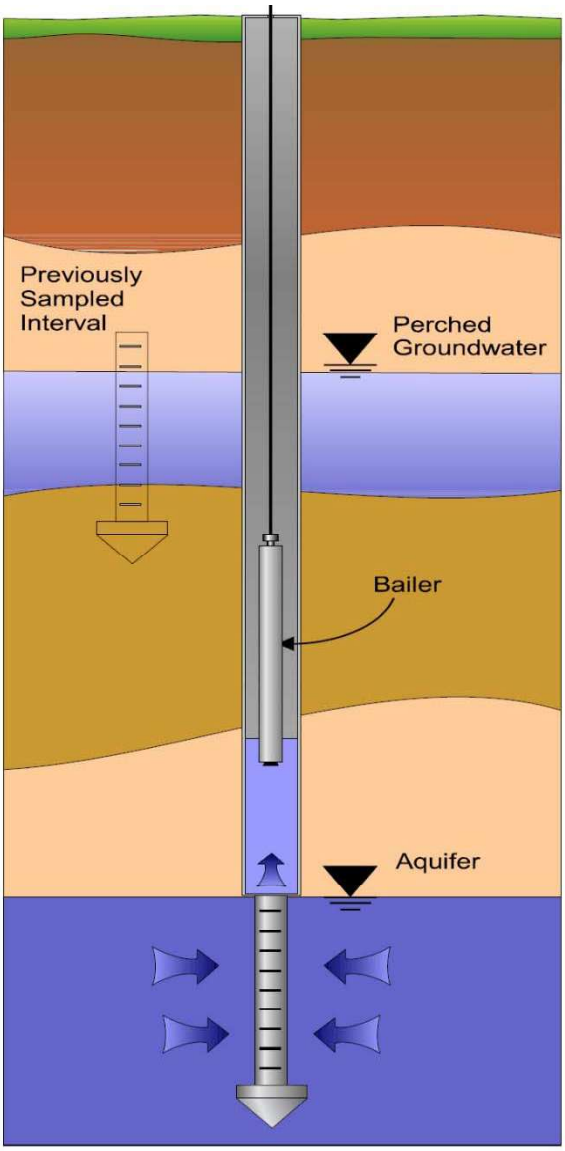


Figure GWS

Soil Sampling

Gregg Drilling & Testing, Inc. uses a piston-type push-in sampler to obtain small soil samples without generating any soil cuttings, *Figure SS*. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using the CPT pushing equipment. Keeping the sampler closed minimizes the potential of cross contamination. The inner tip of the sampler is then retracted leaving a hollow soil sampler with inner 1¼" diameter sample tubes. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery is increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

For a detailed reference on direct push soil sampling, refer to Robertson et al, 1998.

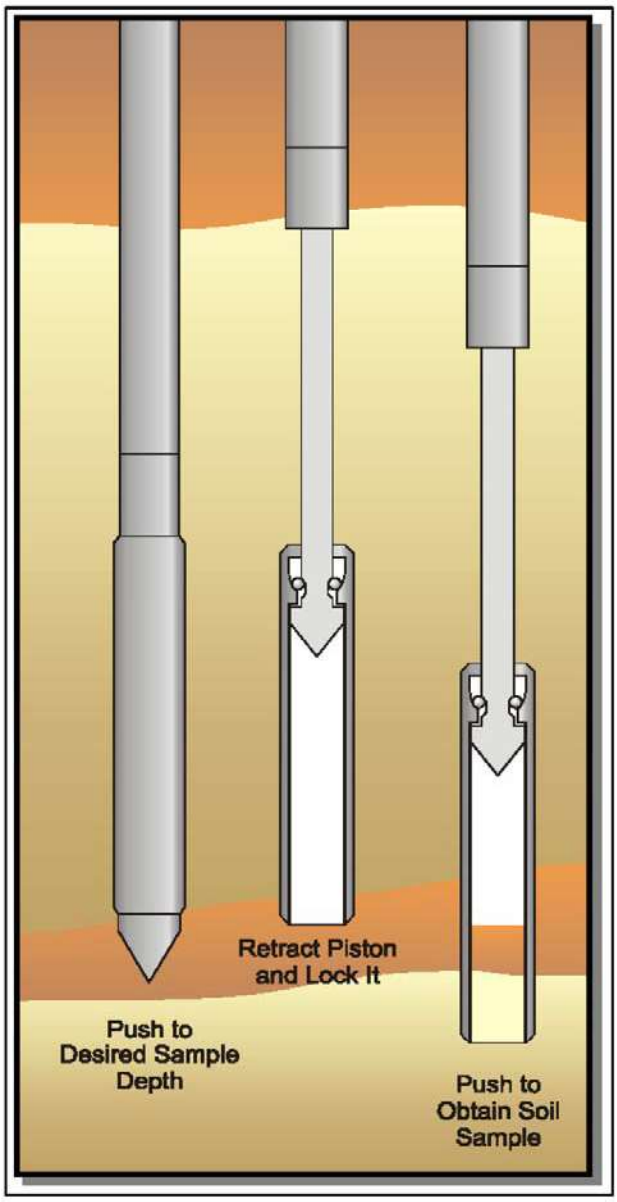
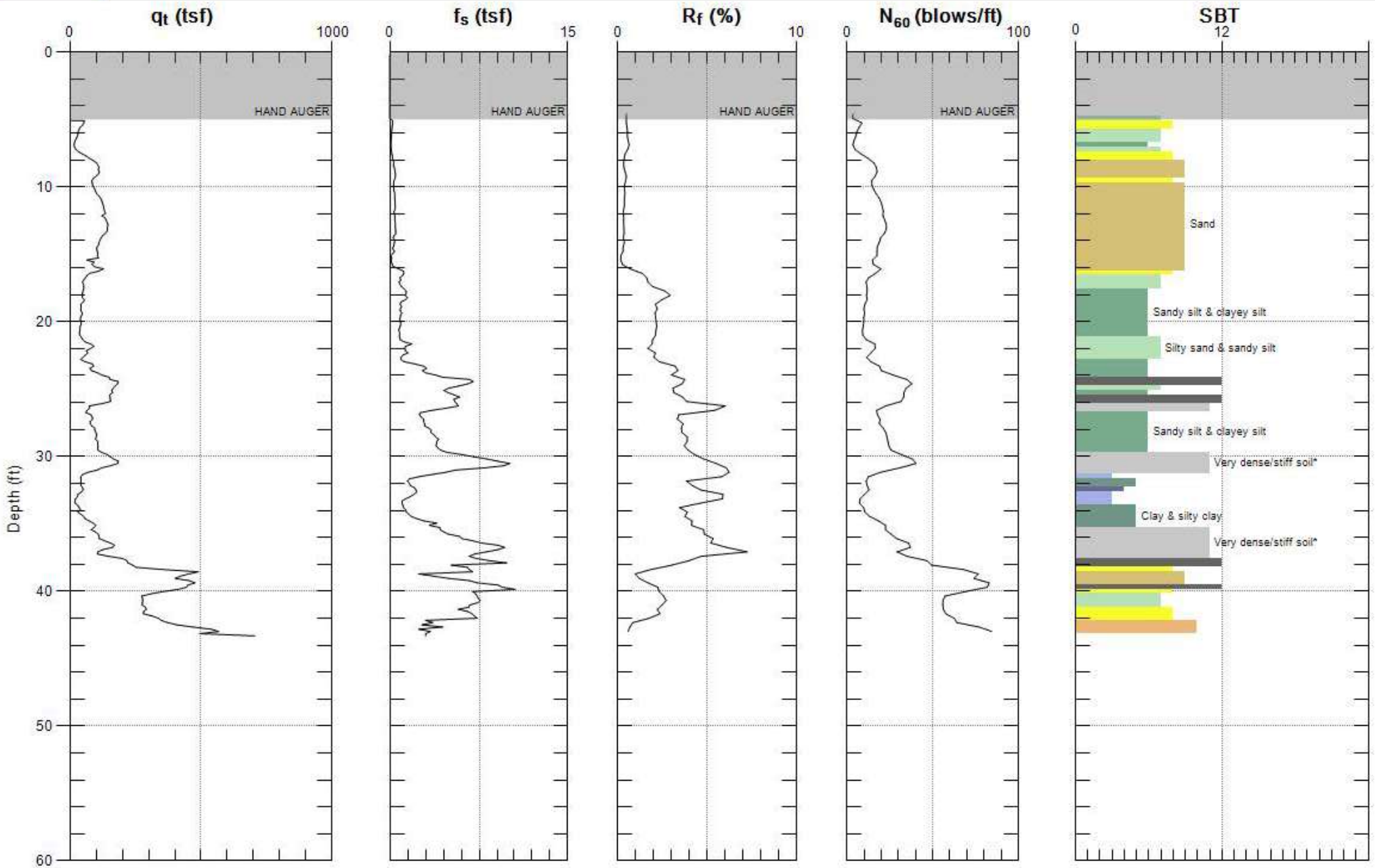


Figure SS

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-1 Date: 10/26/2017 07:35



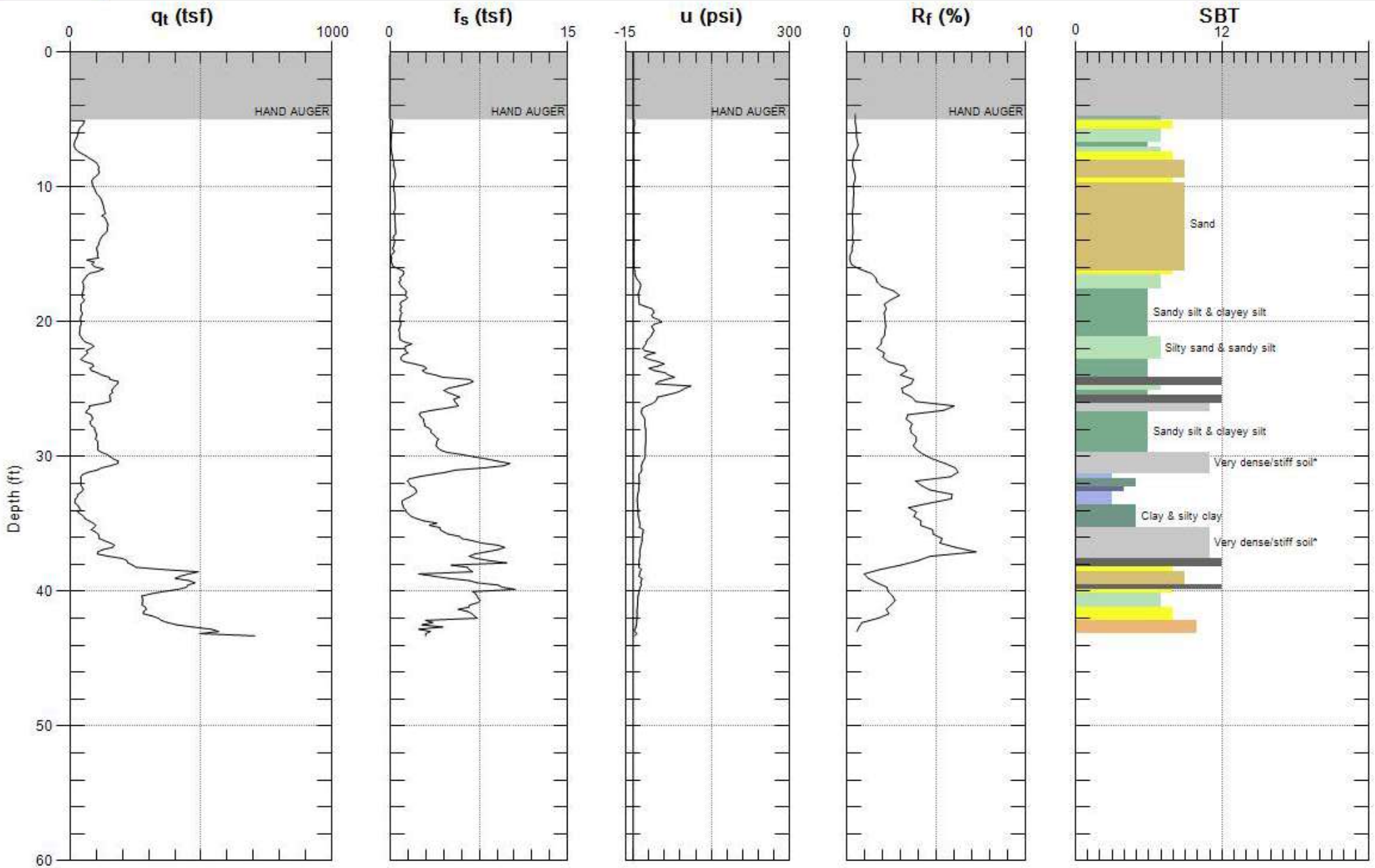
Max. Depth: 43.307 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-1 Date: 10/26/2017 07:35



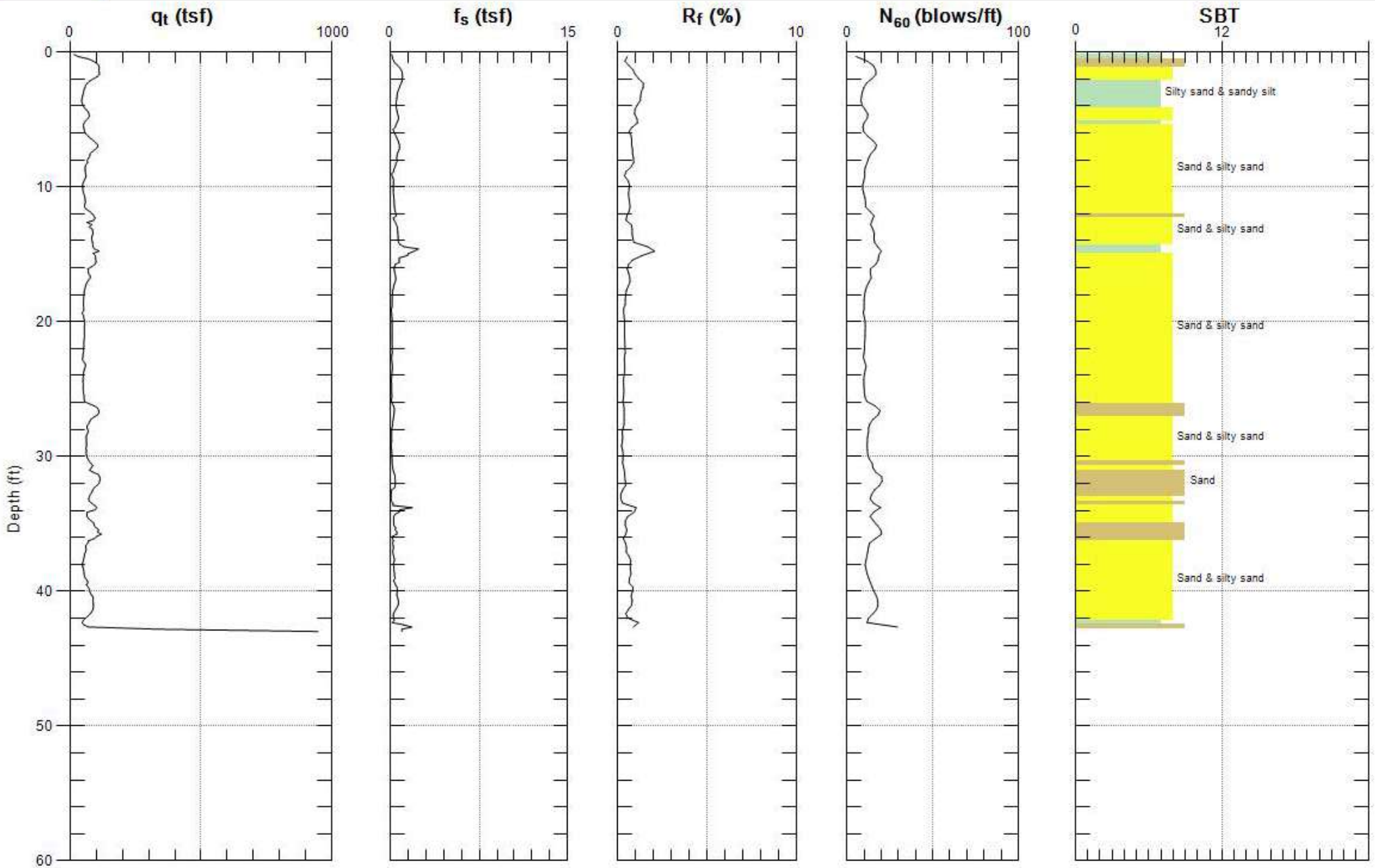
Max. Depth: 43.307 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-2 Date: 10/26/2017 08:17



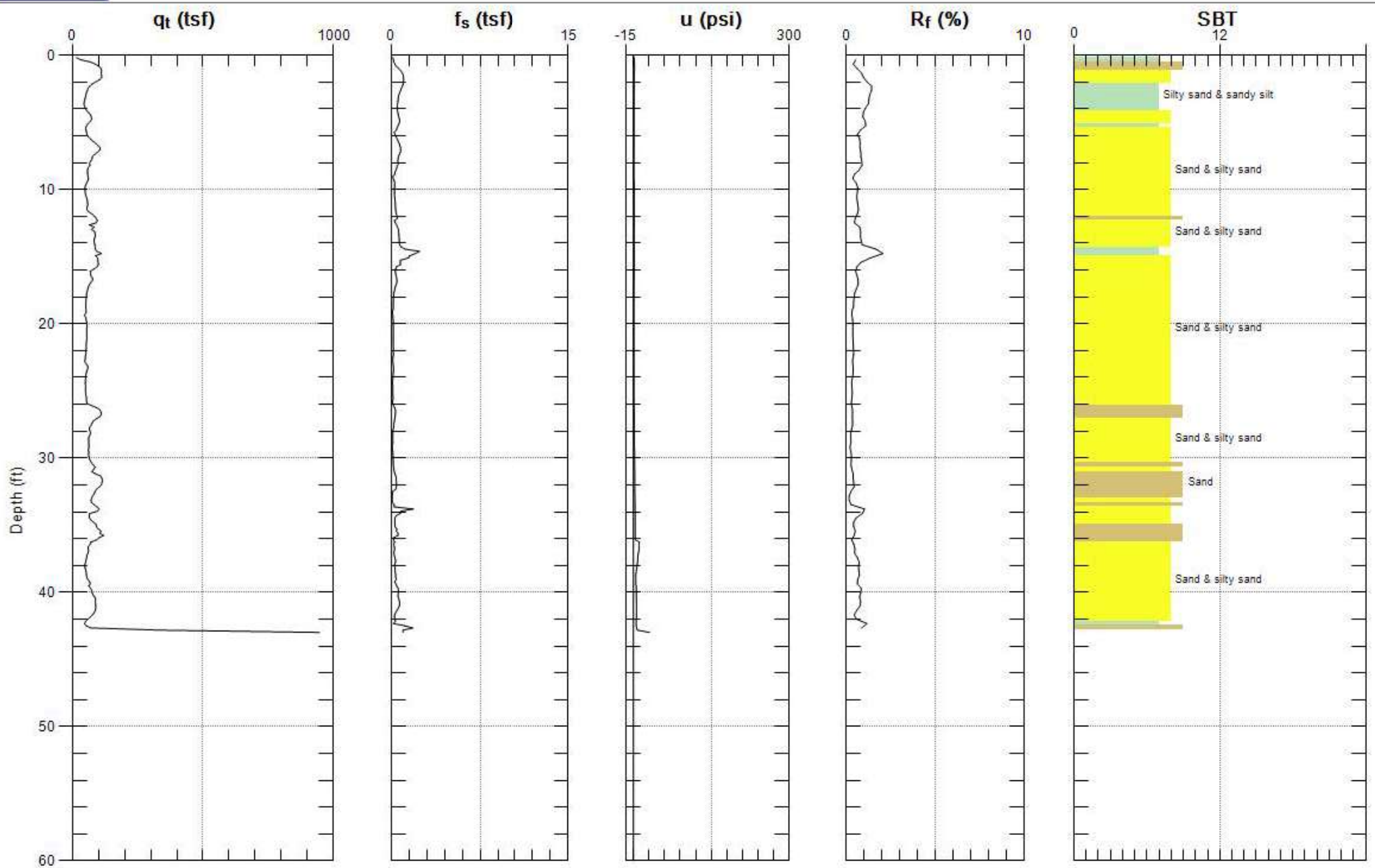
Max. Depth: 42.979 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-2 Date: 10/26/2017 08:17



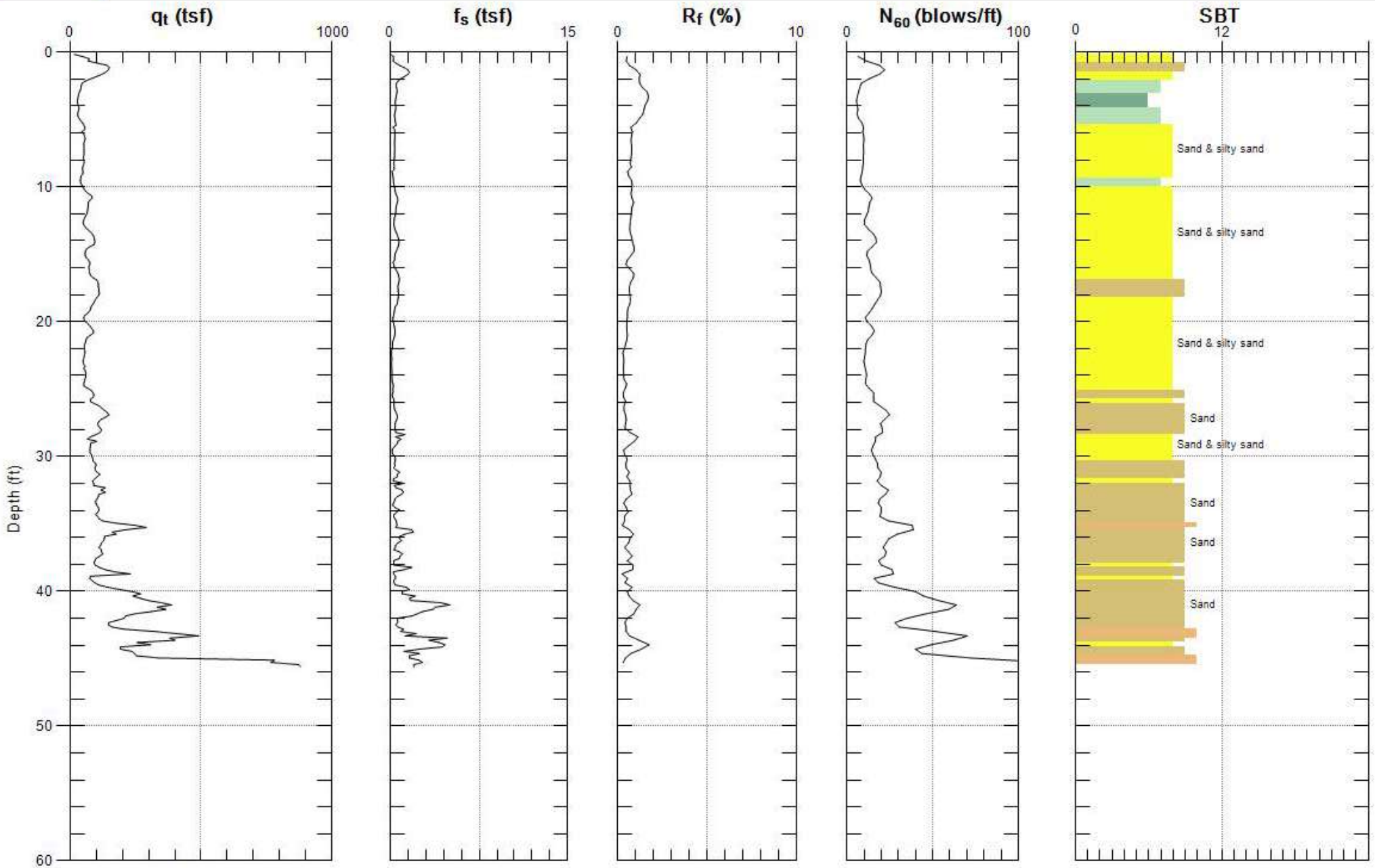
Max. Depth: 42.979 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-3 Date: 10/26/2017 08:48



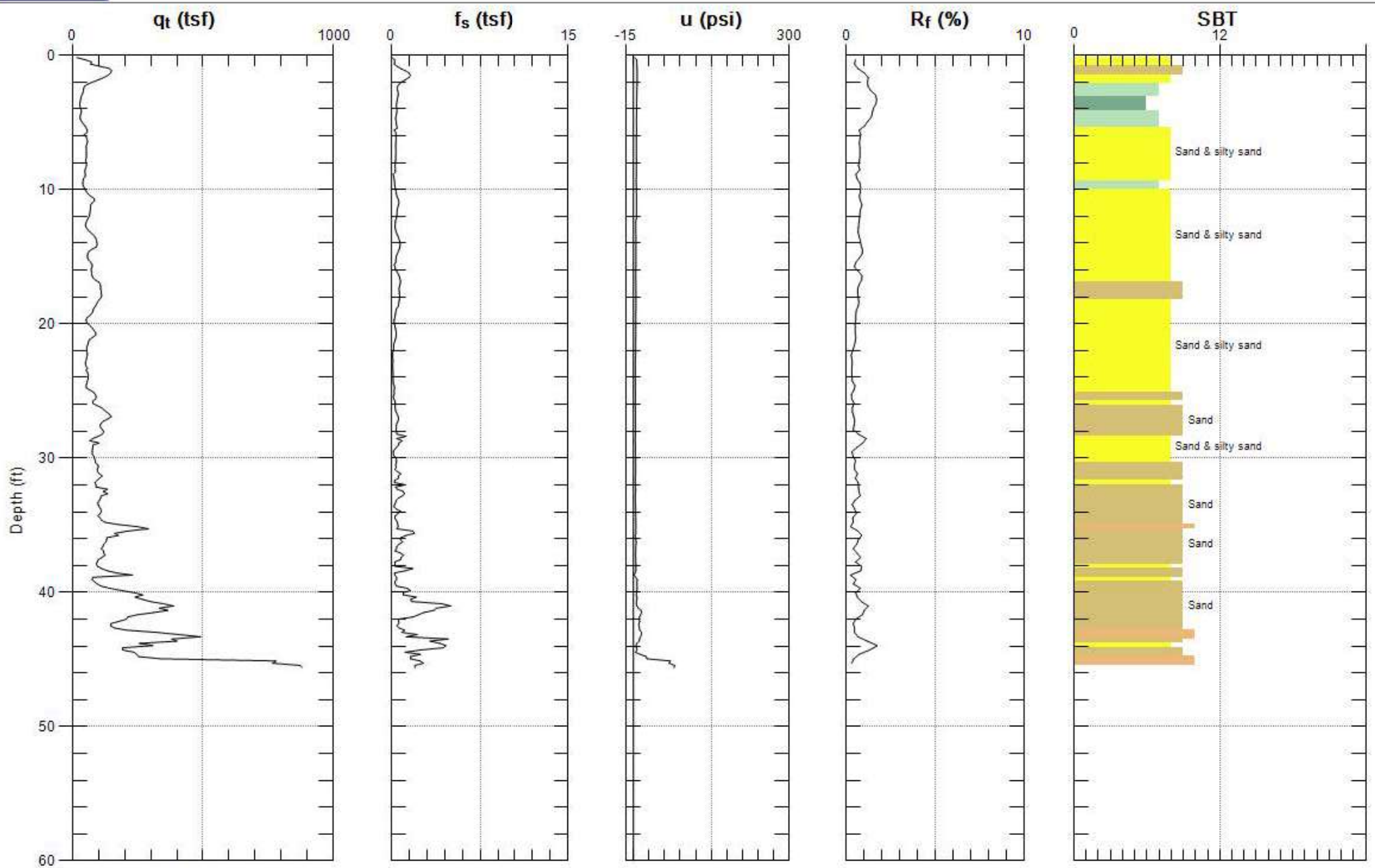
Max. Depth: 45.604 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-3 Date: 10/26/2017 08:48



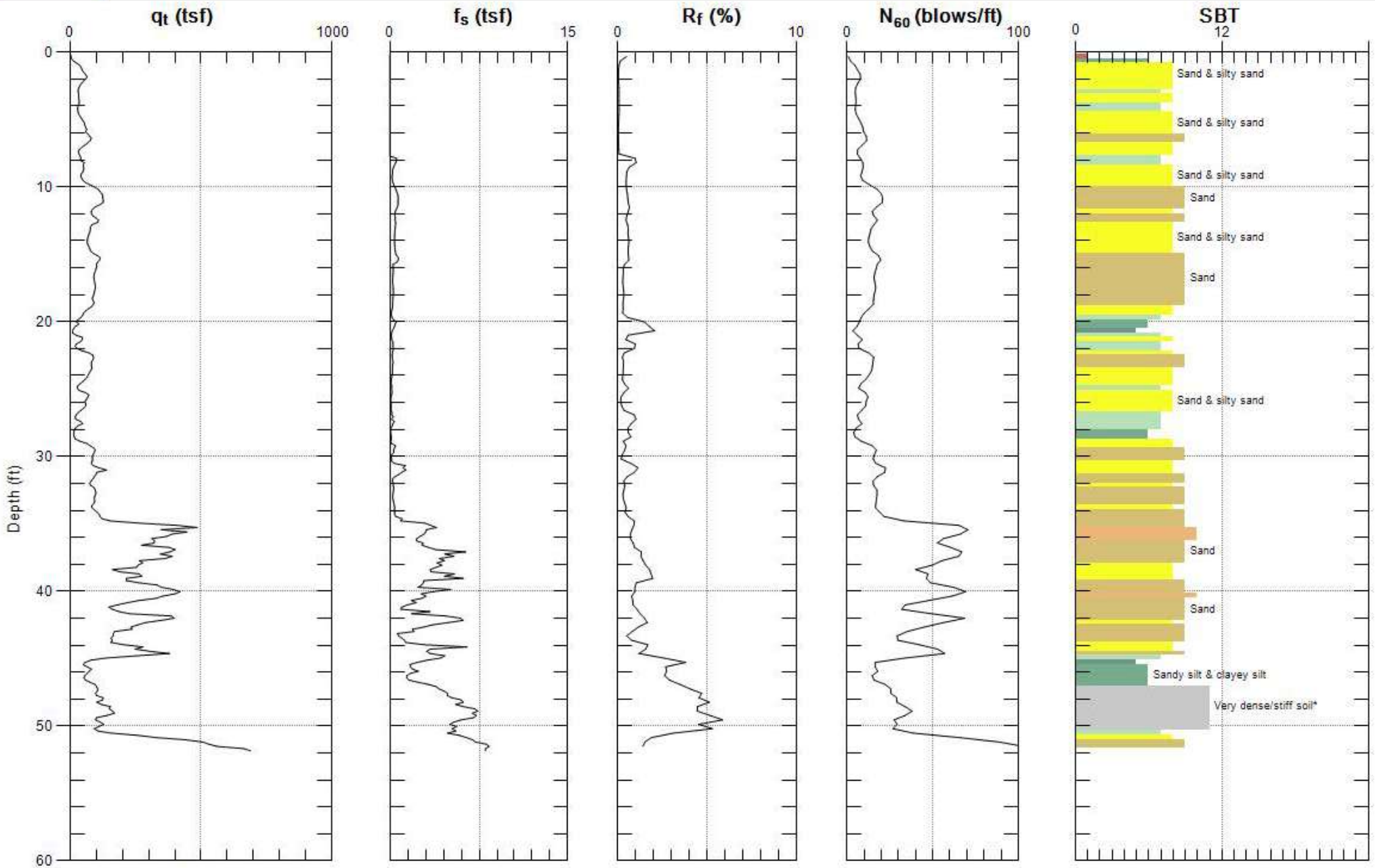
Max. Depth: 45.604 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-4 Date: 10/26/2017 09:20



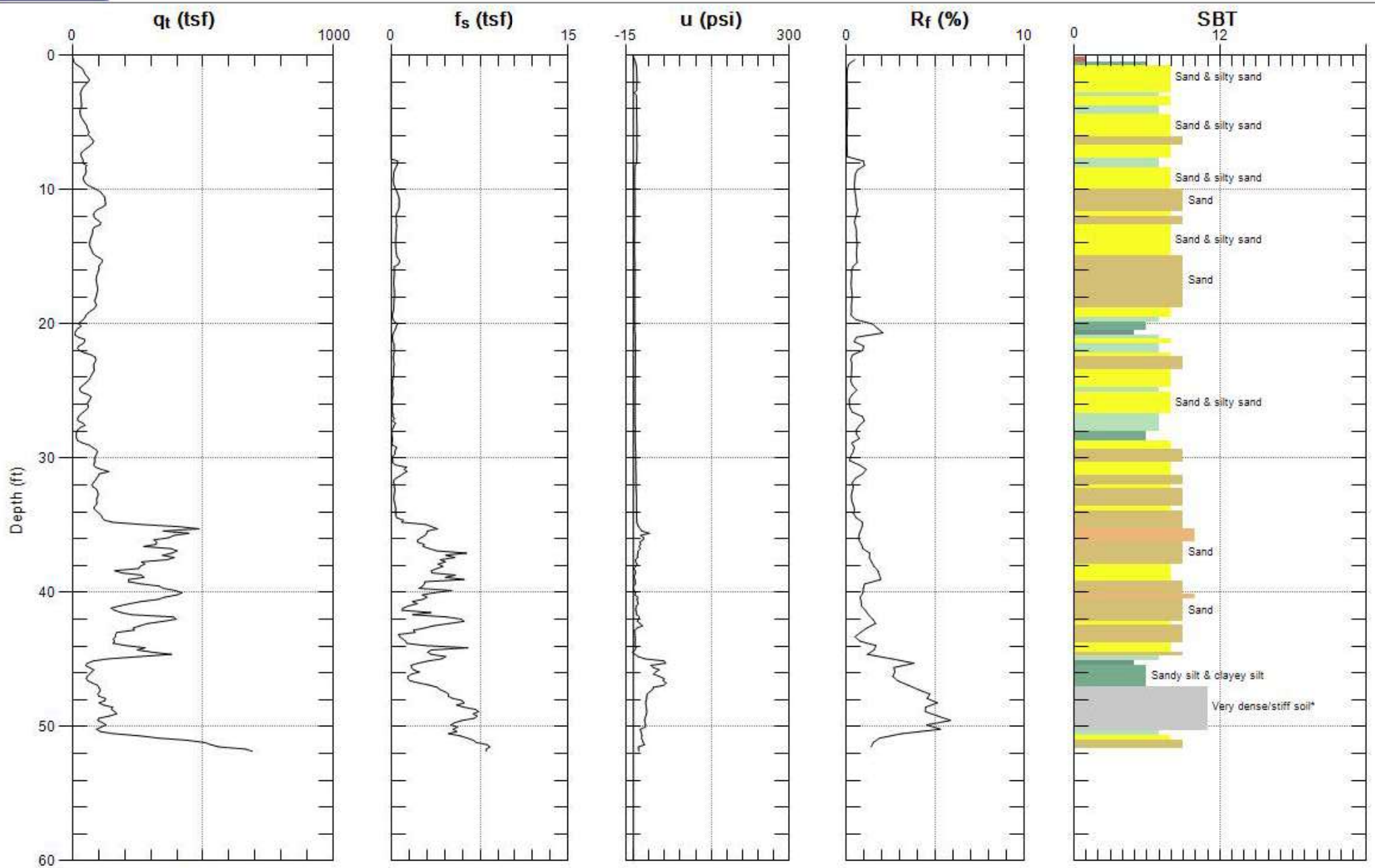
Max. Depth: 51.837 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-4 Date: 10/26/2017 09:20



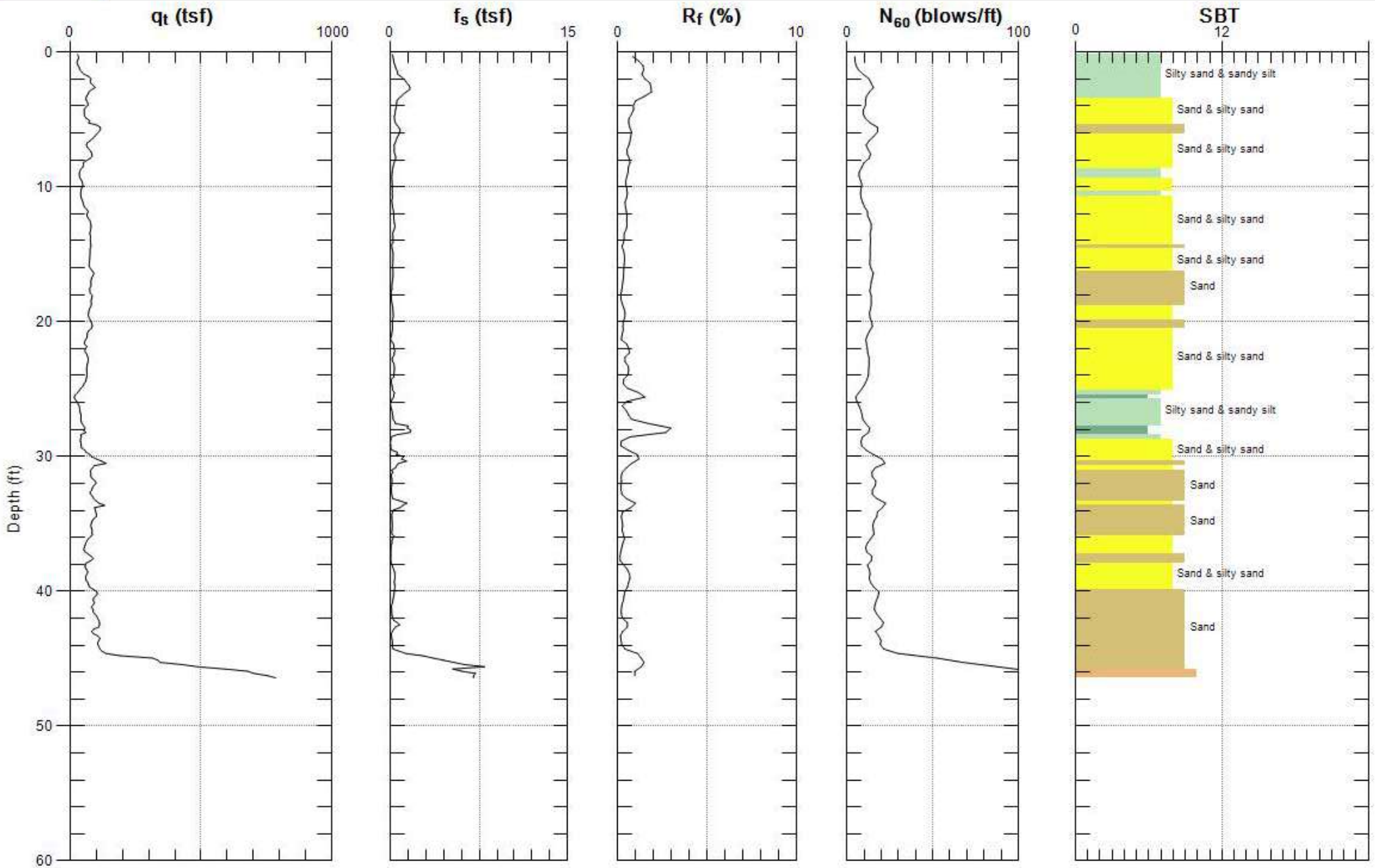
Max. Depth: 51.837 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-5 Date: 10/26/2017 10:42



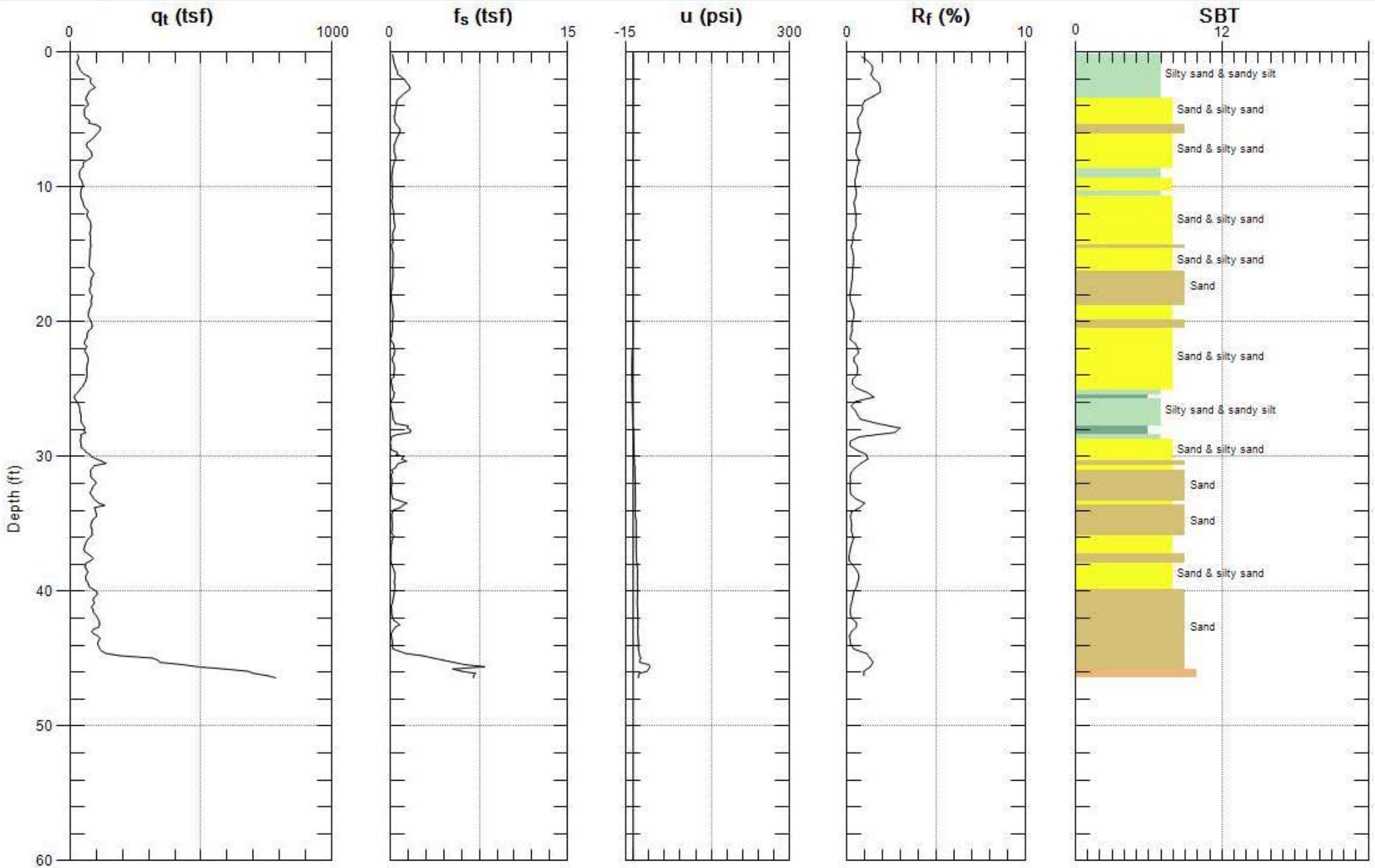
Max. Depth: 46.424 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-5 Date: 10/26/2017 10:42



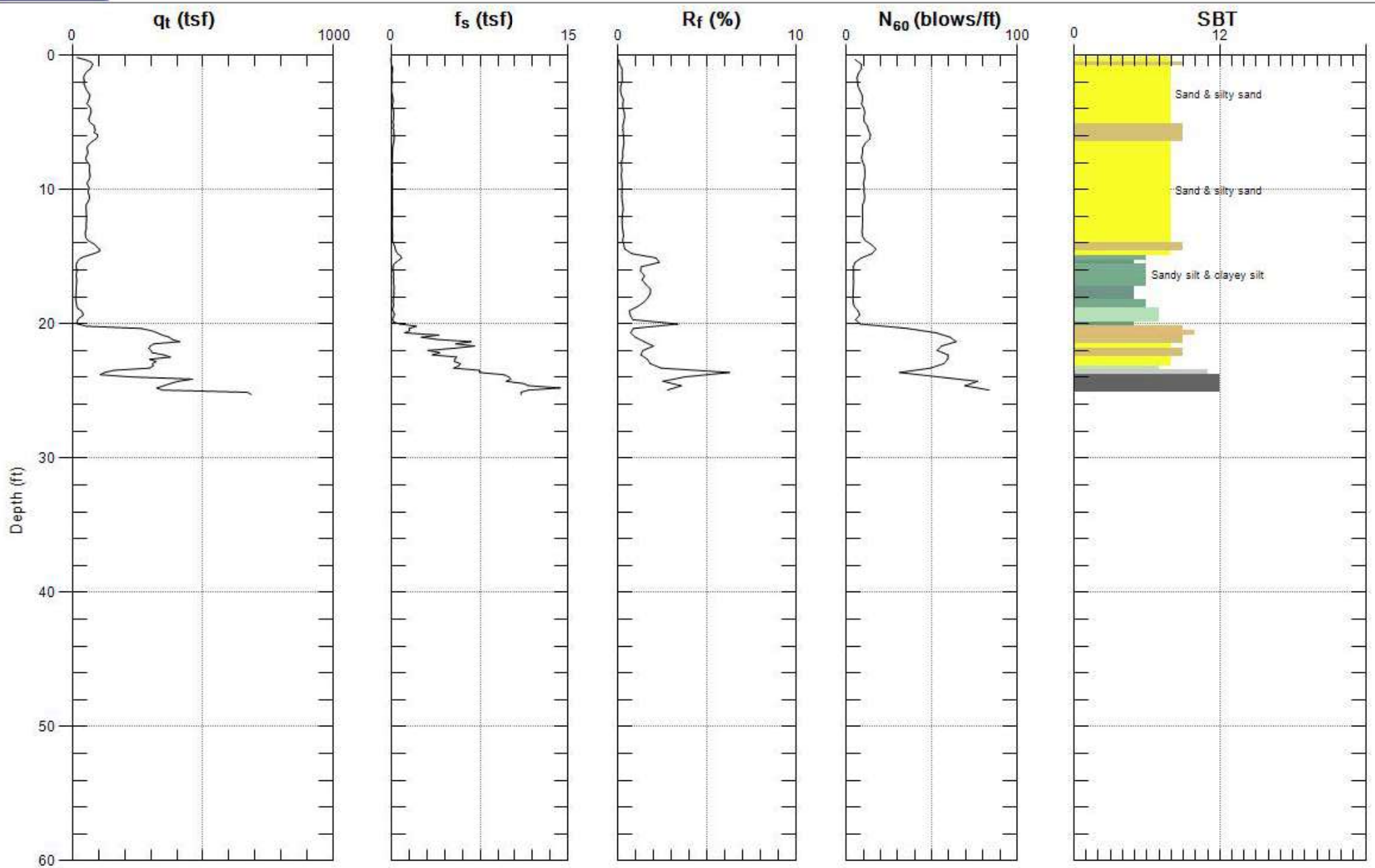
Max. Depth: 46.424 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-6 Date: 10/26/2017 11:19



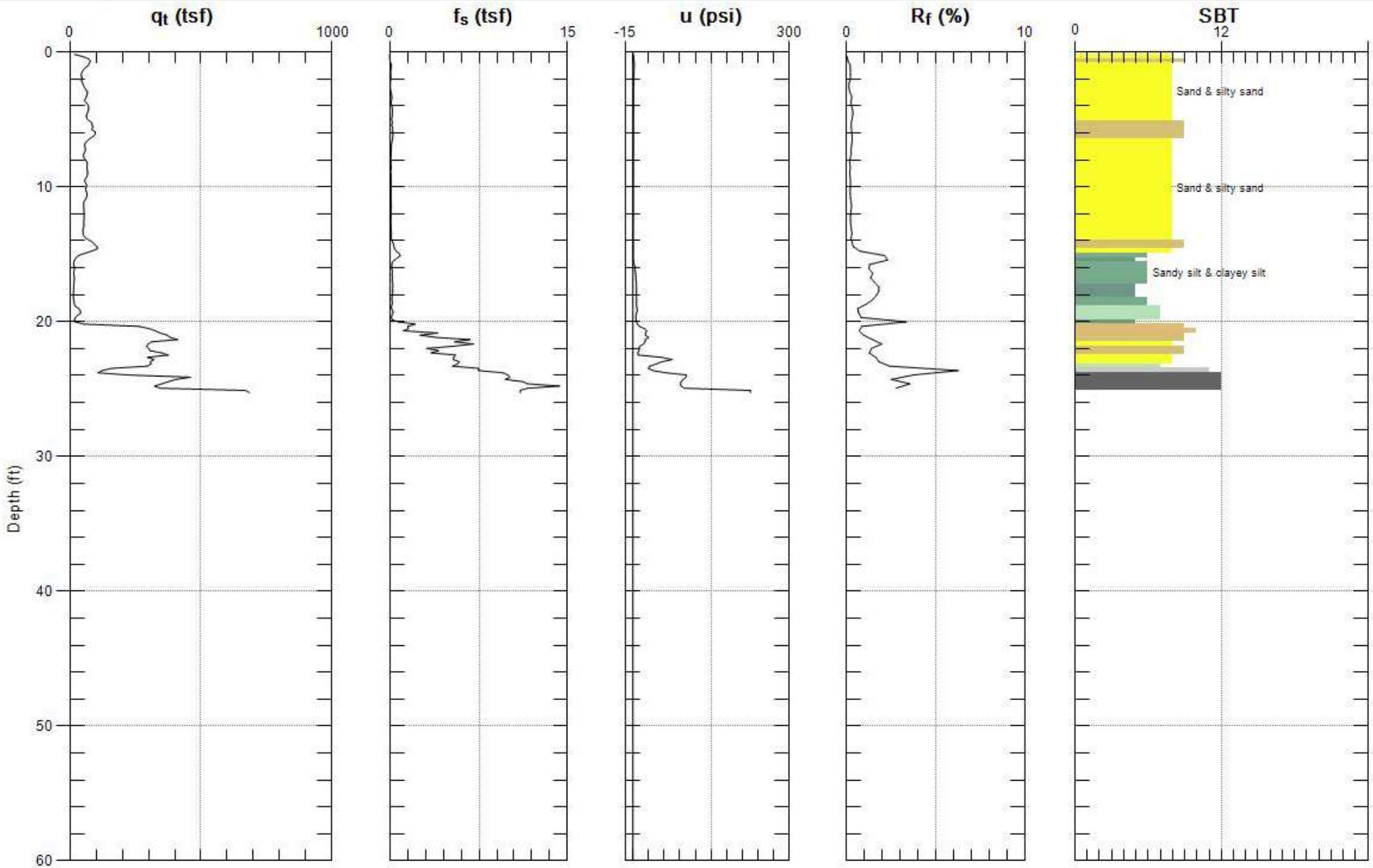
Max. Depth: 25.262 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-6 Date: 10/26/2017 11:19



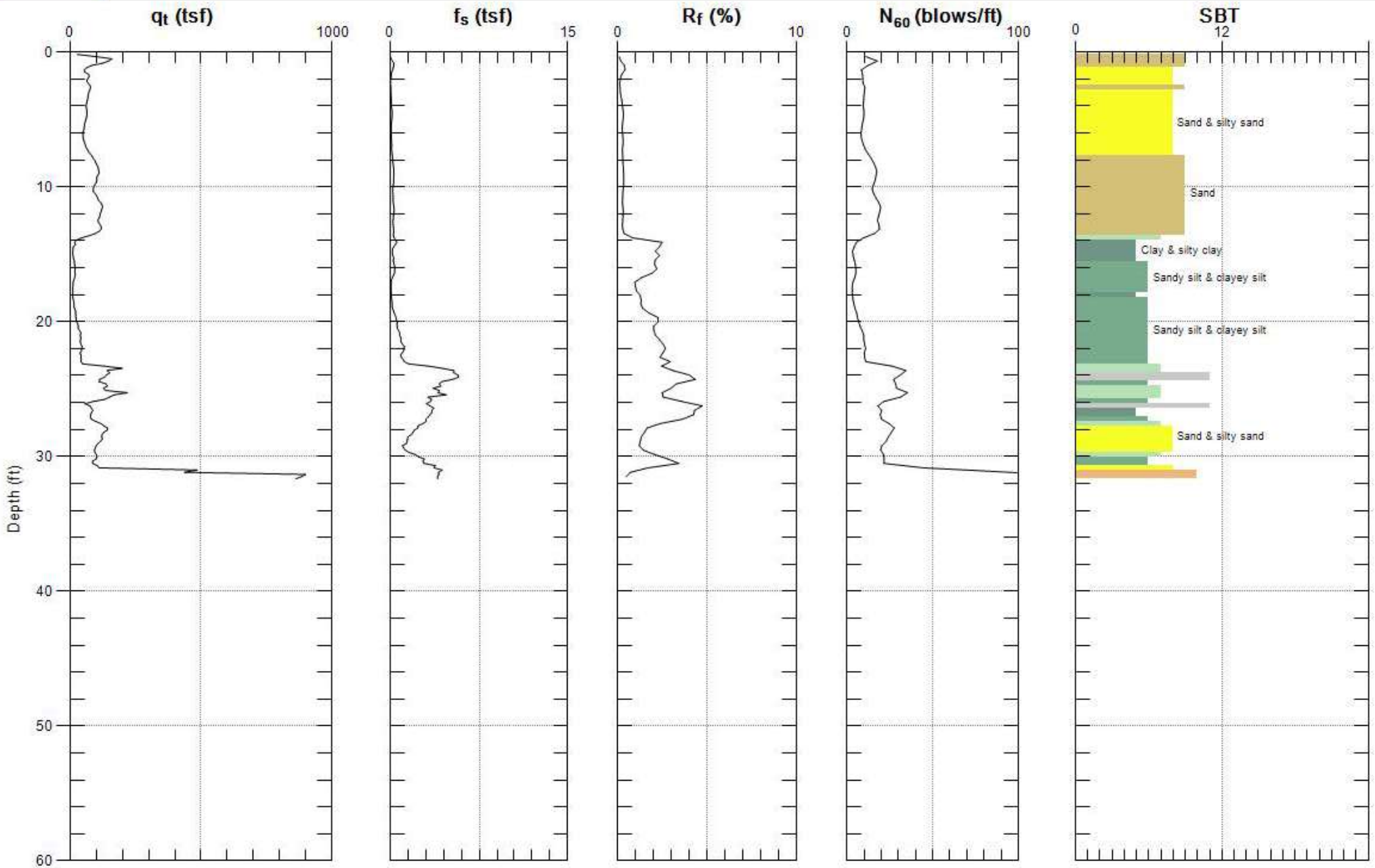
Max. Depth: 25.262 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-7 Date: 10/26/2017 12:15



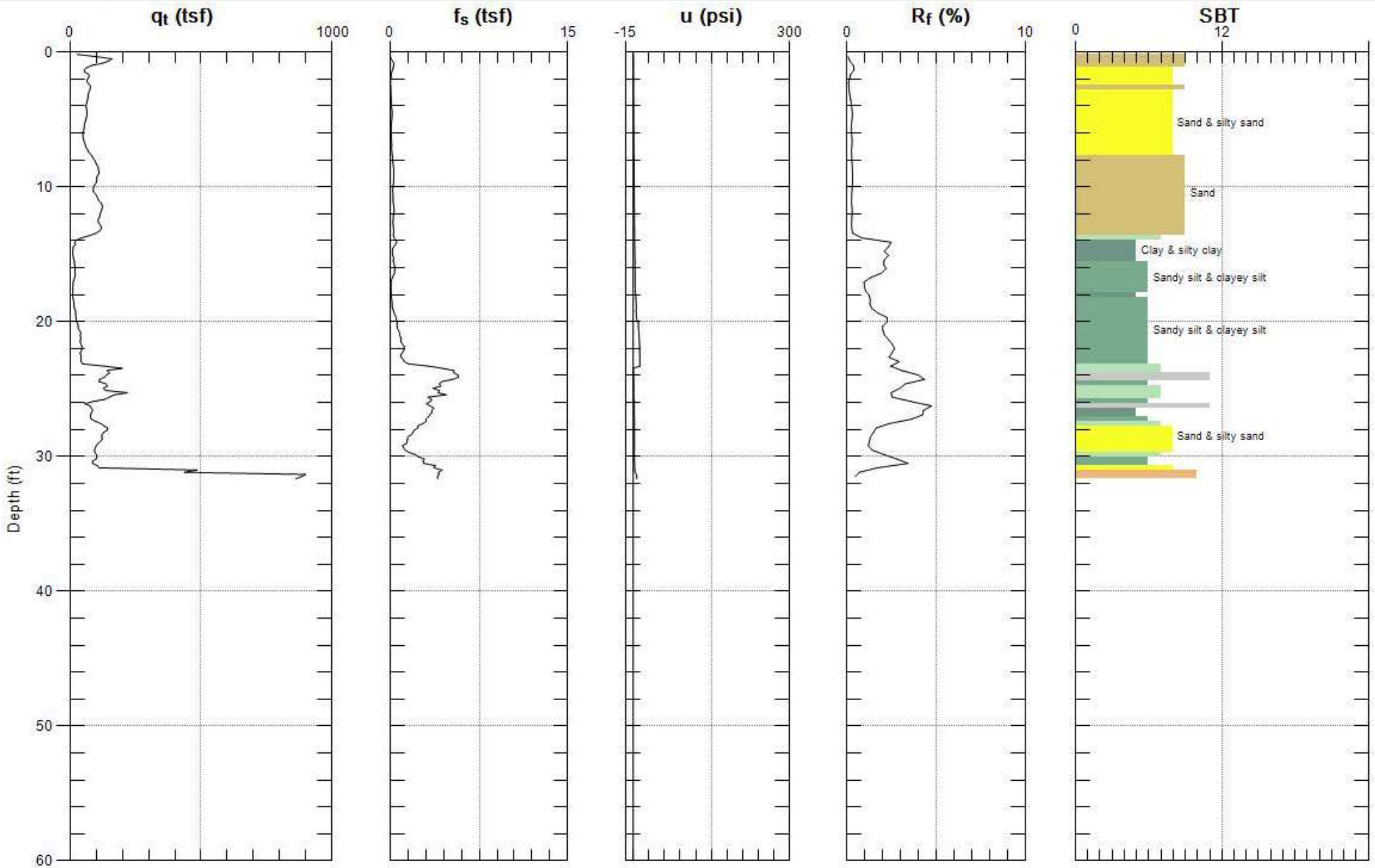
Max. Depth: 31.660 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

LEIGHTON & ASSOCIATES

Site: CITY VENTURES/SANTEE Engineer: SHARON

Sounding: CPT-7 Date: 10/26/2017 12:15



Max. Depth: 31.660 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

APPENDIX B-3

Previous Subsurface Data (Law Crandall, 1999)

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	341	BORING DESIG.	B-1
DATE FINISHED	1/6/25	GW DEPTH (FT)	19	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	340				SW	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	14		SP	@2.5 ft. SAND, very fine to fine grained, gray, slightly moist, medium dense, trace silt, micaceous.	3.3	94	11	
5		R	21			@5.0 ft. some iron oxide, some silt.	1.1	96	4	CON
	335									
10		R	16			@10.0 ft. fine to medium grained.	6.8	90	22	
	330									
15		R	14			@15.0 ft. wet, with roots, trace clay.	20.3	98	78	
	325									
						▼ @18.7 ft. groundwater encountered.				
20		R	14		SM	@20.0 ft. SILTY SAND, very fine to fine grained, dark gray, wet, medium dense, with roots, micaceous.	30.6	87	91	
	320									
25		R	41			@25.0 ft. dense.	11.4			
	315					TOTAL DEPTH 26.0 FEET GROUNDWATER AT 18.7 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-1

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	341	BORING DESIG.	B-2
DATE FINISHED	1/6/25	GW DEPTH (FT)	15	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	340				SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	13		SP	@2.5 ft. SAND, very fine to fine grained, brownish gray, dry, medium dense, micaceous.	1.9	96	7	
5		R	14			@5.0 ft. fine to medium grained.	1.2			MAX, EI, HY, CHEM
	335									
10		R	16			@10.0 ft. moist.	18.5	101	76	
	330									
15		R	17		SM	@14.7 ft. groundwater encountered. @15.0 ft. SILTY SAND, fine grained, dark gray, wet, medium dense, trace clay, micaceous.	19.3	104	86	
	325									
20		R	18			@20.0 ft. fine to medium grained, some clay.	26.3	92	87	
	320									
25		R	16			@25.0 ft. fine grained.	18.6			
	315									
30		S	3,4,9		SP	@30.0 ft. SAND, fine to medium grained, dark gray, wet, medium dense.	11.6			
	310				SM	@31.0 ft. SILTY SAND, fine grained, dark gray, wet, medium dense.				
35		S	36,50 for 3"		SP	@35.0 ft. SAND, fine to medium grained, dark gray, wet, very dense, some gravel.	21.1			
	305									

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	341	BORING DESIG.	B-2
DATE FINISHED	1/6/25	GW DEPTH (FT)	15	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	300	S	15,17,23		SC	@40.0 ft. CLAYEY SAND, fine grained, yellowish gray, slightly moist, hard.	10.1			
45	295	S	13,30,50 for 5"		SP	@45.0 ft. SAND, fine to coarse grained, dark gray to gray, slightly moist, very dense, some gravel.				
						TOTAL DEPTH 47.0 FEET; REFUSAL AT 47.0 FEET GROUNDWATER AT 14.7 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	344	BORING DESIG.	B-3
DATE FINISHED	1/6/25	GW DEPTH (FT)	17	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	12		SP	@2.5 ft. SAND, fine to medium grained, brownish gray, slightly moist, medium dense, trace silt.	5.0	93	17	
	340									
5		R	15		SM	@5.0 ft. SILTY SAND, fine grained, dark gray, slightly moist, medium dense.	4.2	96	15	CON, HY
	335									
10		R	14		SP	@10.0 ft. SAND, fine grained, gray, slightly moist, medium dense.	6.9	91	22	
	330									
15		R	16			@15.0 ft. medium to coarse grained, brownish gray, moist.	9.5	93	33	
						@16.8 ft. groundwater encountered.				
	325									
20		R	37			@20.0 ft. wet, dense, trace silt.	14.7	103	65	
	320									
25		R	28		SM	@25.0 ft. SILTY SAND, fine to coarse grained, brownish dark gray, wet, medium dense.	15.1			
						TOTAL DEPTH 26.0 FEET GROUNDWATER AT 16.8 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-3

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	344	BORING DESIG.	B-4
DATE FINISHED	1/6/25	GW DEPTH (FT)	16	LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.	140 lbs	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
		R	13		SP	@2.5 SAND, fine grained, brownish gray, slightly moist, medium dense.	4.9	104	22	MAX, EI, HY, CHEM
	340									
5		R	18			@5.0 ft. trace silt, micaceous.	3.0	89	9	
	335									
10		R	27			@10.0 ft. fine to coarse grained, gray, slightly moist, medium dense.	3.1	94	11	
	330									
15		R	18			@15.0 ft. brownish gray, wet.	17.2	94	60	
						@16.2 ft. groundwater encountered.				
	325									
20		R	27				11.1			
	320									
25		R	15		CL	@25.0 ft. SILTY CLAY, brown, wet, firm.	26.0	91	83	
	315									
30		S	3,7,12				23.3			
	310									
35		S	50 for 1"		SP	@35.0 ft. SAND, coarse grained, brownish gray, slightly moist, very dense.	22.6			
		S	50 for 4"				13.4			
						TOTAL DEPTH 36.0 FEET; REFUSAL AT 36.0 FEET GROUNDWATER AT 16.2 FEET NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-4

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	339	BORING DESIG.	P-1
DATE FINISHED	1/6/25	GW DEPTH (FT)		LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.		NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP			

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
					SP	@2.5 ft. SAND, very fine to fine grained, gray, slightly moist, medium dense, trace silt, micaceous.				
	335									
5						@5.0 ft. some iron oxide, trace silt.				
	330									
10						TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-5

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0572	PROJECT NAME	Cottonwood & Park Center		
DATE STARTED	1/6/25	GROUND ELEV.	339	BORING DESIG.	P-2
DATE FINISHED	1/6/25	GW DEPTH (FT)		LOGGED BY	YH
DRILLER	2R Drilling Inc	DRIVE WT.		NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP			

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**YOUNG ALLUVIAL DEPOSITS** (Qya): SILTY SAND, fine grained, brown, dry, loose.				
					SP	@2.5 ft. SAND, very fine to fine grained, brownish gray, slightly moist, medium dense, trace silt, micaceous.				
	335									
5						TOTAL DEPTH 5.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0572 PLATE B-6

APPENDIX C

Laboratory Testing

LABORATORY TESTING

The following laboratory tests were performed on representative samples in accordance with the applicable latest standards or methods from the ASTM, California Building Code (CBC) and California Department of Transportation.

Classification

Soils were classified with respect to the Unified Soil Classification System (USCS) in accordance with ASTM D-2487 and D-2488.

Particle Size Analysis

Modified hydrometer testing was conducted to aid in classification of the soil. The results of the particle size analysis are presented in Table 7-1 and Table C.

Maximum Density/Optimum Moisture

The maximum dry density and optimum moisture content of one (1) representative bulk sample was evaluated in accordance with ASTM D-1557. The results are summarized in Table C.

Expansion Index Tests

One (1) expansion index test was performed to evaluate the expansion potential of typical on-site soil. Testing was carried out in general conformance with ASTM Test Method D-4829. The results are presented in Table C.

Consolidation Tests

Consolidation testing was performed on two (2) relatively "undisturbed" soil sample at their natural moisture content in accordance with procedures outlined in ASTM D-2435. The samples were placed in a consolidometer and loads were applied incrementally in geometric progression. The samples (2.42-inches in diameter and 1-inch in height) were permitted to consolidate under each load increment until the slope of the characteristic linear secondary compression portion of the thickness versus log of time plot was apparent. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical

compression to the original 1-inch height. The consolidation test results are shown on Plates C-1 and C-2

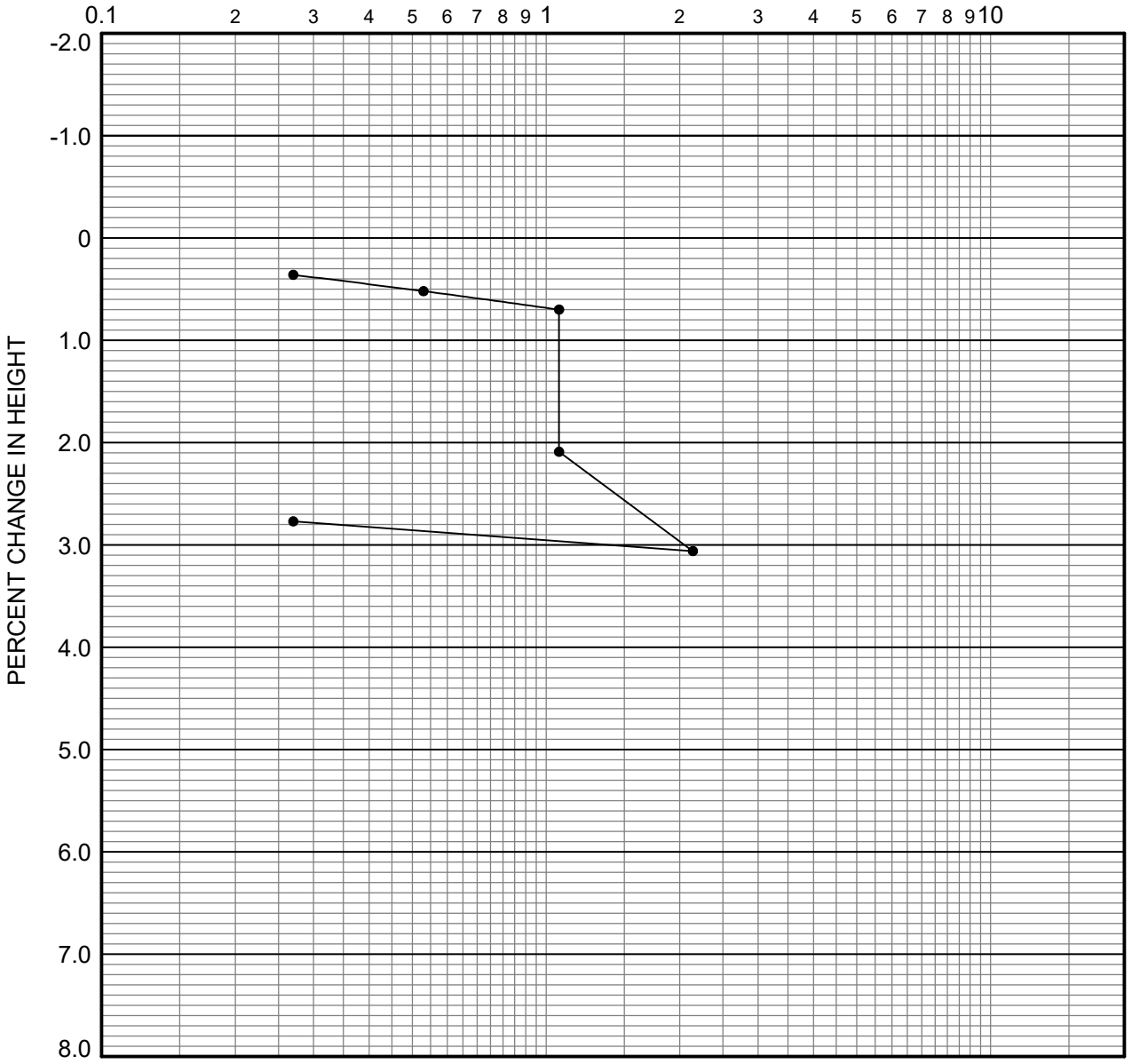
Chemical Analyses

Chemical testing was performed on one select sample. The results of this test (sulfate content, resistivity, chloride content and pH) is presented on Table C.

TABLE C
SUMMARY OF LABORATORY TEST DATA
P.N. 1-0572

BORING	DEPTH (FEET)	SOIL DESCRIPTION	GROUP SYMBOL	MAXIMUM DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DIRECT SHEAR	PLUS NO.4 SEIVE (plus 4.76mm) (%)	SAND (4.76mm-0.075mm) (%)	SILT (0.075mm-0.005mm) (%)	CLAY (minus 0.005mm) (%)	EXPANSION INDEX UBC 18-2	CONSOL	OTHER TESTS REMARKS
B-1	5	Sand (Qya)	SP									SEE PLATE C-1	
B-2	5	Sand (Qya)	SP	119.5	11.8		6	88	1	5	1		MinResist:12,870-Ohmcm pH:8.4,Chl:480ppm,SO4:0.004%
B-3	5	Silty Sand (Qya)	SM				0	67	27	6		SEE PLATE C-2	
B-4	2.5	Sand (Qya)	SP	109.4	12.0		1	97	0	2	0		MinResist:19,440-Ohmcm pH:8.2,Chl:300ppm,SO4:0.003%

COMPRESSIVE STRESS IN TSF



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-1	5.0	96	1.1	4		SP	Sand (Qya)

REMARKS: WATER ADDED AT 1.07 TSF

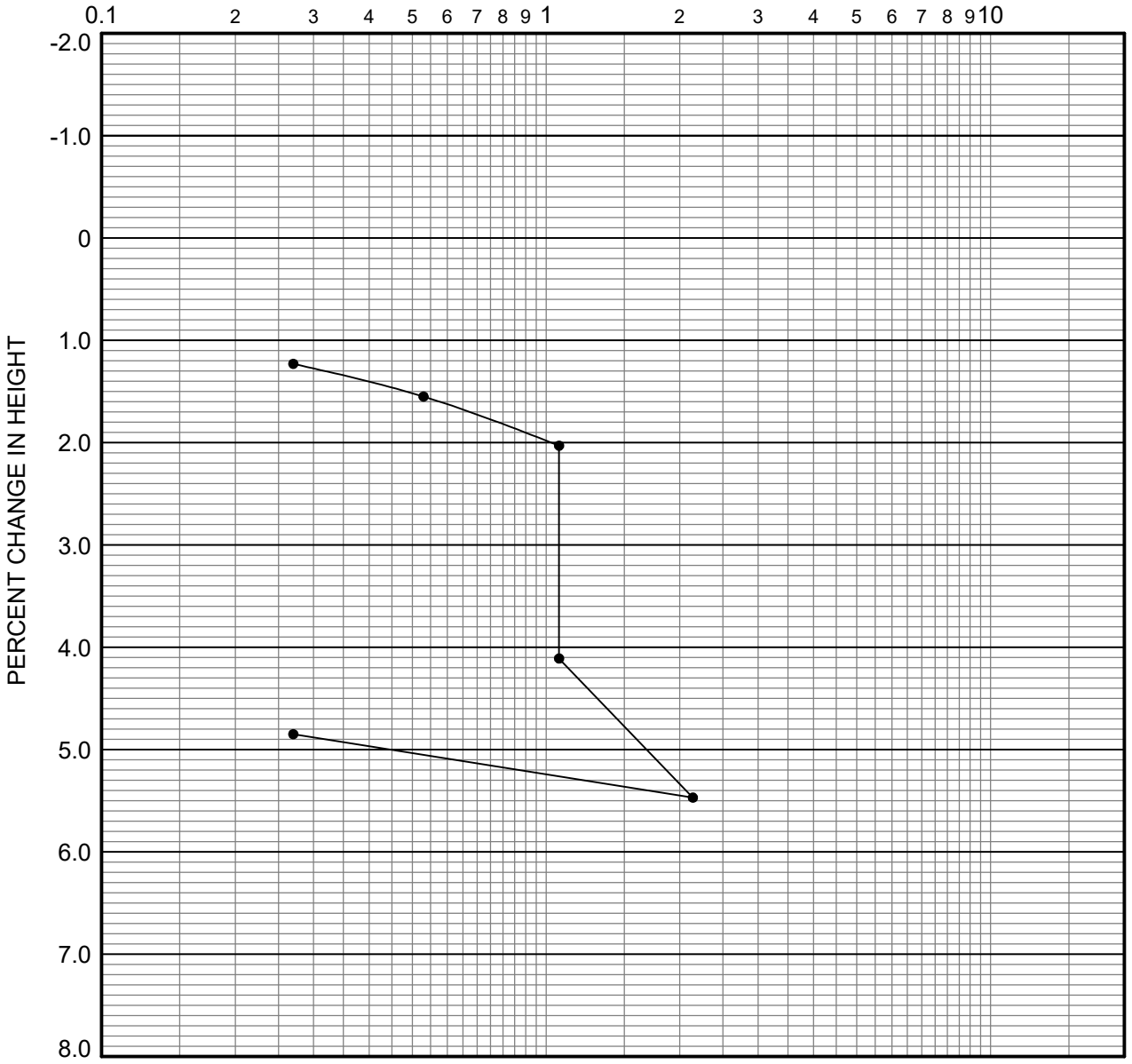
CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0572

PLATE C-1

COMPRESSIVE STRESS IN TSF



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-3	5.0	96	4.2	15	33	SM	Silty Sand (Qya)

REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0572

PLATE C-2

APPENDIX D

Liquefaction Analysis

APPENDIX D

LIQUEFACTION ANALYSIS

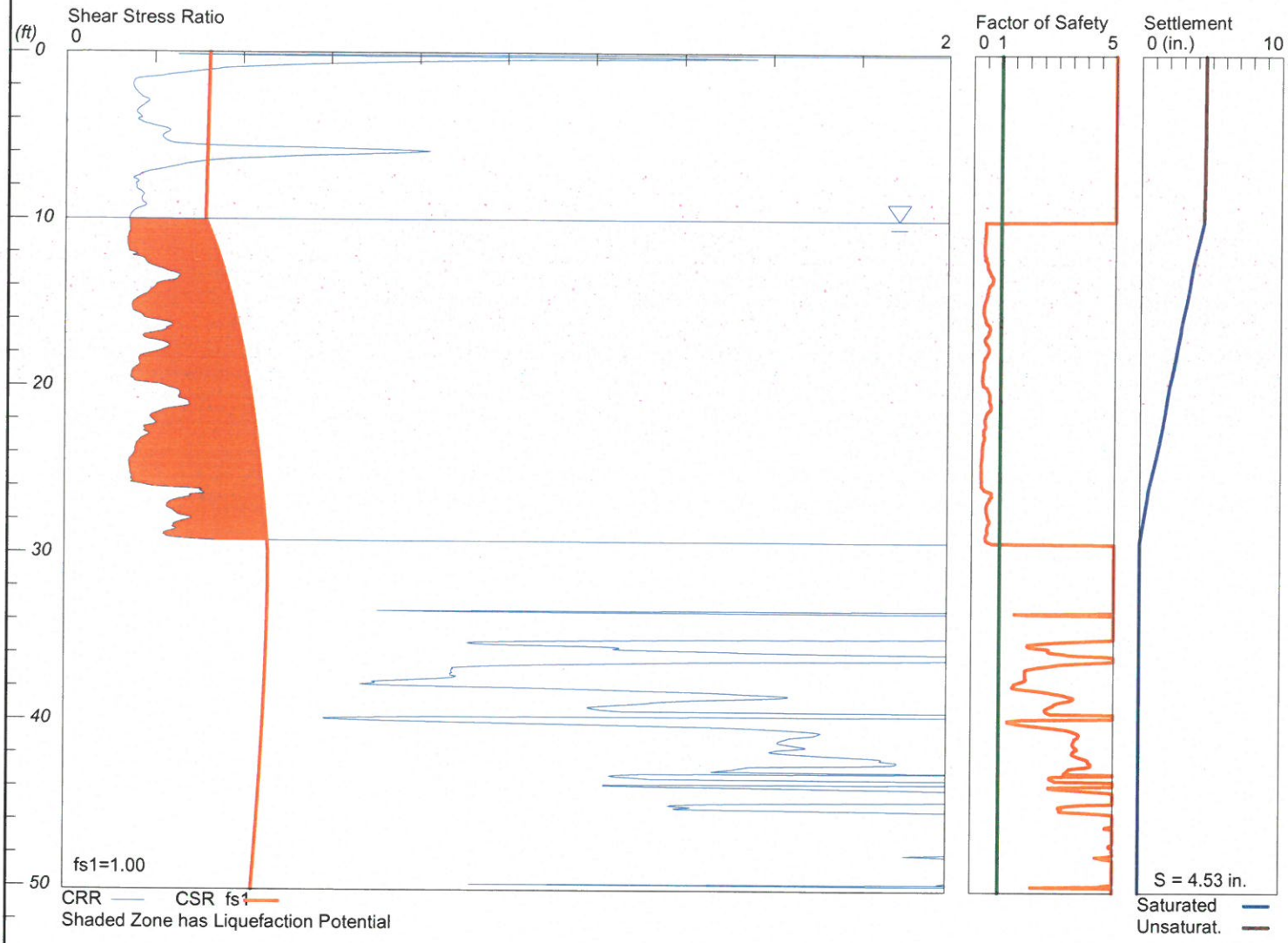
A liquefaction analysis was performed for the site based on CPT data obtained during the previous investigations. Our analysis was based on City of Los Angeles guidelines (City of Los Angeles, 2020) and utilized the PGA_M, the predominant earthquake magnitude assuming a 2% probability of exceedance in 50 years, and a factor of safety of 1.0. The results of this liquefaction analysis are presented on Plates D-1 through D-11.

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-13 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



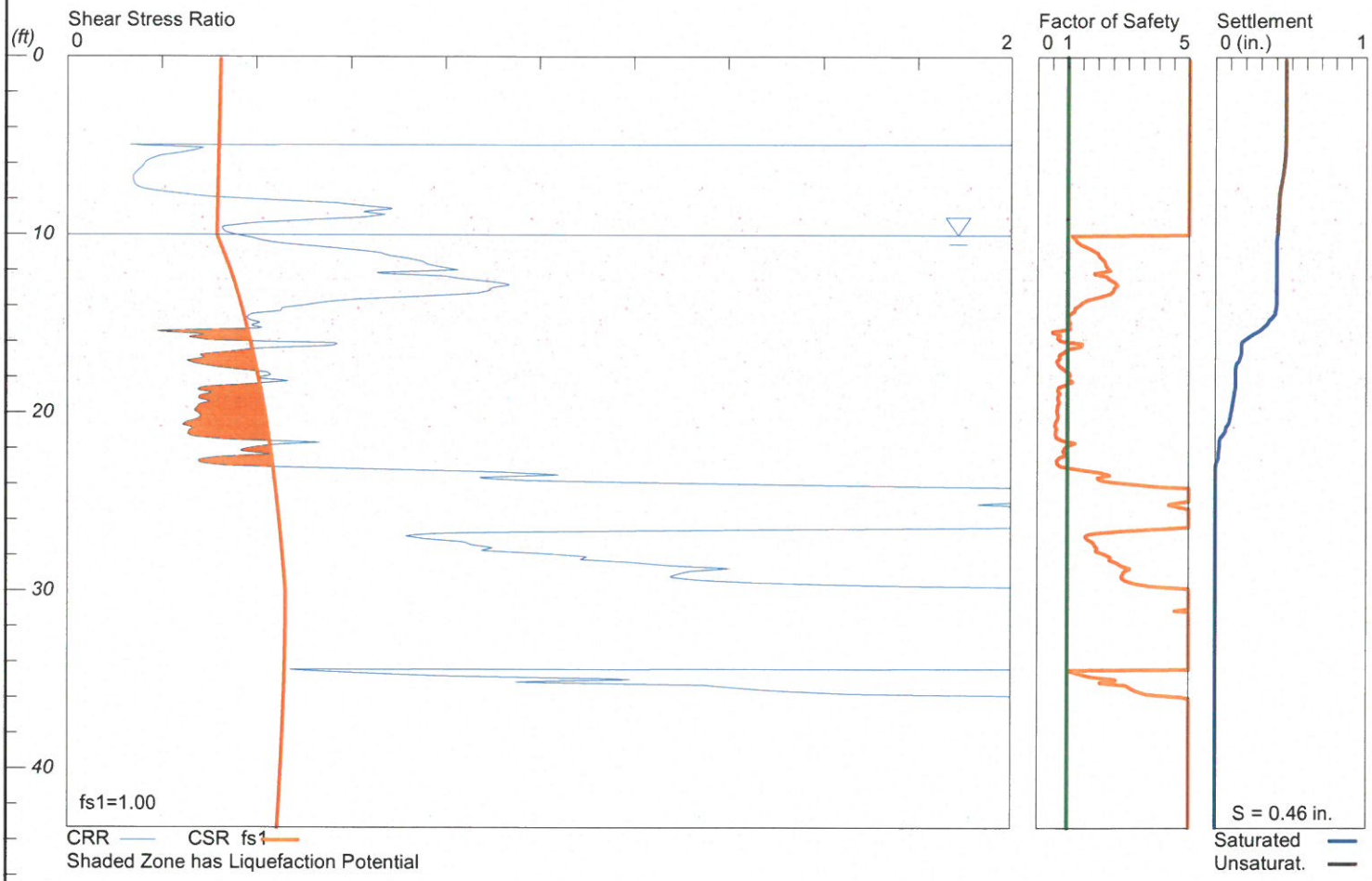
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-1 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



50
60
70

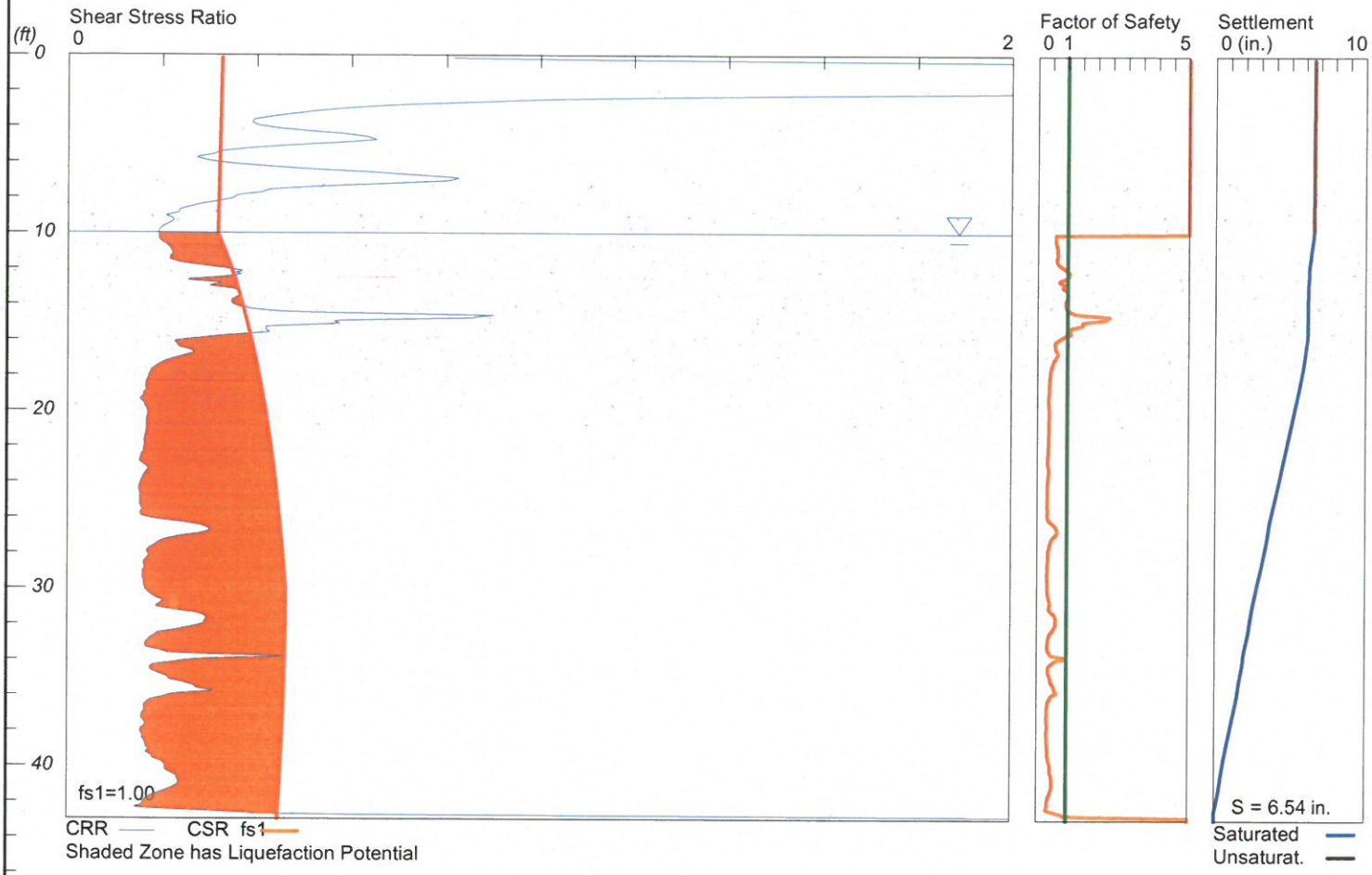
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-2 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



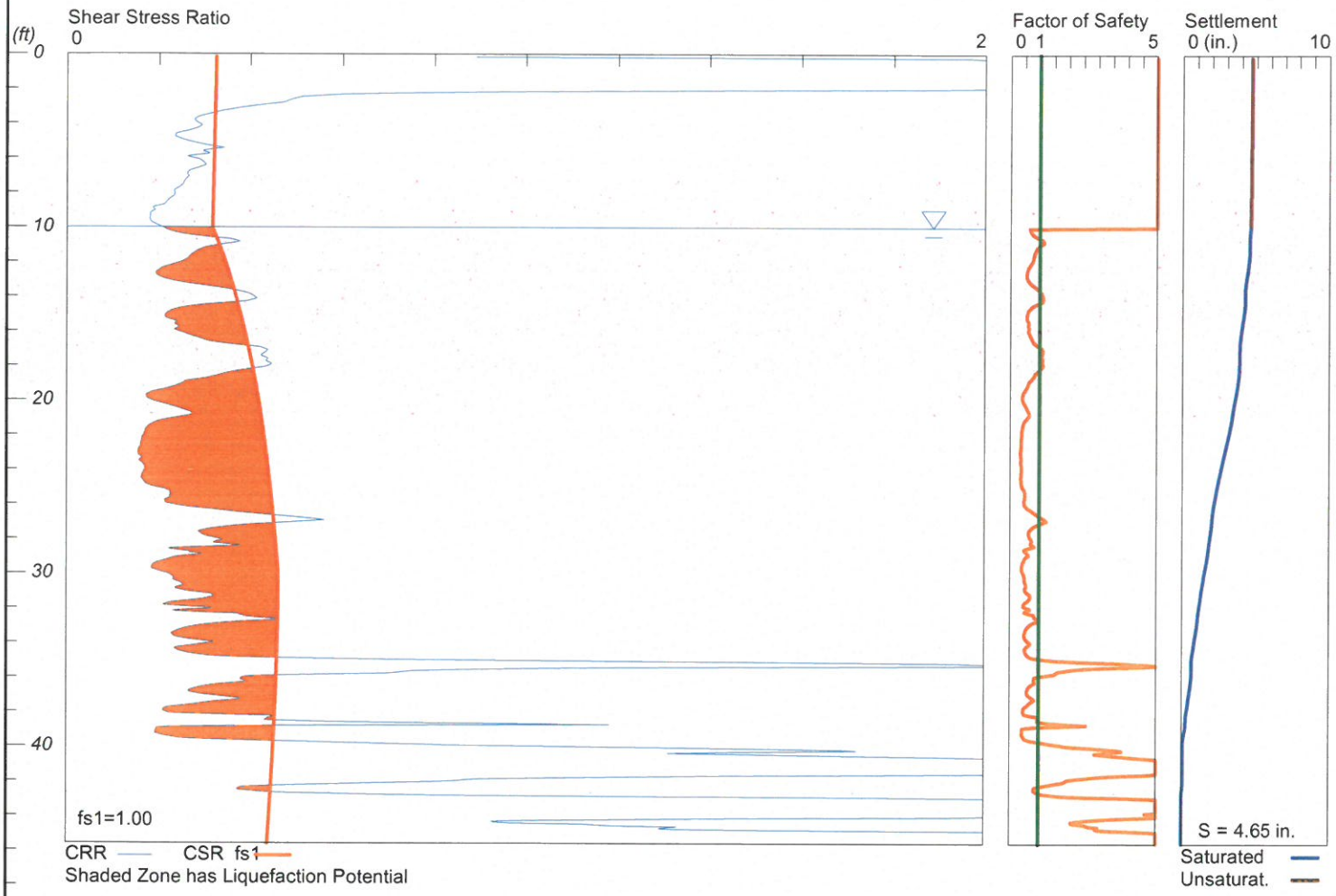
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-3 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



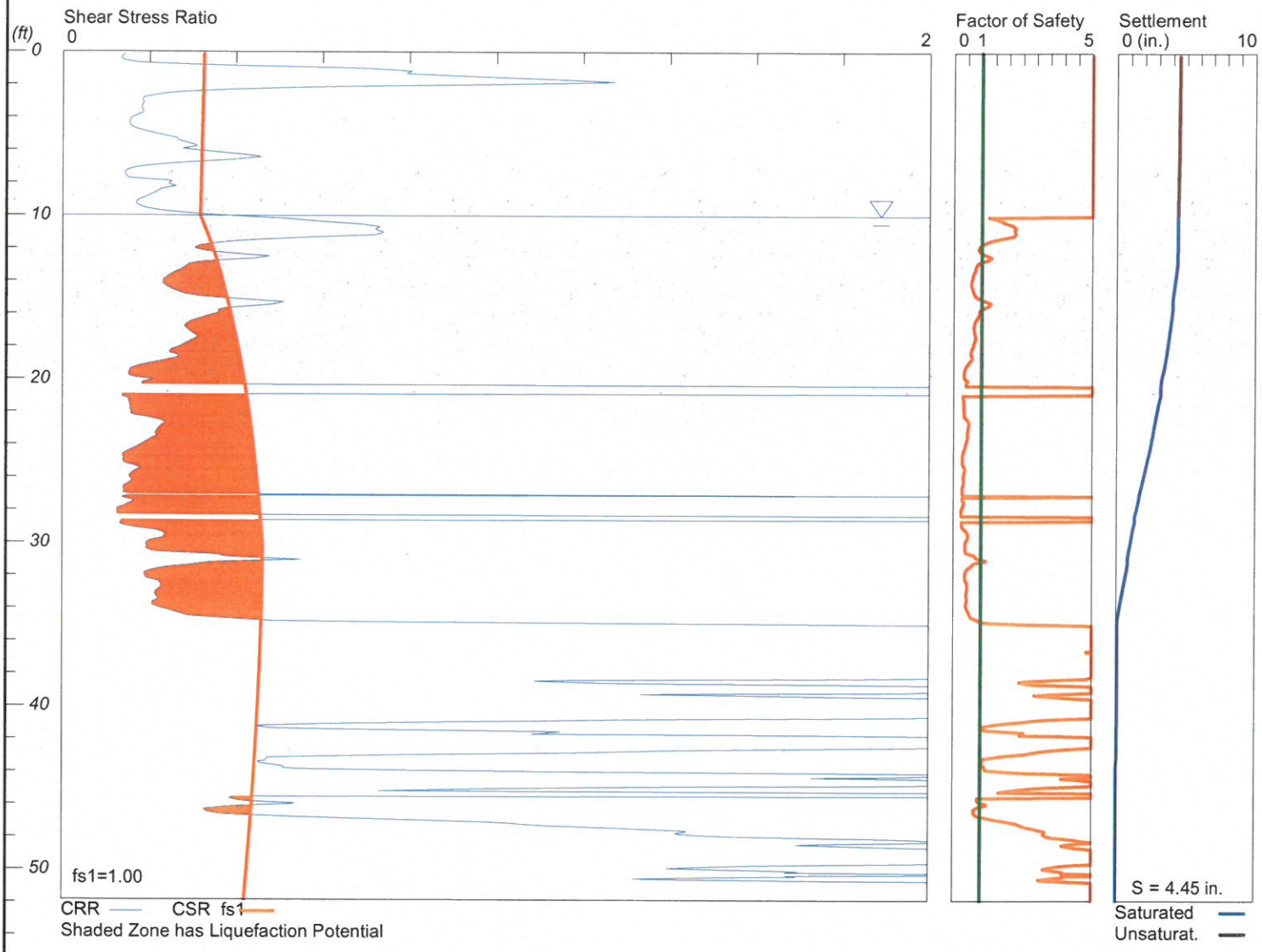
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-4 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



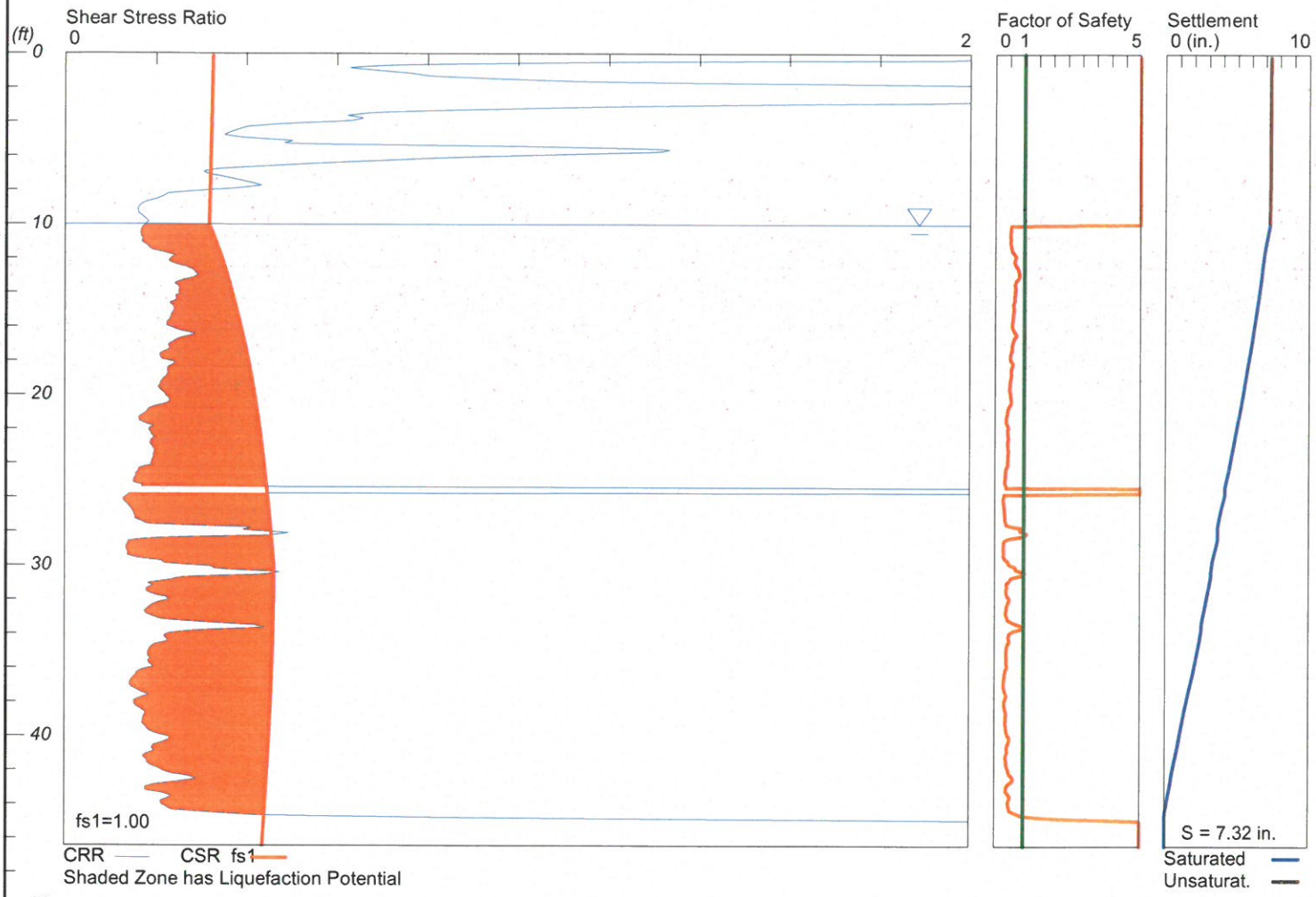
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-5 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



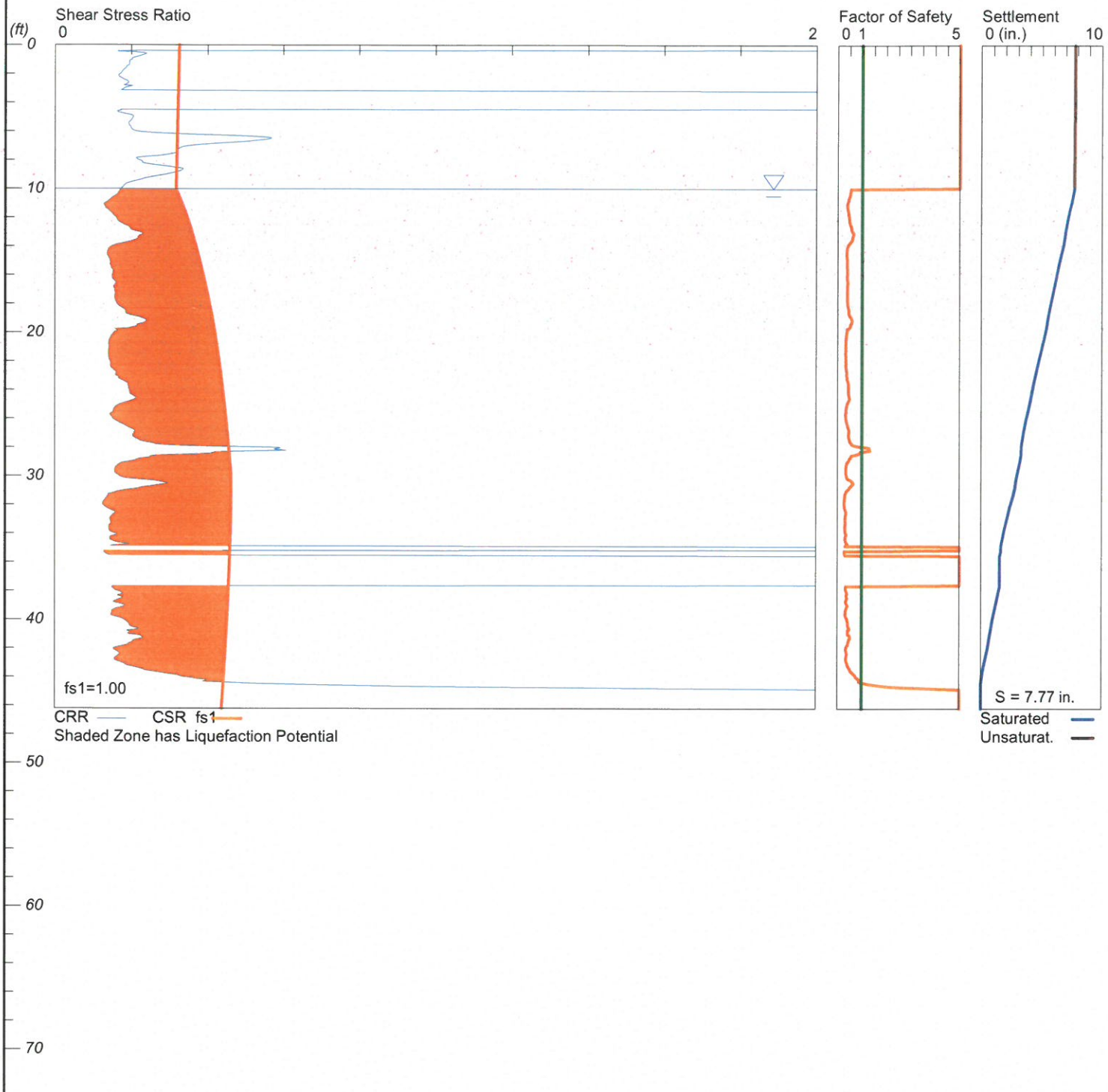
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-8 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



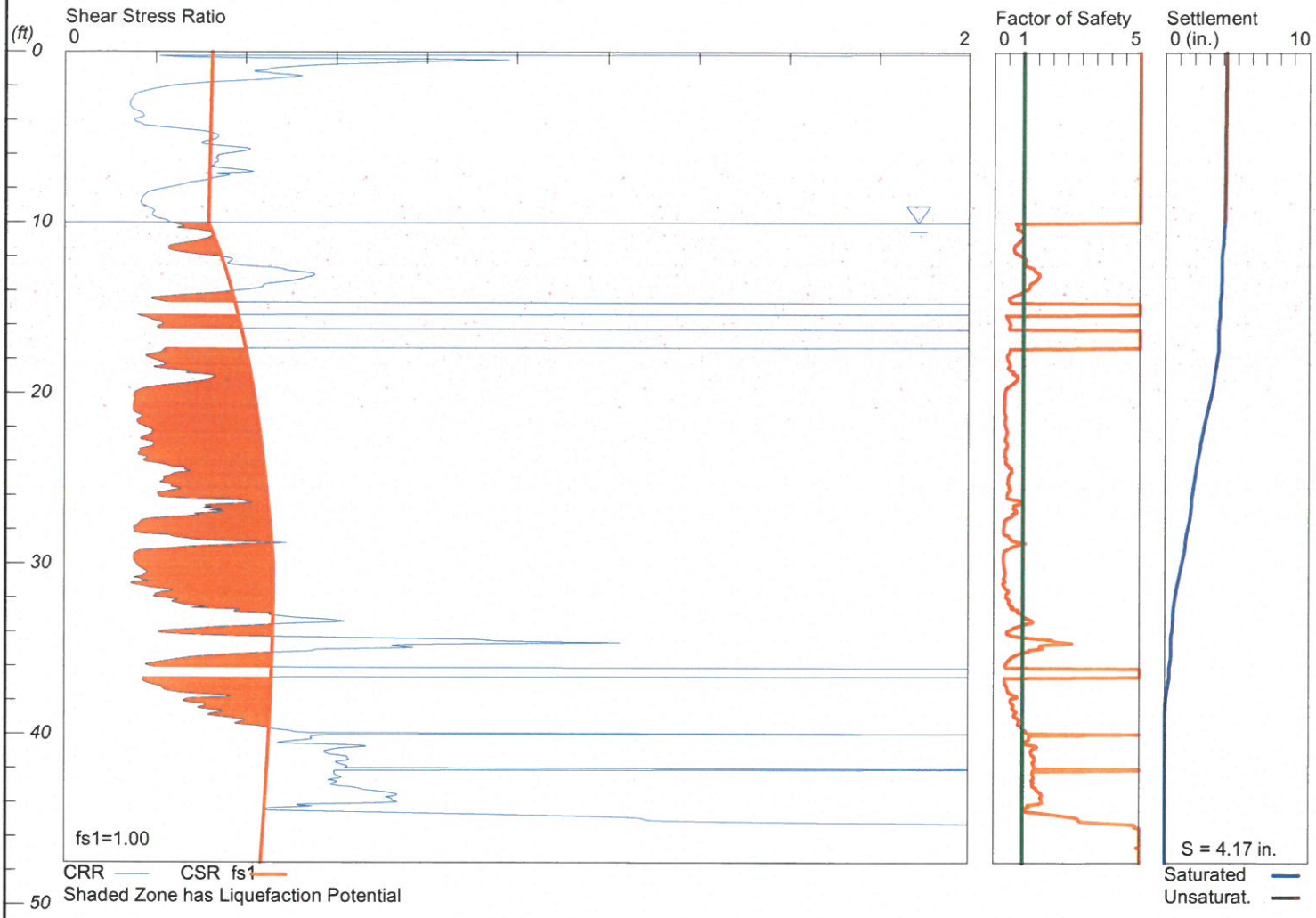
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-9 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



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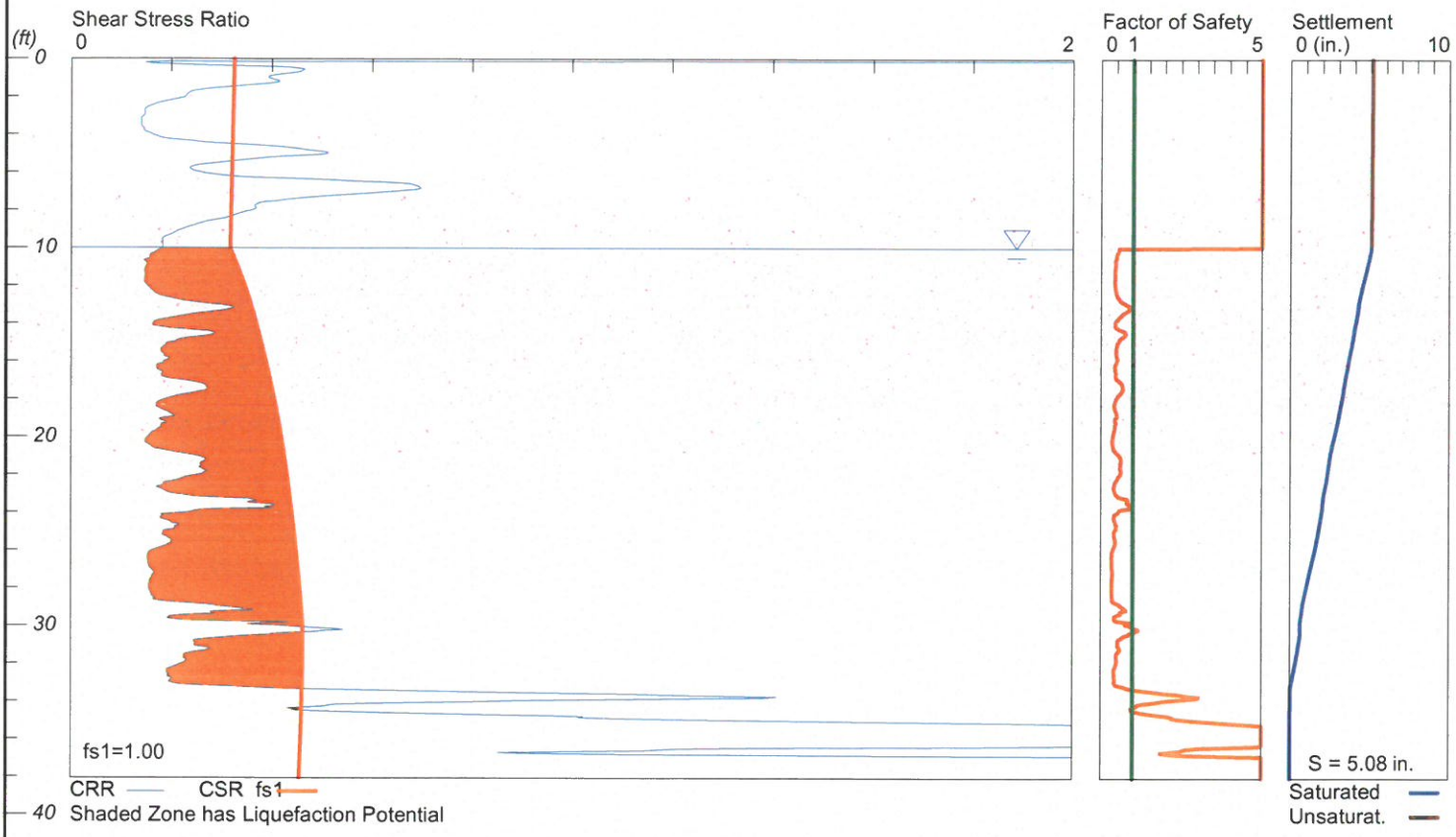
LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-10 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



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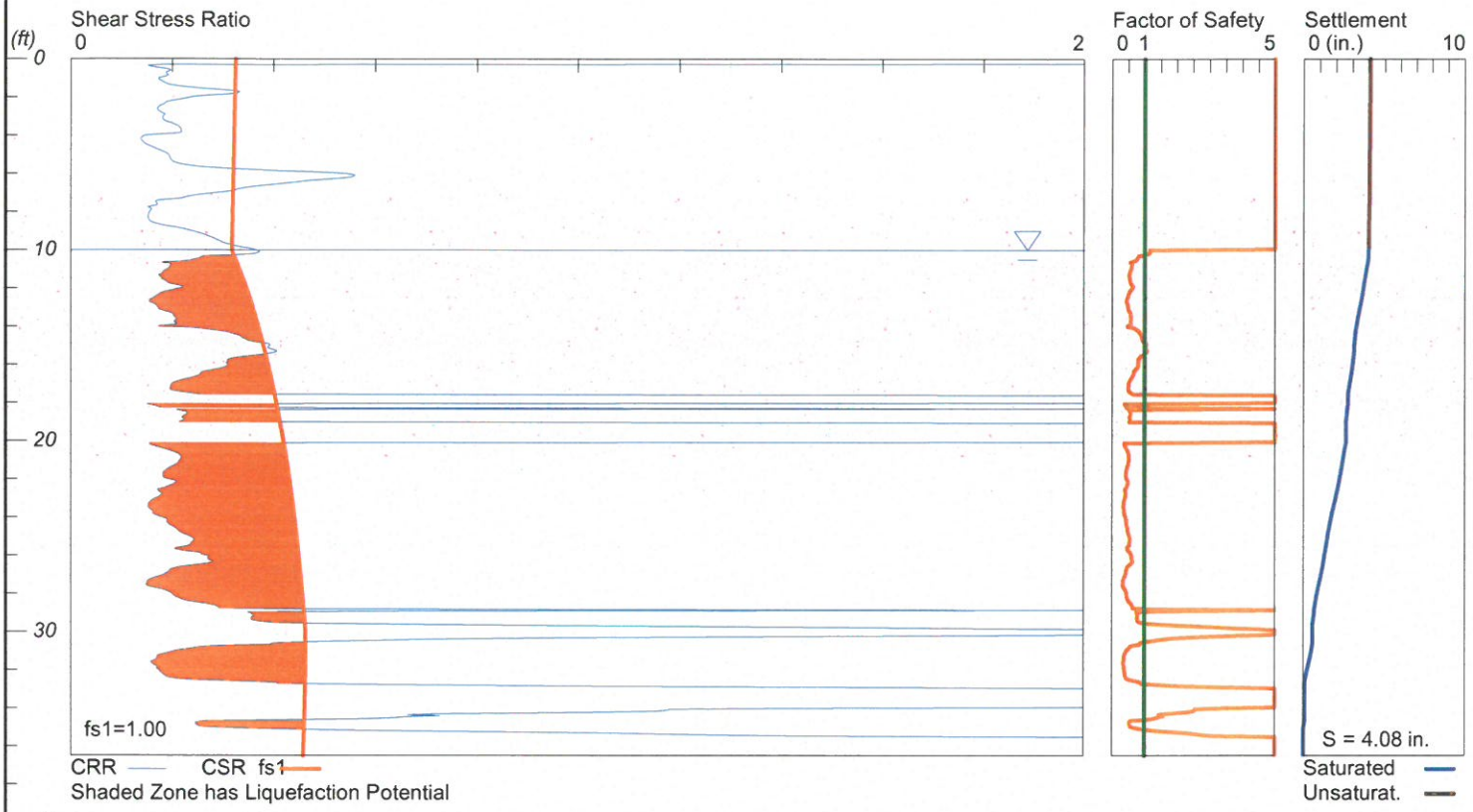
LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-11 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



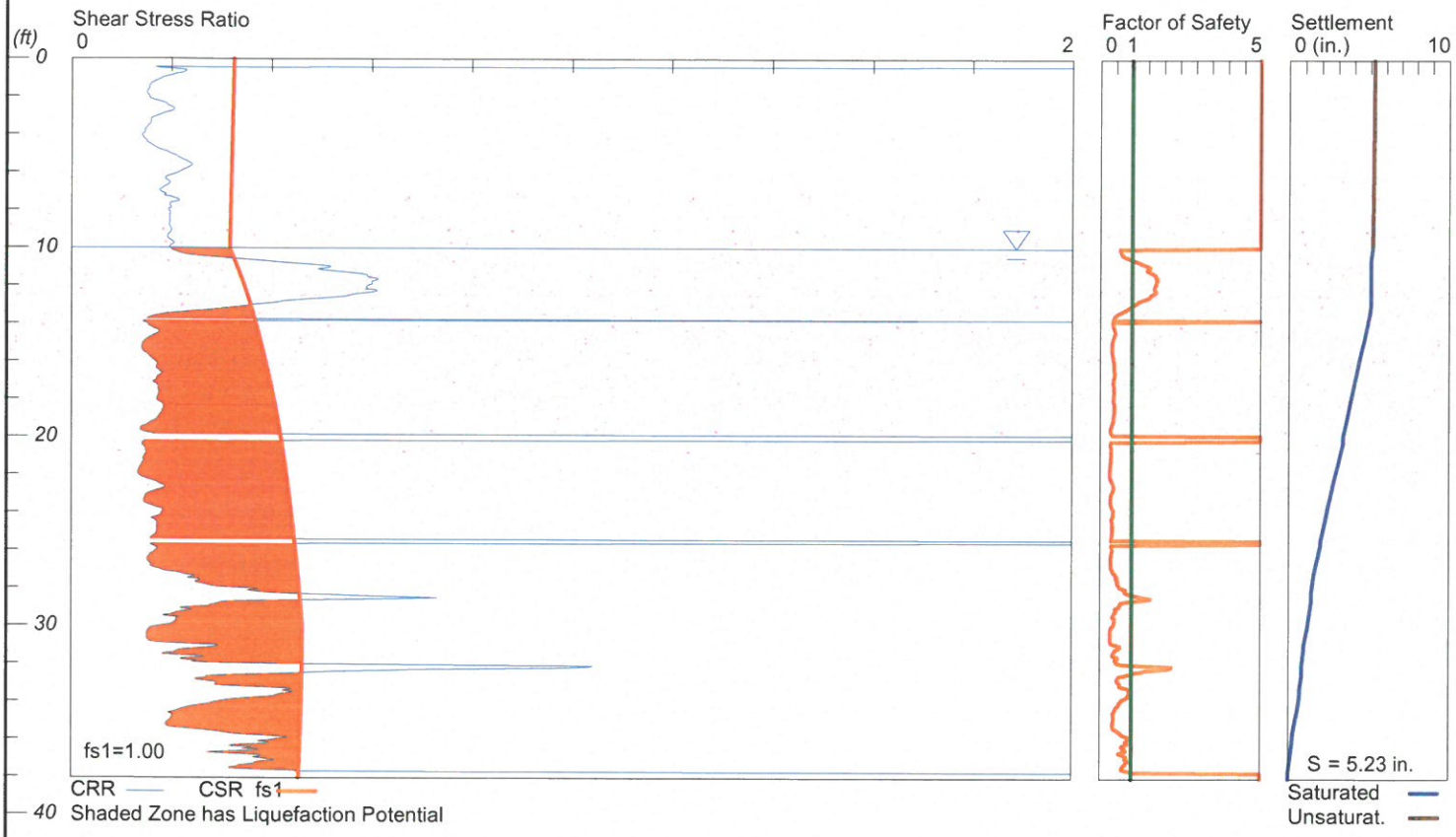
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Santee 3

Hole No.=CPT-12 Water Depth=10 ft

Magnitude=6.4
Acceleration=0.5g



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APPENDIX E

Maintenance and Improvement Considerations

MAINTENANCE AND IMPROVEMENT CONSIDERATIONS

General

Owners purchasing property must assume a certain degree of responsibility for improvements and for maintaining conditions around their home. Of primary importance from a geotechnical standpoint are maintaining drainage patterns and minimizing the soil moisture variation below all improvements. Such design, construction and owner maintenance provisions may include:

- Employing contractors for improvements who design and build in recognition of local building codes and specific site soils conditions.
- Establishing and maintaining positive drainage away from all foundations, walkways, driveways, patios, and other improvements.
- Avoiding the construction of planters adjacent to structural improvements. Alternatively, planter sides/bottoms can be sealed with an impermeable membrane and drained away from the improvements via subdrains into approved disposal areas.
- Sealing and maintaining construction/control joints within concrete slabs and walkways to reduce the potential for moisture infiltration into the subgrade soils.
- Utilizing landscaping schemes with vegetation that requires minimal watering. Watering should be done in a uniform manner, as equally as possible on all sides of the foundation, keeping the soil "moist" but not allowing the soil to become saturated.
- Maintaining positive drainage away from structures and providing roof gutters on all structures with downspouts that are designed to carry roof runoff directly into area drains or discharged well away from the foundation areas.
- Avoiding the placement of trees closer to the proposed structures than a distance of one-half the mature height of the tree.
- Observation of the soil conditions around the perimeter of the structure during extremely hot/dry or unusually wet weather conditions so that modifications can be made in irrigation programs to maintain relatively uniform moisture conditions.

Sulfates

Owners should be cautioned against the import and use of certain inorganic fertilizers, soil amendments, and/or other soils from offsite sources in the absence of specific information relating to their chemical composition. Some fertilizers have been known to leach sulfate compounds into soils and increase the sulfate concentrations to potentially detrimental levels.

Site Drainage

- The owners should be made aware of the potential problems that may develop when drainage is altered through construction of hardscape improvements. Ponded water, drainage over the slope face, leaking irrigation systems, overwatering, or other conditions which could lead to ground saturation must be avoided.
- No water should be allowed to flow over the slopes. No alteration of pad gradients should be allowed that would prevent pad and roof runoff from being directed to approved disposal areas.
- Drainage patterns have been established at the time of the fine grading should be maintained throughout the life of the structure. No alterations to these drainage patterns should be made unless designed by qualified professionals in compliance with local code requirements and site-specific soils conditions.

Slope Drainage

- Residents should be made aware of the importance of maintaining and cleaning all interceptor ditches, drainage terraces, down drains, and any other drainage devices, which have been installed to promote slope stability.
- Subsurface drainage pipe outlets may protrude through slope surfaces and/or wall faces. These pipes, in conjunction with the graded features, are essential to slope and wall stability and must be protected in-place. They should not be altered or damaged in any way.

Planting and Irrigation of Slopes

- Seeding and planting of the slopes should be planned to achieve, as rapidly as possible, a well-established and deep-rooted vegetal cover requiring minimal watering.
- It is the responsibility of the landscape architect to provide such plants initially and of the residents to maintain such planting. Alteration of such a planting scheme is at the resident's risk.
- The resident is responsible for proper irrigation and for maintenance and repair of properly installed irrigation systems. Leaks should be fixed immediately.
- Sprinklers should be adjusted to provide maximum uniform coverage with a minimum of water usage and overlap. Overwatering with consequent wasteful runoff and serious ground saturation must be avoided.
- If automatic sprinkler systems are installed, their use must be adjusted to account for seasonal and natural rainfall conditions.

Burrowing Animals

- Residents must undertake a program to eliminate burrowing animals. This must be an ongoing program in order to promote slope stability.

Owner Improvement

Owner improvements (pools, spas, patio slabs, retaining walls, planters, etc.) should be designed to account for the terrain of the project, as well as expansive soil conditions and chemical characteristics. Design considerations on any given lot may need to include provisions for differential bearing materials, ascending/descending slope conditions, bedrock structure, perched (irrigation) water, special geologic surcharge loading conditions, expansive soil stresses, and long-term creep/settlement.

All owner improvements should be designed and constructed by qualified professionals utilizing appropriate design methodologies, which account for the on-site soils and geologic conditions. Each lot and proposed improvement should be evaluated on an individual basis.

Setback Zones

Manufactured slopes maybe subject to long-term settlement and creep that can manifest itself in the form of both horizontal and vertical movement. These movements typically are produced as a result of weathering, erosion, gravity forces, and other natural phenomenon. A setback adjacent to slopes is required by most building codes, including the California Building Code. This zone is intended to locate and support the residential structures away from these slopes and onto soils that are not subject to the potential adverse effects of these natural phenomena.

The owner may wish to construct patios, walls, walkways, planters, swimming pools, spas, etc. within this zone. Such facilities may be sensitive to settlement and creep and should not be constructed within the setback zone unless properly engineered. It is suggested that plans for such improvements be designed by a professional engineer who is familiar with grading ordinances and design and construction requirements. In addition, we recommend that the designer and contractor familiarize themselves with the site specific geologic and geotechnical conditions on the specific lot.

APPENDIX F

Earthwork Specifications

ALTA CALIFORNIA GEOTECHNICAL, INC.
EARTHWORK SPECIFICATIONS

These specifications present the generally accepted standards and minimum earthwork requirements for the development of the project. These specifications shall be the project guidelines for earthwork except where specifically superseded in preliminary geology and soils reports, grading plan review reports or by the prevailing grading codes or ordinances of the controlling agency.

A. GENERAL

1. The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications.

2. The project Geotechnical Engineer and Engineering Geologist, or their representatives, shall provide observation and testing services, and Geotechnical consultation for the duration of the project.

3. All clearing, grubbing, stripping and site preparation for the project shall be accomplished by the Contractor to the satisfaction of the Geotechnical Engineer/Engineering Geologist.

4. It is the Contractor's responsibility to prepare the ground surface to receive fill to the satisfaction of the Geotechnical Engineer and to place, spread, mix, moisture condition, and compact the fill in accordance with the job specifications and as required by the Geotechnical Engineer. The Contractor shall also remove all material considered by the Geotechnical Engineer to be unsuitable for use in the construction of engineered fills.

5. The Contractor shall have suitable and sufficient equipment in operation to handle the amount of fill being placed. When necessary, equipment will be shut down temporarily in order to permit the proper preparation of fills.

B. PREPARATION OF FILL AREAS

1. Excessive vegetation and all deleterious material should be disposed of offsite as required by the Geotechnical Engineer.

   Existing fill, soil, alluvium or rock materials determined by the Geotechnical Engineer as being unsuitable for placement in compacted fills shall be removed and hauled from the site. Where applicable, the Contractor may obtain the

approval of the Soils Engineer and the controlling authorities for the project to dispose of the above described materials, or a portion thereof, in designated areas onsite.

After removal of the deleterious materials have been accomplished, earth materials deemed unsuitable in their natural, in-place condition, shall be removed as recommended by the Geotechnical Engineer/Engineering Geologist.

2. Upon achieving a suitable bottom for fill placement, the exposed removal bottom shall be disced or bladed by the Contractor to the satisfaction of the Geotechnical Engineer. The prepared ground surfaces shall then be brought to the specified moisture content mixed as required, and compacted and tested as specified. In localities where it is necessary to obtain the approval of the controlling agency prior to placing fill, it will be the Contractor's responsibility to contact the proper authorities to visit the site.

3. Any underground structure such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, pipelines or other structures not located prior to grading are to be removed or treated in a manner prescribed by the Geotechnical Engineer and/or the controlling agency for the project.

C. ENGINEERED FILLS

1. Any material imported or excavated on the property may be utilized as fill, provided the material has been determined to be suitable by the Geotechnical Engineer. Deleterious materials shall be removed from the fill as directed by the Geotechnical Engineer.

2. Rock or rock fragments less than twelve inches in the largest dimension may be utilized in the fill, provided they are not placed in concentrated pockets and the distribution of the rocks is approved by the Geotechnical Engineer.

3. Rocks greater than twelve inches in the largest dimension shall be taken offsite, or placed in accordance with the recommendations of the Geotechnical Engineer in areas designated as suitable for rock disposal.

4. All materials to be used as fill, shall be tested in the laboratory by the Geotechnical Engineer. Proposed import materials shall be approved by the Geotechnical Engineer 48 hours prior to importation.

5. The fill materials shall be placed by the Contractor in lifts, that when compacted, shall not exceed six inches. Each lift shall be spread evenly and shall be

thoroughly mixed to achieve a near uniform moisture condition and a uniform blend of materials.

All compaction shall be achieved at or above the optimum moisture content, as determined by the applicable laboratory standard. The Contractor will be notified if the fill materials are too wet or too dry to achieve the required compaction standard.

6. When the moisture content of the fill material is below the limit specified by the Geotechnical Engineer, water shall be added and the materials shall be blended until a uniform moisture content, within specified limits, is achieved. When the moisture content of the fill material is above the limits specified by the Geotechnical Engineer, the fill materials shall be aerated by discing, blading, mixed with dryer fill materials, or other satisfactory methods until the moisture content is within the specified limits.

7. Each fill lift shall be compacted to the minimum project standards, in compliance with the testing methods specified by the controlling governmental agency, and in accordance with recommendations of the Geotechnical Engineer.

   In the absence of specific recommendations by the Geotechnical Engineer to the contrary, the compaction standard shall be the most recent version of ASTM:D 1557.

8. Where a slope receiving fill exceeds a ratio of five-horizontal to one-vertical, the fill shall be keyed and benched through all unsuitable materials into sound bedrock or firm material, in accordance with the recommendations and approval of the Geotechnical Engineer.

9. Side hill fills shall have a minimum key width of 15 feet into bedrock or firm materials, unless otherwise specified in the soil report and approved by the Geotechnical Engineer in the field.

10. Drainage terraces and subdrainage devices shall be constructed in compliance with the ordinances of the controlling governmental agency and/or with the recommendations of the Geotechnical Engineer and Engineering Geologist.

11. The Contractor shall be required to maintain the specified minimum relative compaction out to the finish slope face of fill slopes, buttresses, and stabilization fills as directed by the Geotechnical Engineer and/or the governing agency for the project. This may be achieved by either overbuilding the slope and cutting

back to the compacted core; by direct compaction of the slope face with suitable equipment; or by any other procedure which produces the required result.

12. The fill portion of fill-over-cut slopes shall be properly keyed into rock or firm material; and the fill area shall be stripped of all soil or unsuitable materials prior to placing fill.

    The design cut portion of the slope should be made first and evaluated for suitability by the Engineering Geologist prior to placement of fill in the keyway above the cut slope.

13. Pad areas in cut or natural ground shall be approved by the Geotechnical Engineer. Finished surfaces of these pads may require scarification and recompaction, or over excavation as determined by the Geotechnical Engineer.

D. CUT SLOPES

1. The Engineering Geologist shall observe all cut slopes and shall be notified by the Contractor when cut slopes are to be started.

2. If, during the course of grading, unforeseen adverse or potentially adverse geologic conditions are encountered, the Engineering Geologist and Soil Engineer shall investigate, analyze and make recommendations to remediate these problems.

3. Non-erodible interceptor swales shall be placed at the top of cut slopes that face the same direction as the superjacent, prevailing drainage.

4. Unless otherwise specified in specific geotechnical reports, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of controlling governmental agencies.

5. Drainage terraces shall be constructed in compliance with the ordinances of the controlling governmental agencies, and/or in accordance with the recommendations of the Geotechnical Engineer or Engineering Geologist.

E. GRADING CONTROL

1. Fill placement shall be observed and tested by the Geotechnical Engineer and/or his representative during grading.

   Field density tests shall be made by the Geotechnical Engineer and/or his representative to evaluate the compaction and moisture compliance of each fill lift. Density tests shall be conducted at intervals not to exceed two feet of fill

height. Where sheepsfoot rollers are used, the fill may be disturbed to a depth of several inches. Density determinations shall be taken in the compacted material below the disturbed surface at a depth determined by the Geotechnical Engineer or his representative.

2. Where tests indicate that the density of any layer of fill, or portion thereof, is below the required relative compaction, or improper moisture content is in evidence, that particular layer or portion thereof shall be reworked until the required density and/or moisture content has been attained. Additional fills shall not be placed over an area until the previous lift of fill has been tested and found to meet the density and moisture requirements for the project and the previous lift is approved by the Geotechnical Engineer.

3. When grading activities are interrupted by heavy rains, fill operations shall not be resumed until field observations and tests by the Geotechnical Engineer indicate the moisture content and density of the fill are within the specified limits.

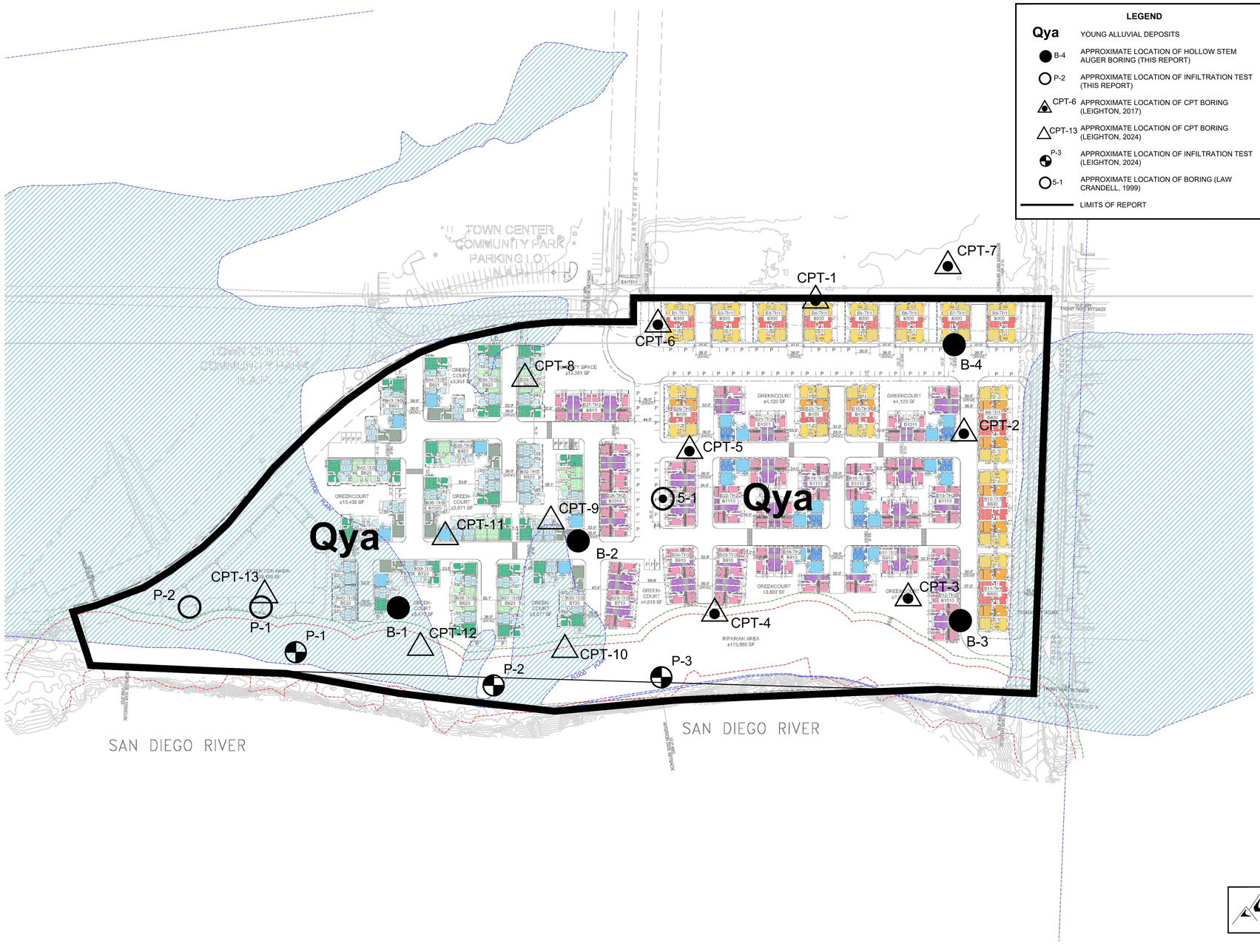
4. During construction, the Contractor shall properly grade all surfaces to maintain good drainage and prevent the ponding of water. The Contractor shall take remedial action to control surface water and to prevent erosion of graded areas until such time as a permanent drainage and erosion devices have been installed.

5. Observation and testing by the Geotechnical Engineer and/or his representative shall be conducted during filling and compacting operations in order that he will be able to state in his opinion that all cut and filled areas are graded in accordance with the approved specifications.

6. Upon the completion of grading activities and after the Geotechnical Engineer and Engineering Geologist have finished their observations of the work, final reports shall be submitted. No further excavation or fill placement shall be undertaken without prior notification of the Geotechnical Engineer and/or Engineering Geologist.

F. FINISHED SLOPES

All finished cut and fill slopes shall be planted and irrigated and/or protected from erosion in accordance with the project specifications, governing agencies, and/or as recommended by a landscape architect.



LEGEND

TH #1 - VERANDA AT PARKVUE
2-STORY ROWHOMES

- PLAN 1 - 17 DU (1,488 SF - 3 BED/2.5 BATHS)
- PLAN 2 - 9 DU (1,598 SF - 3 BEDS/2.5 BATHS)
- PLAN 3 - 28 DU (1,843 SF - 3 BEDS/2.5 BATHS)

TH#2 TOTAL UNITS: 54 DU

TH #2: LOGGIA AT PARKVUE
3-STORY INTERLOCK TOWNHOMES

- PLAN 1 - 18 DU (1,382 SF - 2 BEDS/2.5 BATHS)
- PLAN 2 - 8 DU (1,382 SF - 2 BEDS/3 BATHS)
- PLAN 3 - 58 DU (1,384 SF 3 BEDS/2.5 BATHS)
- PLAN 4 - 54 DU (1,831 SF - 3 BEDS/2.5 BATHS)

TH#2 TOTAL UNITS: 138 DU

TH #3 - TERRACE AT PARKVUE
3-STORY ROWHOMES

- PLAN 1 - 8 DU (1,382 SF - 2 BEDS/2.5 BATHS)
- PLAN 2 - 44 DU (1,890 SF - 4 BEDS/3.5 BATHS)
- PLAN 3 - 16 DU (1,884 SF - 4 BEDS/3.5 BATHS)
- PLAN 4 - 25 DU (1,950 SF - 4 BEDS/3.5 BATHS)
- PLAN 5 - 8 DU (2,043 SF - 4 BEDS/3.5 BATHS)

TH#3 TOTAL UNITS: 101 DU

TOTAL UNITS: 291 DU

- POOL BUILDING
- A — ACCESSIBLE UNIT
- UNIT ENTRY

NOTES:

1. INDIVIDUAL TRASH PICK-UP FOR ALL PRODUCT TYPES
2. ALL AC CONDENSERS ARE TO BE ROOF MOUNTED.

PLATE 1

ALTA CALIFORNIA GEOTECHNICAL, INC.
170 N. MAPLE STREET, STE 108, CORONA, CA 92880
TELEPHONE: (951) 509-7090
PROJECT NUMBER: 1-0572 DATE: Jan. 2025

ktgy
Architecture + Planning
17911 Von Karman Ave,
Suite 200
Irvine, CA 92614
949.851.2133
ktgy.com

City Ventures
City Ventures
3121 Michelson Drive, Suite 150
Irvine, CA 92612

"PARKVUE" (SANTEE 3)
SANTEE, CA # 2023-0148

Plot Date: 12.9.2024
1st Submittal Date: 2.2.2024
Revised 1st Submittal Date: 5.17.2024

0 40 80 160

ARCHITECTURAL SITE PLAN

A0.10

Appendix E-1

Request for a Conditional Letter of Map Revision for
Santee 3 Multi-family Housing,
San Diego River, San Diego, CA

Request For A Conditional Letter of Map Revision For Santee 3 Multi-Family Housing San Diego River County of San Diego, CA

RICK Job No.19969

January 13, 2025

RICK

REQUEST FOR A CONDITIONAL LETTER OF MAP REVISION (CLOMR)
FOR
SANTEE 3 MULTI-FAMILY HOUSING

Job Number 19969

Shavger Rekani
R.C.E #90893, Exp. 03/26

Prepared For:

Santee 3 Inv, LLC.
3121 Michelson Drive
Irvine, CA 92612

Prepared By:

RICK
5620 Friars Road
San Diego, CA 92110
(619) 291-0707
www.rickengineering.com

January 13, 2025

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Appendix 9: Corrected Effective Condition Analysis

Appendix 10: Proposed Condition Workmap

Appendix 11: Proposed Condition Analysis

Appendix 12: Revised FIRMette

Appendix 13: As-Built Plans

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Appendix 15: Digital Data

1.0 INTRODUCTION

This report supports a Conditional Letter of Map Revision (CLOMR) for the Santee 3 Multi-Family Housing project (project). The project proposes construction activities within the Federal Emergency Management Agency (FEMA) defined floodplain for San Diego River and revisions to the floodplain mapping between FEMA cross sections BI and BK as shown on FEMA FIRM Panel 06073C1651G, effective November 20, 2015. FEMA has designated this portion of the San Diego River as Zone AE, and Zone X. The limits of this project are within the City of Santee, San Diego County, CA, community 060703.

An annotated copy of the effective Flood Insurance Rate Map (FIRM) for the revised portion of San Diego River is included in Appendix 12. All applicable FEMA MT-2 forms required for this CLOMR request are located in Appendix 1. The project location is shown on the Figure 1: Vicinity Map, following.

1.1 ESA Compliance

Procedure Memorandum 64, issued by FEMA in August 2010, requires that Endangered Species Act (ESA) compliance must be documented to FEMA prior to issuance of CLOMR. The ESA compliance documents will be included in Appendix 3 prior to the next submittal.

Figure 1: Vicinity Map

2.0 HYDROLOGIC INFORMATION

The Hydrologic Data used to model San Diego River was taken from Table 9 of the San Diego County Flood Insurance Study (FIS) dated March 22, 2022 as well as the Effective FEMA model for this location dated November 20, 2015. The flow rates in the FIS match the flow rates used in the effective models. Table 1, below, summarizes the flow rates used for the models contained within this CLOMR. A copy of applicable excerpts from the FIS are included in Appendix 5 of this report.

Table 1: Summary of Effective FEMA Flow Rates

Flooding Source and Location	Source	Drainage Area (SqMi)	Peak Discharge (cfs)			
			10-Year	50-Year	100-Year	500-Year
San Diego River – Cuyamaca Street to Cottonwood Avenue	FIS – Effective Model. LOMR November 20, 2015				34,000	
San Diego River – Confluence with Murphy Canyon Creek	FIS	420.0	3,100	17,000	36,000	112,000

3.0 HYDRAULIC ANALYSIS

The U.S. Army Corps of Engineers HEC-RAS Water Surface Profiles program Version 6.5 was utilized to model the hydraulics for San Diego River. HEC-RAS is intended for calculating water surface elevations (WSELs) for supercritical, subcritical and mixed flow regimes in natural or man-made channels. The effects of the various obstructions such as bridges and culverts may be considered in the computations.

3.0.1 Starting Water Surface Elevations

The boundary conditions for all models submitted as a part of this CLOMR were modeled as a known starting water surface elevation (WSEL) for each flood profile. The starting WSEL for each flood profile was obtained from the effective FEMA model at the effective model cross section 112, FEMA cross section BI. The following table summarizes the starting water surface elevation modeled in the analyses.

Table 2: Summary of Starting Water Surface Elevations

Profile	Starting WSEL (ft, NGVD)
100-Year Floodplain (FP)	337.8
Floodway (FW)	338.2

The hydraulic modeling was prepared as a **subcritical flow** analysis as the Froude numbers within the models are generally much less than 1. Therefore, no upstream boundary conditions were specified for the analysis.

3.0.2 Topography and Datums

Two sources of topographic information were used to update the cross sections for the corrected effective and proposed condition models. The topographic information used in the vicinity of the site were based project specific aerial survey flown on November 27, 2023, resulting in 1-foot contours. Topographic data from the wider study area was obtained from the SANGIS San Diego County wide 2-ft contours from 2018.

The City of Santee, the site topography, and the effective models utilize the NGVD-29 vertical datum. Therefore, the hydraulic analyses prepared for this study also retained the NGVD-29 vertical datum. Per comparisons from the FEMA FIS data on the NAVD-88 datum and the effective HEC-2 model data, NAVD-88 elevations are 2.1 feet above NGVD-29 elevations for the studied reach.

3.0.3 Bridge

The bridge crossing for Cuyamaca Street was included in the effective HEC-RAS analysis, however, the Corrected Effective/Existing model was terminated at Section BI (112) and therefore was upstream of this crossing. No bridge modeling was included in this hydraulic analysis.

3.0.4 Manning's n Values

Manning's n-values for the corrected effective and proposed conditions models were assigned to the model based on effective model n values and aerial imagery for locations on the project site.

3.0.5 Blocked Obstructions/Ineffective Flow

Ineffective flow areas and blocked obstructions were added to the cross sections as appropriate. Areas of ineffective flow were modeled in the conveyance shadow of the bridge or obstructions, as well as areas of flow expansion or contraction included in the modeling. A contraction ratio of 1:1 and an expansion ratio of 2:1 were utilized in the models. Locations of blocked obstructions and ineffective flow are based on aerial imagery and topographic information within the limits of the study and are shown on the HEC-RAS workmaps in Appendices 8 and 10.

3.0.6 Sediment Transport Effects

The effects of sediment transport are not included in the effective mapping and therefore have not been incorporated into the hydraulic modeling of reach of interest for the San Diego River.

4.0 MODELS

The following provides a description of the hydraulic analyses of San Diego River included in this report.

4.1 FEMA Effective Data

RICK submitted an FIS data request to FEMA and received the effective model data from FEMA on January 3, 2024. The effective model data provided consisted of electronic PDF data and an executable HEC-RAS for the November 20, 2015 LOMR (Effective Model). The effective model output for the 100-year floodplain and floodway WSELs were compared with the WSELs in the FIS and were found to generally match, confirming the validity of the effective data. Please refer to Table 3 for a summary of the effective WSELs from the FIS and the effective model output.

4.2 Duplicate Effective

The provided HEC-RAS electronic project files for the effective model were used for the duplicate effective electronic file and was then executed using HEC-RAS v.6.5 for the portion of San Diego River relevant to this study.

HEC-RAS FILES:

The following HEC-RAS files reflect the duplicate effective HEC-RAS hydraulic model for the San Diego River:

	File:	Title:
Project:	Santee3MultiFamCLOMR.prj	N/A
Plan:	Santee3MultiFamCLOMR.p01	DuplicateEffective
Geometry:	Santee3MultiFamCLOMR.g01	DuplicateEffective
Flow:	Santee3MultiFamCLOMR.f02	FEMA_FIS_Flows_DupEff

Copies of the duplicate effective model output is included in Appendix 7. Executable copies of the models are included with the digital data in Appendix 15.

4.3 Corrected Effective/Existing Conditions

The following changes were made to the duplicate effective model to create the corrected effective/existing conditions model:

- The model was shortened to include only the revised reach (Sections 112 - 485).
- Cross sections 116 - 485 were revised to utilize current topography.
- The encroachment stations for the model were revised to match the current NFHL encroachment stations were possible. These encroachments were revised as required to maintain no negative surcharges, no surcharges in excess of 1.0 foot, follow the revised inundation limits, avoid ineffective flow areas, and remain outside of bank stations.
- It was determined that no additional cross sections are required to analyze the proposed grading impacts of the project in the corrected effective/existing conditions model. The site is blocked from effective flow by high ground and ineffective flow areas. The area of flooding adjacent to the project site are areas where water can flow into and pond, but it is not conveying effective flow from the river. This is because the flow is not able to expand and contract into and out of the area to provide conveyance for the river. The cross section locations included in the model are consistent with the effective model and follow standard modeling practices.

HEC-RAS FILES:

The following HEC-RAS files reflect the corrected effective hydraulic model for the San Diego River:

	File:	Title:
Project:	Santee3MultiFamCLOMR.prj	N/A
Plan:	Santee3MultiFamCLOMR.p02	CorrectedEffective
Geometry:	Santee3MultiFamCLOMR.g02	CorrectedEffective
Flow:	Santee3MultiFamCLOMR.f01	FEMA_FIS_Flows

Please refer to Table 3 for a summary of the corrected effective condition calculated WSELs. A corrected effective condition HEC-RAS workmap is included in Appendix 8. A hard copy printout of the HEC-RAS model is included in Appendix 9. Executable copies of the HEC-RAS model are included with the digital data in Appendix 15.

4.4 Proposed Condition

The proposed condition modeling reflects the proposed project grading.

HEC-RAS FILES:

The following HEC-RAS files reflect the proposed condition model for the San Diego River:

	File:	Title:
Project:	Santee3MultiFamCLOMR.prj	N/A
Plan:	Santee3MultiFamCLOMR.p04	Proposed
Geometry:	Santee3MultiFamCLOMR.g04	Proposed
Flow:	Santee3MultiFamCLOMR.f01	FEMA_FIS_Flows

Please refer to Table 3 for a summary of the proposed condition calculated WSELs. A proposed condition HEC-RAS workmap is included in Appendix 10. A hard copy printout of the HEC-RAS model is included in Appendix 11. The proposed project plans are included in Appendix 14. Executable copies of the HEC-RAS model are included with the digital data in Appendix 15.

5.0 HYDRAULIC RESULTS

5.1 Proposed Condition vs. Corrected Effective

Hydraulic models were created in the HEC-RAS program to evaluate the hydraulic impacts to the San Diego River resulting from the proposed project. The hydraulic models cross sections and WSEL results and outputs are in relation to NGVD-29 vertical datum, based on the site-specific topography and effective model that was also in NGVD-29. All of the WSELs in the following table have been converted to NAVD-88 to be consistent with data shown in the San Diego County FIS, NAVD-88 elevations are 2.1 feet above NGVD-29 elevations. The corrected effective and proposed condition HEC-RAS workmaps are included in Appendices 8 and 10 respectively. Hard copies of the corrected effective and proposed condition HEC-RAS output can be found in Appendices 9 and 11 respectively. A copy of the digital models can be found with the electronic files in Appendix 15.

The proposed project and the associated fill area within the San Diego River floodplain result in no increases in water surface elevation between the corrected effective condition and proposed condition models for the base flood (100-year) event. The maximum BFE for the proposed structures on site is at cross section 485 – 346.46’ (NAVD-88), and the BFE at the westernmost extent of the development is at section 120 - 343.0’. The project pad grading varies from 351.0’ (NAVD-88) at the east to 347.3’ (NAVD-88) at the west, elevating structures above the BFE. It is anticipated that the proposed structures will be reasonably safe from flooding due to San Diego River from the 100-year storm event.

5.2 Corrected Effective vs. Duplicate Effective

As shown in Table 3, the corrected effective condition model revisions resulted in little change to the duplicated effective WSELs except at section 483, where a 3.3’ increase was shown. This increase is likely due to the utilization of updated topographical information that better defines the subject area.

5.3 Floodplain and Floodway Delineation

Floodplain delineation is based on computed WSELs from the HEC-RAS analysis prepared for each condition. The floodway delineation is based on the effective workmaps and NFHL delineations. Revisions to the Floodway were only made as required to maintain no negative surcharges, no surcharges in excess of 1.0 foot, follow the revised inundation limits, avoid ineffective flow areas, and remain outside of bank stations. The revised effective FIRMettes in Appendix 12 illustrate how the 100-year floodplain will be modified as a result of the updated CLOMR modeling.

Table 3: San Diego River - 100-Year Storm Event Base Flood Elevations Comparison Table

Job Name: Santee 3 Multi Family
Job Number: 19969
Date: #####

FP=Floodplain FW=Floodway

FEMA FIS Data							Effective HEC-RAS (LOMR November 20, 2015)				Duplicate Effective HEC-RAS				Corrected Effective/Existing HEC-RAS				Proposed HEC-RAS				Duplicate Effective FP - Effective FP [3]-[2]	Corrected Effective FP - Effective FP [4]-[2]	Prop FP - Corr Effective FP [5]-[4]
[1]							[2]				[3]				[4]				[5]						
Section		Distance[1]	D/S reach length (ft)	FP (NAVD-88)	FW	FW-FP	Section	FP	FW	FW-FP	Section	FP	FW	FW-FP	Section	FP	FW	FW-FP	Section	FP	FW	FW-FP			
485				343.2	343.7	0.5	485	346.28	346.5	0.2	485	346.28	346.5	0.2	485.00	346.49	346.64	0.15	13 - 361.87	346.46	346.63	0.17	0.0	0.2	-0.03
483							483	342.36	343.0	0.6	483	342.35	343.0	0.6	483.00	345.68	346.68	1.00	595.44	345.86	346.71	0.85	0.0	3.3	0.18
480				343.0	343.5	0.5	480	342.17	342.7	0.6	480	342.16	342.7	0.6	480.00	341.89	342.45	0.56	14 - 811.29	341.89	342.45	0.56	0.0	-0.3	0.00
470	**BK**						**470**	**343.17**	**343.7**	**0.5**	**470**	**343.17**	**343.7**	**0.5**	**470.00**	**343.48**	**344.04**	**0.56**	**1003.39**	**343.45**	**343.98**	**0.53**	**0.0**	**0.3**	**-0.03**
460							460	343.11	343.6	0.5	460	343.11	343.6	0.5	460.00	343.24	343.79	0.55	1074.16	343.25	343.77	0.52	0.0	0.1	0.01
120	**BJ**						**120**	**343.03**	**343.5**	**0.5**	**120**	**343.02**	**343.5**	**0.5**	**120.00**	**343.12**	**343.56**	**0.44**	**1155.31**	**343.16**	**343.56**	**0.40**	**0.0**	**0.1**	**0.04**
116							116	342.69	343.2	0.5	116	342.68	343.2	0.5	116.00	342.75	343.28	0.53	1241.18	342.75	343.23	0.48	0.0	0.1	0.00
114							114	341.65	342.1	0.4	114	341.63	342.1	0.5	114.00	341.25	341.97	0.72	1296.21	341.25	341.97	0.72	0.0	-0.4	0.00
112	**BI**			**339.9**	**340.3**	**0.4**	**112**	**339.90**	**340.3**	**0.4**	**112**	**339.74**	**340.3**	**0.6**	**112.00**	**339.90**	**340.30**	**0.40**	**15 - 1472.85**	**339.90**	**340.30**	**0.40**	**-0.2**	**0.0**	**0.00**

6.0 DIGITAL DATA

An AutoCAD file including all cross sections and floodplain/floodway information as well as the executable hydraulic models have been submitted with this CLOMR. They can be found with the digital data in Appendix 15. All digital data is submitted on the following horizontal datum:

Horizontal: NAD 83, California State Plane Zone VI (feet)

APPENDIX 1

FEMA MT-2 Forms

DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency

OVERVIEW & CONCURRENCE FORM

OMB Control Number: 1660-0016
Expiration: 1/31/2024

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472 , Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.
PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).
ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.
DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

☒ CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72). All CLOMRs require documentation of compliance with the Endangered Species Act. Refer to the Instructions for details.

☐ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72).

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
060703	SANTEE, CITY OF	CA	06073C	1651G	5/16/2022

2. a. Flooding Source:

b. Types of Flooding: ☒ Riverine ☐ Coastal ☐ Shallow Flooding (e.g., Zones AO and AH) ☐ Alluvial Fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier:

4. FEMA zone designations (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

a. Effective: Zone AE

b. Revised: Zone AE

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change	☐ Improved Methodology/Data	☒ Regulatory Floodway Revision	☐ Base Map Changes
☐ Coastal Analysis	☒ Hydraulic Analysis	☐ Hydrologic Analysis	☐ Corrections
☐ Weir-Dam Changes	☐ Levee Certification	☐ Alluvial Fan Analysis	☐ Natural Changes
☐ New Topographic Data	☐ Other (Attach Description)		

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply)

Structures: ☐ Channelization	☐ Levee/Floodwall	☐ Bridge/Culvert	
☐ Dam	☒ Fill	☐ Other (Attach Description)	

6. ☐ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $ 7,000

☐ No, Attach Explanation

- **Please see the DHS-FEMA Web site at http://www.fema.gov/forms-documents-and-software/flood-map-related-fees for Fee Amounts and Exemptions.**

D. SIGNATURES

1. REQUESTOR'S SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Shavger Rekani	Company: Rick Engineering Company	
Mailing Address: 5620 Friars Road San Diego, CA 92110	Daytime Telephone: 619-291-0707	Fax No.: 619-291-4165
	E-mail Address: srekani@rickengineering.com	
	Date:	

Signature of Requestor (required):

2. COMMUNITY CONCURRENCE

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Carl Schmitz,Director of Engineering

Mailing Address: 10601 Magnolia Ave. Santee, CA 92071	Community Name: Santee	
	Daytime Telephone: 619-258-4100	Fax No.:
	E-mail Address: cschmitz@CityofSanteeCA.gov	
Community Official's Signature (required):	Date:	

3. CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Shavger Rekani		License No.: 90893	Expiration Date: 03/01/2026
Company Name: Rick Engineering Company		Mailing Address: 5620 Friars Road San Diego, CA 92110	
Telephone No.: 619-291-0707	Fax No.: 619-291-4165		
E-mail Address: srekani@rickengineering.com			
Signature:		Date:	

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if …
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

RIVERINE HYDROLOGY & HYDRAULICS FORM (FORM 2)

OMB Control Number: 1660-0016
Expiration: 1/31/2024

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472 , Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.
PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).
ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.
DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

Flooding Source: San Diego River

Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply):

☒ Not revised (skip to section B) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☐ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	Effective/FIS (cfs)	Revised (cfs)

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Precipitation/Runoff Model → Specify Model: _____ Duration: _____ Rainfall Amount: _____

☐ Statistical Analysis of Gage Records

☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review. 4. HEC-RAS File Description**:

5. Impacts of Sediment Transport on Hydrology

Is the hydrology for the revised flooding source(s) affected by sediment transport? ☐ Yes ☐ No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevation (ft.)	
			Effective	Proposed/Revised
Downstream Limit*	870 feet DS of Site	112	337.8 NGVD29	337.8 NGVD29
Upstream Limit*	10 feet US of Site	485	346.2 NGVD29	346.4 NGVD29

*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: HEC-RAS Version 6.50

☒ Steady State ☐ Unsteady State ☒ One-Dimensional ☐ Two-Dimentional

3. Pre-Submittal Review of Hydraulic Models*

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4. HEC-RAS File Description**:

Models Submitted	Natural Run		Floodway Run		Datum
Duplicate Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
Corrected Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
	Santee3MultiFaCL	CorrectedEffective	Santee3MultiFaCL	CorrectedEffective	NGVD29
Existing or Pre-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
	Santee3MultiFaCL	CorrectedEffective	1Santee3MultiFaCL	CorrectedEffective	NGVD29
Revised or Post-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
Other - (attach description)	File Name:	Plan Name:	File Name:	Plan Name:	

* For details, refer to the corresponding section of the instructions.
**See instructions for information about modeling other then HEC-RAS. ☒ Digital Models Submitted? (Required)

C. MAPPING REQUIREMENTS

A **certified topographic work map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Topographic Information: ☒ Digital Mapping (GIS/CADD) Data Submitted (preferred)

Source: CVC Inc Survey / SANGIS | Date: 11/27/2023 / 2018

Vertical Datum: NGVD29 | Spatial Projection: NAD83 StatePlane CA Zone6

Accuracy:

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM**, at the same scale as the original, annotated to show the boundaries of the revised 1%-and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%-and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

☒ Annotated FIRM and/or FBFM (Required)

D. COMMON REGULATORY REQUIREMENTS*

1. For LOMR/CLOMR requests, do Base Flood Elevations (BFEs) or Special Flood Hazard Areas (SFHAs) increase compared to the effective BFEs? ☒ Yes ☐ No

   If Yes, please attach **proof of property owner notification**. Examples of property owner notifications can be found in the MT-2 Form 2 Instructions.

2. For CLOMR requests, if either of the following is true, please submit **evidence of compliance with Section 65.12 of the NFIP regulations**:

   - The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.
   - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.

3. Does the request involve the placement or proposed placement of fill? ☒ Yes ☐ No

   If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(A)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

4. Does the request involve the placement or proposed placement of fill? ☒ Yes ☐ No

   If Yes, attach **evidence of regulatory floodway revision notification**. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.

5. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (ESA). For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA. Please see the MT-2 instructions for more detail.

APPENDIX 2

FEMA Payment Form

To be completed during future submittal

FEDERAL EMERGENCY MANAGEMENT AGENCY

PAYMENT INFORMATION FORM

Community Name:

Project Identifier:

THIS FORM MUST BE MAILED, ALONG WITH THE APPROPRIATE FEE, TO THE ADDRESS BELOW OR E-MAILED TO THE E-MAIL ADDRESS BELOW.

Please make check or money order payable to the National Flood Insurance Program.

Type of Request:

☐ MT-1 application
☐ MT-2 application

LOMC Clearinghouse
3601 Eisenhower Ave. Suite 500 Alexandria, VA
22304-6426
Attn.: LOMC Manager

☐ EDR application

FEMA Project Library
3601 Eisenhower Ave. Suite 500 Alexandria, VA
22304-6426
E-mail: FEMA-EngineeringLibrary@fema.dhs.gov

Request No. (if known): _____ **Check No.:** _____ **Amount:** _____

☐ INITIAL FEE* ☐ FINAL FEE ☐ FEE BALANCE** ☐ MASTER CARD ☐ VISA ☐ CHECK ☐ MONEY ORDER

*Note: Check only for EDR and/or Alluvial Fan requests (as appropriate).

****Note: Check only if submitting a corrected fee for an ongoing request.**

COMPLETE THIS SECTION *ONLY* IF PAYING BY CREDIT CARD

CARD NUMBER EXP. DATE

				–				–				–					–		
1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	Month		Year

_____ _____

Date Signature

NAME *(AS IT APPEARS ON CARD)*: _____
(please print or type)

ADDRESS: _____
(*for your credit card receipt-please print or type*) _____

DAYTIME PHONE: _____

APPENDIX 3

ESA Compliance
Support Documentation

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

MEMORANDUM

To:	Michael You, City Ventures
From:	Danielle Mullen, Dudek
Subject:	Federal Emergency Management Agency Conditional Letter of Map Revision (CLOMR) Memorandum for the Cottonwood and Park Project
Date:	January 15, 2025
cc:	Cindi Hoover, Dudek
Attachments:	Figures 1–3

Dudek understands that City Ventures is processing a Conditional Letter of Map Revision (CLOMR) for the proposed Cottonwood and Park Project (project) as required by the Federal Emergency Management Agency. This memorandum provides the details and information needed to make a "no effect" determination for the federal endangered least Bell's vireo (*Vireo bellii pusillus*) and a "no effect" determination for monarch butterfly (*Danaus plexippus plexippus*) as required by the Federal Emergency Management Agency for addressing the CLOMR for the proposed project.

1 Project Location and Description

The approximately 23-acre project site is in the south-central portion of the City of Santee, within San Diego County, as shown in Figure 1, Project Location. The project site is at the southern end of Park Center Drive and is bound by the San Diego River to the south. The project site lies within the U.S. Geological Survey El Cajon quadrangle with a latitude of N 32°50′ 54.72″ and longitude of W 116°58′ 32.76″. The Assessor's Parcel Number for the project site is 381-051-1800, and off-site impacts would occur within Assessor's Parcel Numbers 381 051-1400, 381-051-1700, and 381-050-7700. Land uses adjacent to the project site consist of Town Center Community Park along the northern and western boundaries, residential housing to the east, and the San Diego River corridor along the southern boundary.

The proposed project would involve construction of 291 multifamily residential units, on-site parking, and recreational areas. Off-site road improvements are proposed west of Cottonwood Avenue, and a detention basin would be located within southwestern corner of the site that would include an off-site storm drain outfall that directs overflow to the San Diego River immediately south of the site. Project impacts are shown in Figure 2, Impacts to Biological Resources.

To comply with the City of Santee Housing Element Rezone Program Implementation Program Environmental Impact Report (City of Santee 2022), all riparian habitats within the main stem of the San Diego River would be avoided by the proposed project[1] and would be designated as biological open space and incorporated into the City of Santee's preserve system, including recordation of an easement to ensure their protection in perpetuity. Additionally, a 100-foot buffer from the edge of the riparian habitat associated with the San Diego River would be established within the project site and would be managed for natural biological values as part of the City of Santee's preserve system.

[1] All impacts to the riparian resources within the main stem of the San Diego River would be avoided by the proposed project, with the exception of a small impact (0.004 acres) occurring from the project's storm drain outfall, which is considered an allowable use (i.e., desiltation or erosion control facilities or other improvements necessary to protect the habitat) within the City of Santee's preserve system.

2 Biological Resources

Data regarding biological resources within the project site were obtained through a review of pertinent literature and through field surveys conducted May through August 2023 and June 2024, including vegetation mapping, jurisdictional aquatic resource assessment, a protocol-level least Bell's vireo survey (USFWS 2001), and a rare plant survey.

2.1 Existing Conditions

The project site is currently undeveloped land containing mostly non-native vegetation communities and land cover types (i.e. disturbed habitat, non-native grassland, eucalyptus woodland, and urban/developed lands), with a patch of native arrowweed scrub and a small area of riparian habitat (i.e., freshwater marsh and southern cottonwood-willow riparian forest) associated with the San Diego River corridor that overlaps the southern site boundary. The vegetation communities and land cover types are shown in Figure 2.

Table 1 lists the federally listed species as described in the U.S. Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) Resource List (USFWS 2024) for the project site, and species occurrence data from the California Department of Fish and Wildlife's California Natural Diversity Database (CDFW 2023), the California Native Plant Society's Rare Plant Inventory (CNPS 2023), and USFWS Species Occurrence Data (USFWS 2023) within the U.S. Geological Survey's 7.5-minute El Cajon quadrangle and the surrounding Alpine, Dulzura, Poway, San Vicente Reservoir, El Cajon Mountain, La Mesa, National City, and Jamul Mountains quadrangles. One federally listed endangered species, least Bell's vireo, and one federally proposed threatened species, monarch butterfly, were observed within the project site during field surveys conducted in 2023. The federally endangered least Bell's vireo was documented within riparian habitat in the San Diego River along the southern boundary of the project site. This area supports suitable foraging and/or nesting habitat for this federally listed species. Figure 2 shows the locations of least Bell's vireos within the project site and surrounding area. No location was recorded for monarch butterfly because the individual was passing through the site. In addition, the project site is not an established overwintering area for this species, the site does not provide any host plants (i.e., milkweed), and the site supports very limited nectar plants (i.e., the majority of the site contains non-native grasses). For regional context, Figure 3, USFWS Critical Habitat and Species Occurrences, shows the locations of the USFWS species occurrence data and USFWS designated critical habitat within a 5-mile buffer surrounding the project site. No other federally listed species were observed on the project site during focused surveys conducted by Dudek in 2023 and 2024.

Table 1. Federally Listed and Federally Proposed Species Observed or Potential to Occur within the CLOMR Permit Area

Scientific Name	Common Name	Status[1]	Habitat	Potential to Occur
Plants				
Acanthomintha ilicifolia	San Diego thorn-mint	FT	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay, openings/annual herb/April–June/30–3,150 feet	Not expected to occur. No clay soils or vernal pools present.
Ambrosia pumila	San Diego ambrosia	FE	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/April–Oct/65–1,360 feet	Not expected to occur. This species would have been observed during the rare plant survey if present.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec–June/0–1,200 feet	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Baccharis vanessae	Encinitas baccharis	FT	Chaparral (maritime), cismontane woodland; sandstone/perennial deciduous shrub/ Aug, Oct, Nov/195–2,360 feet	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Berberis nevinii	Nevin's barberry	FE	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/perennial evergreen shrub/(Feb.)March–June/225–2,705 feet	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Brodiaea filifolia	thread-leaved brodiaea	FT	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/perennial bulbiferous herb/ March–June/80–3,675 feet	Not expected to occur. No clay soils present.
Chloropyron maritimum ssp. *maritimum* (formerly *Cordylanthus maritimus* ssp. *maritimus*)	salt marsh bird's-beak	FE	Coastal dunes, marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May–Oct (Nov)/ 0–100 feet	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Deinandra conjugens	Otay tarplant	FT	Coastal scrub, valley and foothill grassland; clay/annual herb/(Apr) May–June/80–985 feet	Not expected to occur. No clay soils present.

Table 1. Federally Listed and Federally Proposed Species Observed or Potential to Occur within the CLOMR Permit Area

Scientific Name	Common Name	Status[1]	Habitat	Potential to Occur
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE	Coastal scrub, valley and foothill grassland, vernal pools; mesic/annual/perennial herb/April–June/ 65–2,035 feet	Not expected to occur. This perennial species was not observed during the rare plant survey, and no vernal pools are present.
Fremontodendron mexicanum	Mexican flannelbush	FE	Closed-cone coniferous forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentinite/ perennial evergreen shrub/March–June/ 30–2,350 feet	Not expected to occur. No suitable vegetation present. This perennial species would have been observed during the rare plant survey if present.
Monardella viminea	willowy monardella	FE	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; alluvial ephemeral washes/perennial herb/June–Aug/160–740 feet	Not expected to occur. This perennial species would have been observed during the rare plant survey if present.
Navarretia fossalis	spreading navarretia	FT	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/April–June/95–2,150 feet	Not expected to occur. This species is strongly associated with vernal pools, which are not present within the project site (USFWS 2009a).
Orcuttia californica	California Orcutt grass	FE	Vernal pools/annual herb/April–Aug/45–2,165 feet	Not expected to occur. No vernal pool habitat present.
Pogogyne abramsii	San Diego mesa mint	FE	Vernal pools/annual herb/March–July/295–655 feet	Not expected to occur. No vernal pool habitat present.
Pogogyne nudiuscula	Otay Mesa mint	FE	Vernal pools/annual herb/May–July/295–820 feet	Not expected to occur. No vernal pool habitat present.
Amphibians				
Anaxyrus californicus	arroyo toad	FE	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. No suitable stream channels present. Outside of known range (USFWS 2009b).
Spea hammondii	Western Spadefoot	PT	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Not expected to occur. No suitable ephemeral wetlands, and the grassland areas are highly disturbed.

Table 1. Federally Listed and Federally Proposed Species Observed or Potential to Occur within the CLOMR Permit Area

Scientific Name	Common Name	Status[1]	Habitat	Potential to Occur
Reptiles				
Chelonia mydas	green sea turtle	FT	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	Not expected to occur. Suitable shallow estuarine or marine habitat is not present.
Actinemys pallida	southwestern pond turtle	PT	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. Suitable wetland habitat is present around the project site within the San Diego River. However, southwestern pond turtle is not currently known from the San Diego River in the City of Santee.
Birds				
Charadrius alexandrinus nivosus	western snowy plover	FT	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur. No suitable nesting habitat present.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. Not observed during riparian bird surveys. Riparian habitat adjacent to the site is too narrow and lacks dense, wide riparian vegetation preferred by this species.
Empidonax traillii extimus	southwestern willow flycatcher	FE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. Species not observed during riparian bird surveys. The U.S. Fish and Wildlife Service agreed that focused surveys not needed in this area due to lack of suitable nesting habitat.
Polioptila californica californica	coastal California gnatcatcher	FT	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. No suitable vegetation present and this species was not incidentally observed during riparian bird surveys within the site.

Table 1. Federally Listed and Federally Proposed Species Observed or Potential to Occur within the CLOMR Permit Area

Scientific Name	Common Name	Status[1]	Habitat	Potential to Occur
Rallus obsoletus levipes (formerly *R. longirostris levipes*)	Ridgway's rail	FE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable coastal wetland habitat present.
Sternula antillarum browni	California least tern	FE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. The site lacks suitable habitat for this species. This species establishes nesting colonies along coastal beach or estuarine habitats, which is not present in the project area.
Vireo bellii pusillus	least Bell's vireo	FE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Present. Observed within riparian areas within the project site (along the southern boundary) and immediately south, north, and west of the project site. All riparian vegetation around the project is expected to be occupied.
Invertebrates				
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No vernal pool habitat is present within the site.
Danaus plexippus plexippus pop. 1	monarch – California overwintering population	PT	Wind-protected tree groves with nectar sources and nearby water sources	Present. Observed during surveys within project site. However, the project site is not an established overwintering area for this species, nor does it provide any host plants (i.e. milkweed) and there is very limited nectar plants (i.e., majority of site contains non-native grasses).

Table 1. Federally Listed and Federally Proposed Species Observed or Potential to Occur within the CLOMR Permit Area

Scientific Name	Common Name	Status[1]	Habitat	Potential to Occur
Euphydryas editha quino	Quino checkerspot butterfly	FE	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta*, *Antirrhinum coulterianum*, and *Plantago patagonica* (Silverado Occurrence Complex)	Not expected to occur. No primary host plants are present (i.e. only *Plantago ovata* was observed at very low density within the site), site lacks clay soils preferred by primary host plants, very limited flowering plants present for nectar sources (i.e., majority of site contains non-native grasses), the site is outside the U.S. Fish and Wildlife Service recommended survey area, and the non-native grassland is highly disturbed.
Lycaena hermes	Hermes copper	FT	Mixed woodlands, chaparral, and coastal scrub	Not expected to occur. No suitable vegetation or host plants present.
Streptocephalus woottoni	Riverside fairy shrimp	FE	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No vernal pool habitat is present within the site.

Notes:
CLOMR = Conditional Letter of Map Revision
[1] The federal status of species is based on the Special Animals List (October 2024) (CDFW 2024).
Federal Designations
FE: Federally listed as endangered
FT: Federally listed as threatened
PT: Proposed Threatened

2.2 Determination of Effects

As noted above in Table 1, one federally listed endangered species, least Bell's vireo, and one federally proposed threatened species, monarch butterfly, were observed within the project site. The federally endangered least Bell's vireo was documented within riparian habitat in the San Diego River along the southern boundary of the project site. This area supports suitable foraging and/or nesting habitat for this federally listed species. Direct impacts to least Bell's vireo individuals are not anticipated due to the project's avoidance of impacts to occupied habitat through the establishment of a 100-foot buffer from the edge of the riparian habitat.[2] Indirect impacts to least Bell's vireo from construction noise potentially resulting in take would be avoided through implementation of mitigation measure MM-BIO-2 from the Program Environmental Impact Report, which would require noise attenuation measures for occupied habitat if project construction occurs during the least Bell's vireo breeding season (i.e., April 10 through July 31) (City of Santee 2022). Therefore, the proposed project is not likely to jeopardize the continued existence of least Bell's vireo, and a "no effect" determination should be made. No take is expected to occur for monarch butterfly because the observation was one individual passing through the site, the project site is not an established overwintering area for this species, the project site does not contain any host plants (i.e., milkweed), and the project site supports very limited nectar plants (i.e., the majority of the site contains non-native grasses). Therefore, a "no effect" determination should be made for monarch butterfly.

No other federally listed species were observed on the project site or have potential to occur on the project site. Therefore, the proposed project is not expected to result in take of any other federally listed species. Additionally, there is no critical habitat designated for any federally listed plant or wildlife species on the project site. Therefore, no adverse effects to critical habitat would occur due to project implementation.

[2] All impacts to riparian resources within the main stem of the San Diego River would be avoided by the proposed project with the exception of a small impact (0.004 acres) occurring from the project's storm drain outfall, which is considered an allowable use (i.e., desiltation or erosion control facilities or other improvements necessary to protect the habitat) within the City of Santee's preserve system.

References

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USFWS. 2009b. *Arroyo Toad Bufo californicus (=microscaphus). 5-Year Review: Summary and Evaluation*. Ventura, California: USFWS Ventura Office. August 2009.

USFWS. 2023. Critical Habitat and Species Occurrence Database [map]. Accessed August 2023. https://www.arcgis.com/apps/mapviewer/index.html?url=https://services.arcgis.com/QVENGdaPbd4LUkLV/ArcGIS/rest/services/USFWS_Critical_Habitat/FeatureServer&source=sd.

USFWS. 2024. Information for Planning and Consultation (IPaC) Resource List. Accessed January 6, 2025. https://ipac.ecosphere.fws.gov/.

SOURCE: ESRI Imagery 2023

DUDEK

0 500 1,000 Feet

FIGURE 1

Project Location

Federal Emergency Management Agency (FEMA) Conditional Letter of Map Revision (CLOMR) Memorandum for the Cottonwood and Park Project

Project Site Boundary
500-Ft Buffer
Permanent Impact
Temporary Impact
San Diego River

Wildlife

Least Bell's Vireo *(Vireo bellii pusillus)*, B-LBVI
White Rabbit-Tobacco *(Pseudognaphalium leucocephalum)*, Pseleu

Vegetation Communities and Land Cover Types

Arrowweed Scrub - AWS
Coastal and Valley Freshwater Marsh - FWM
Disturbed Habitat - DH
Eucalyptus Woodland -
Non-Native Grassland -
Non-Native Grassland: Broadleaf-Dominated -
Southern Cottonwood-Willow Riparian Forest - SCWRF
Urban/Developed - DEV

USACE/RWQCB/CDFW
Open Water, OW
Coastal and Valley Freshwater Marsh, FWM

CDFW Riparian Habitat
Arrowweed Scrub,
Southern Cottonwood-Willow Riparian Forest, SCWRF

SOURCE: ESRI Imagery 2023

DUDEK 0 110 220 Feet

FIGURE 2

Impacts to Biological Resources

Federal Emergency Management Agency (FEMA) Conditional Letter of Map Revision (CLOMR) Memorandum for the Cottonwood and Park Project

USFWS Occurrences
- least Bell's vireo
- Quino checkerspot butterfly
- San Diego fairy shrimp
- coastal California gnatcatcher

Critical Habitat
- Arroyo Toad
- Hermes copper butterfly
- San Diego thornmint
- San Diego ambrosia
- Willowy monardella
- Coastal California gnatcatcher
- Least Bell's vireo
- 5-Mile Buffer
- Project Site

SOURCE: ESRI Imagery 2023

DUDEK

0 3,200 6,400 Feet

FIGURE 3

USFWS Critical Habitat and Species Occurrences

Federal Emergency Management Agency (FEMA) Conditional Letter of Map Revision (CLOMR) Memorandum for the Cottonwood and Park Project

APPENDIX 4

Public Notification Documents

To be completed during future submittal

APPENDIX 5

Effective Flood Insurance Study
Excerpts

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Santee San Diego County California	FILL	FLOODWAY HYDRAULIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 060703		
IDENTIFIER	Parc One	APPROXIMATE LATITUDE & LONGITUDE: 32.846, -116.980 SOURCE: USGS QUADRANGLE DATUM: NAD 83	

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 06073C1651G DATE: May 16, 2012 TYPE: FIRM* NO.: 06073C1653G DATE: May 16, 2012	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: May 16, 2012 PROFILE(S): 369P-370P FLOODWAY DATA TABLE: TABLE 13

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

San Diego River - from approximately 60 feet downstream of Cuyamaca Street to Cottonwood Avenue

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
San Diego River	Zone AE	Zone AE	YES	YES
	BFEs*	BFEs	YES	YES
	No BFEs	BFEs	YES	NONE
	Floodway	Floodway	YES	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Jeffrey D. Lusk
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the Federal Register. This information also will be published in your local newspaper on or about the dates listed below and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp.

LOCAL NEWSPAPER Name: *The East County Californian*
Dates: July 16, 2015 and July 23, 2015

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination information presented in this LOMR may be changed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
San Diego River (cont'd)								
AT	6,220 [1]	498	5,410	7.0	306.7	306.7	307.3	0.6
AU	7,097 [1]	695	7,383	5.1	309.6	309.6	310.3	0.7
AV	8,128 [1]	600	5,647	6.7	311.7	311.7	312.6	0.9
AW	9,079 [1]	560	6,111	6.1	315.3	315.3	315.6	0.3
AX	10,100 [1]	1,300	12,607	3.0	317.0	317.0	317.3	0.3
AY	11,441 [1]	1,557	10,122	3.8	318.3	318.3	318.6	0.3
AZ	12,095 [1]	1,470	9,785	3.9	319.5	319.5	319.8	0.3
BA	12,800 [1]	1,545	9,949	3.7	320.2	320.2	320.4	0.2
BB	14,100 [1]	799	—[2]	—[2]	321.3	321.3	321.5	0.2
BC	14,889 [1]	930	—[2]	—[2]	323.2	323.2	323.3	0.1
BD	15,927 [1]	875	—[2]	—[2]	329.1	329.1	329.1	0.0
BE	16,611 [1]	990	—[2]	—[2]	329.7	329.7	329.7	0.0
BF	17,629 [1]	728	—[2]	—[2]	330.5	330.5	331.2	0.7
BG	19,199 [1]	775	—[2]	—[2]	334.5	334.5	335.0	0.5
BH	19,962 [1]	454	4,884	7.4	335.7	335.7	336.7	1.0
BI	20,855 [1]	1,000	5,786	5.9	339.9	339.9	340.3	0.4
BJ	21,874 [1]	1,008	11,793	2.9	343.0	343.0	343.5	0.5
BK	22,640 [1]	1,015	11,600	2.9	343.2	343.2	343.7	0.5
BL	23,476 [1]	950	—[2]	—[2]	347.4	347.4	348.1	0.7
BM	24,294 [1]	575	—[2]	—[2]	348.5	348.5	349.0	0.5
BN	25,555 [1]	655	—[2]	—[2]	350.4	350.4	350.6	0.2
BO	26,863 [1]	512	—[2]	—[2]	350.7	350.7	350.9	0.2
BP	28,470 [1]	737	—[2]	—[2]	351.9	351.9	352.2	0.3
BQ	29,216 [1]	443	—[2]	—[2]	351.8	351.8	352.1	0.3
BR	29,954 [1]	417	—[2]	—[2]	352.4	352.4	352.7	0.3
BS	-1,359 [3]	391	6,448	5.1	364.5	364.5	364.5	0.0

[1] Feet Above Limit of Detailed Study

[2] Data Not Available

[3] Feet Above Riverford Bridge

REVISED TO
REFLECT LOMR
EFFECTIVE: November 20, 2015

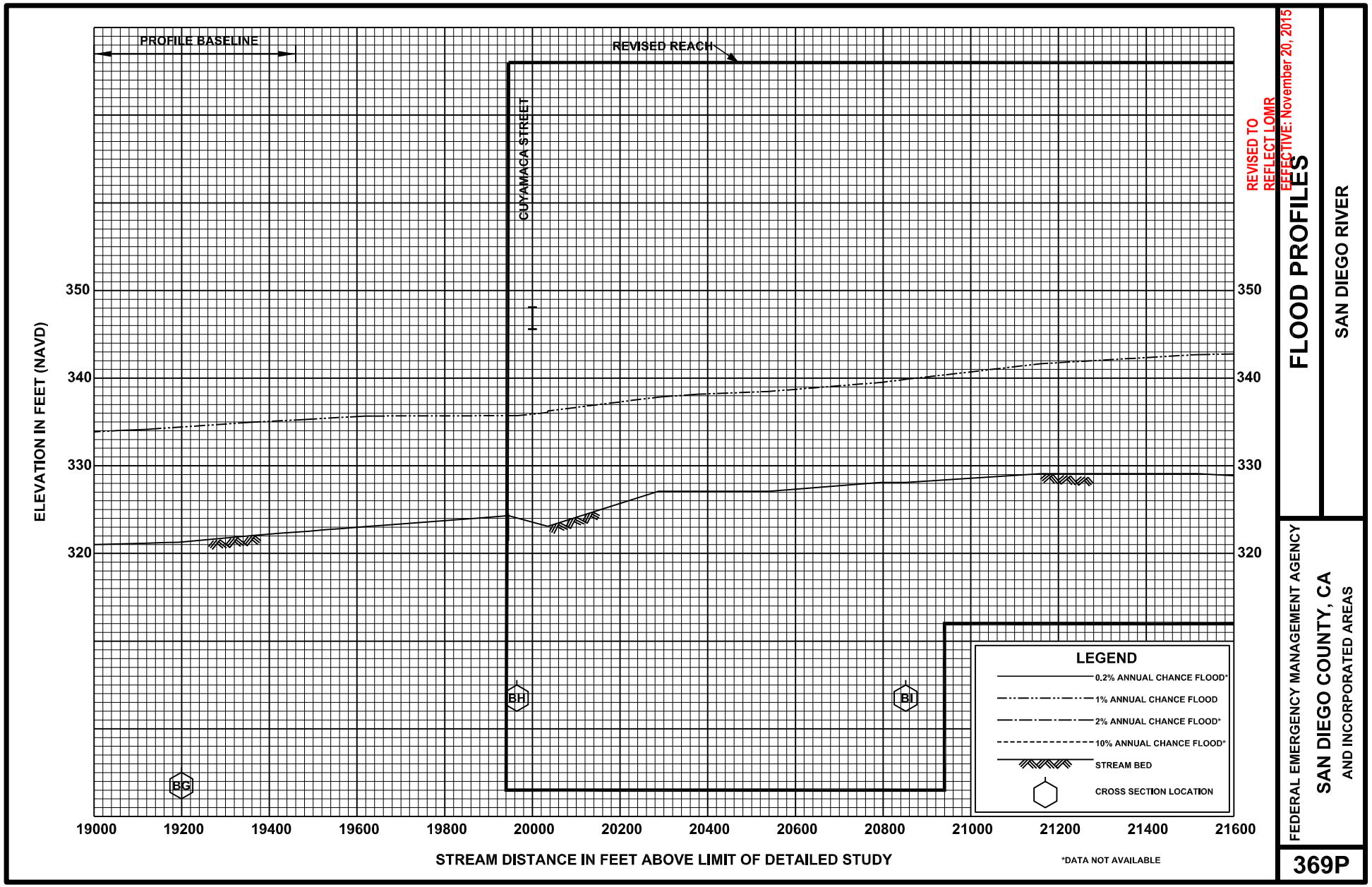
TABLE 13

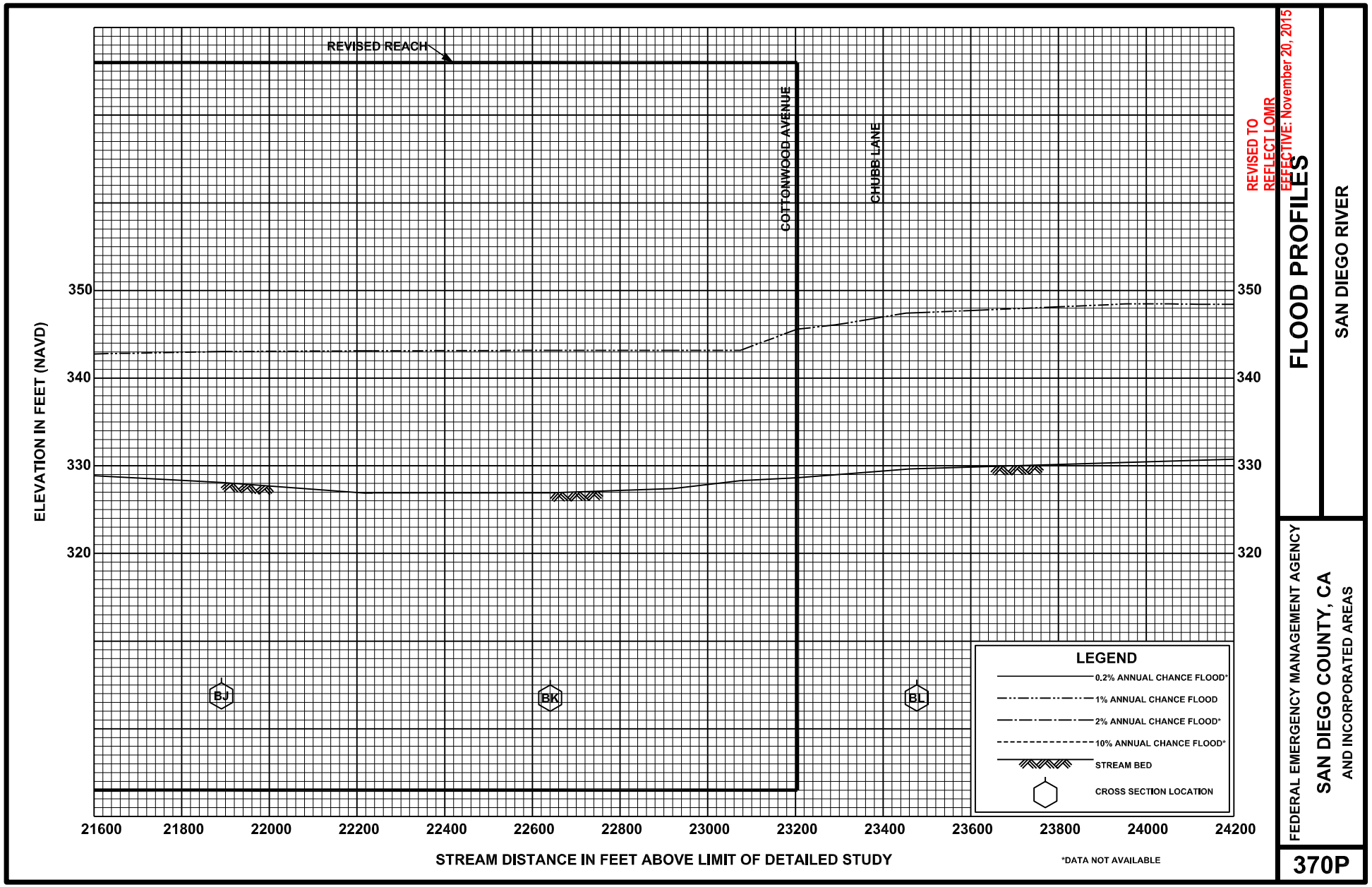
FEDERAL EMERGENCY MANAGEMENT AGENCY

SAN DIEGO COUNTY, CA
AND INCORPORATED AREAS

FLOODWAY DATA

SAN DIEGO RIVER


PROFILE BASELINE
REVISED REACH
CUYAMACA STREET
ELEVATION IN FEET (NAVD)
350
340
330
320
19000
19200
19400
19600
19800
20000
20200
20400
20600
20800
21000
21200
21400
21600
STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY
BG
BH
BI
LEGEND
0.2% ANNUAL CHANCE FLOOD*
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD*
10% ANNUAL CHANCE FLOOD*
STREAM BED
CROSS SECTION LOCATION
*DATA NOT AVAILABLE
REVISED TO REFLECT LOMR EFFECTIVE: November 20, 2015
FLOOD PROFILES
SAN DIEGO RIVER
FEDERAL EMERGENCY MANAGEMENT AGENCY
SAN DIEGO COUNTY, CA
AND INCORPORATED AREAS
369P



FLOOD PROFILES

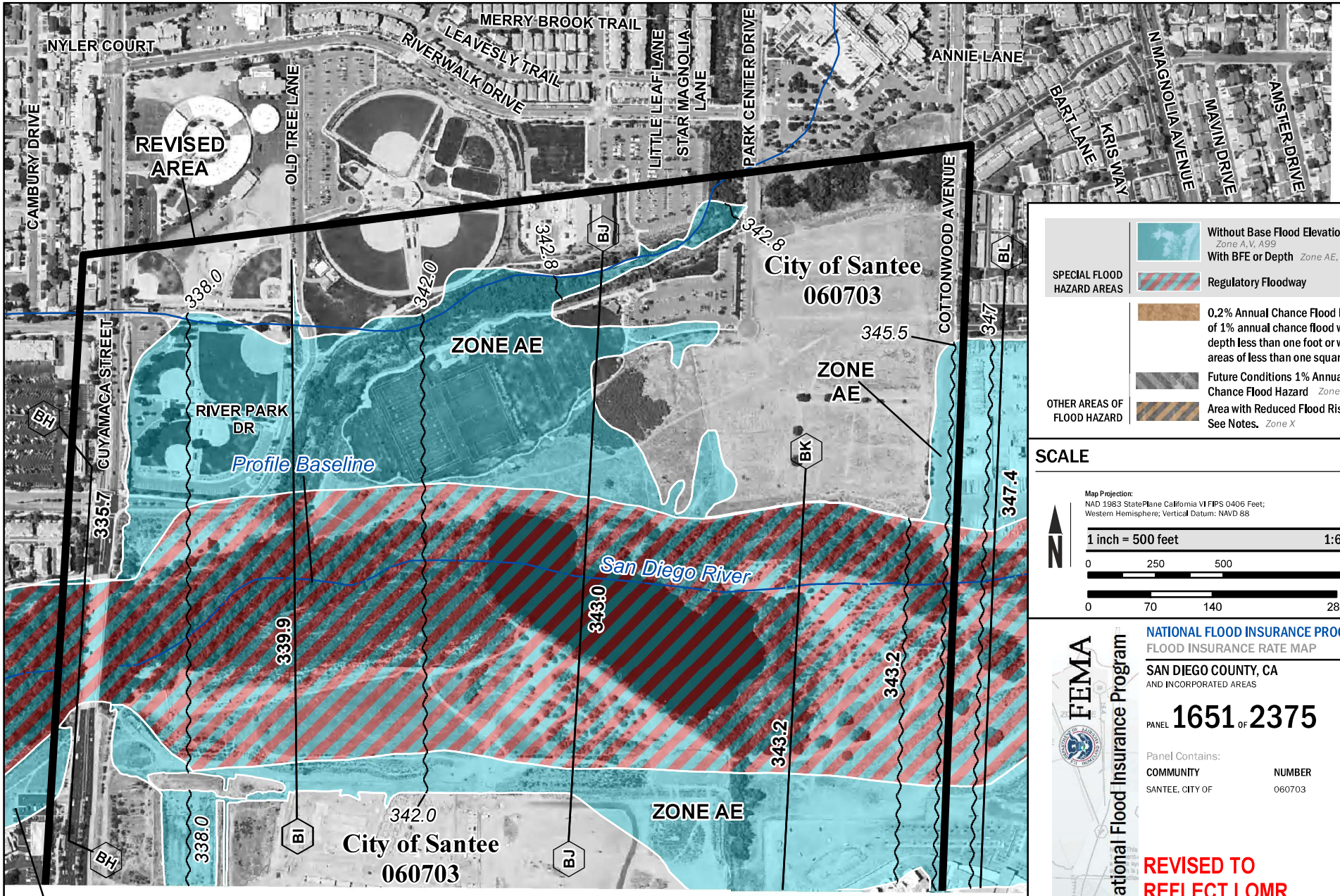
SAN DIEGO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

SAN DIEGO COUNTY, CA

AND INCORPORATED AREAS

370P



SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A,V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*

SCALE

Map Projection:
NAD 1983 StatePlane California VI FIPS 0406 Feet;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 1,000 Feet

0 70 140 280 Meters

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

SAN DIEGO COUNTY, CA
AND INCORPORATED AREAS

PANEL **1651** OF **2375**

Panel Contains:

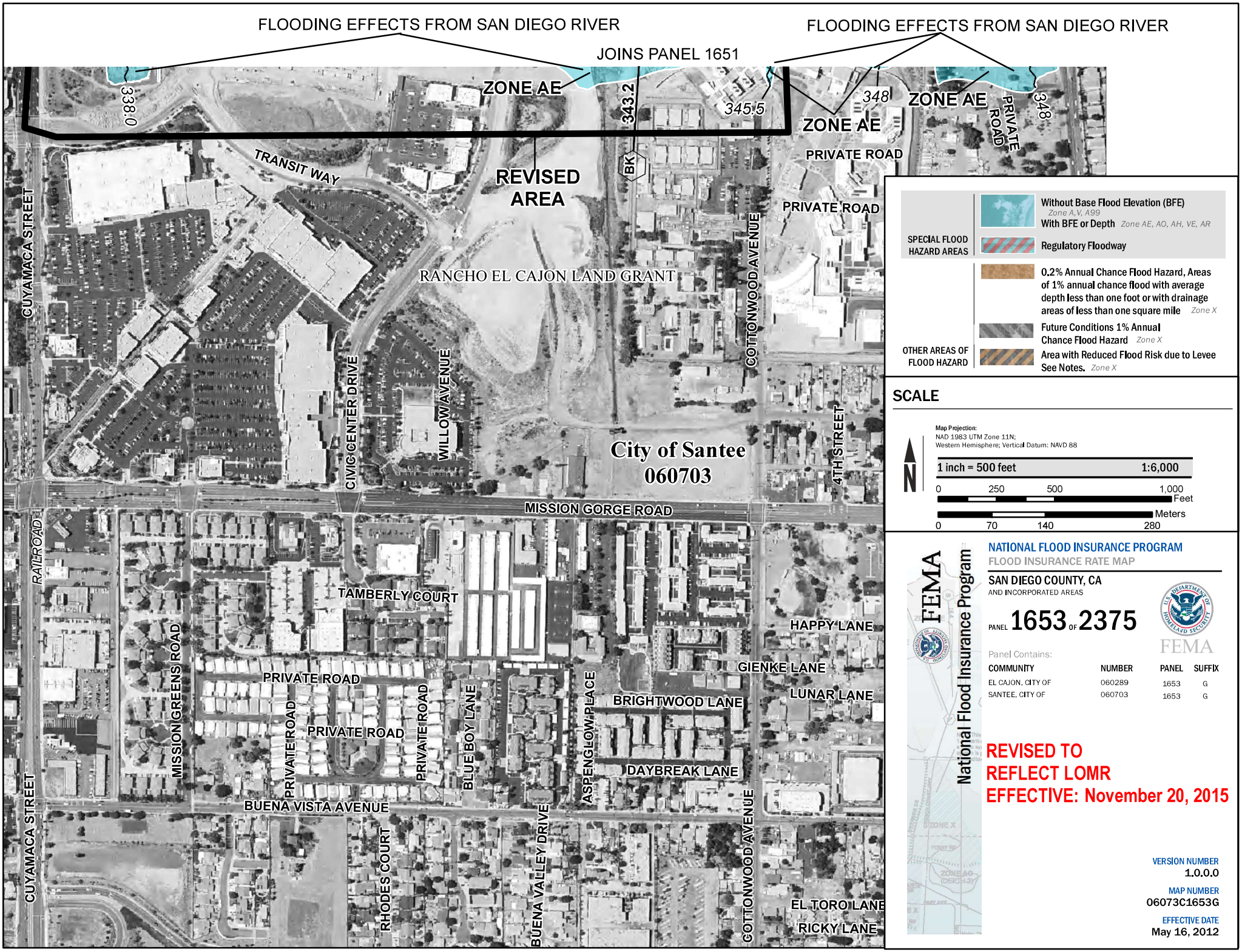
COMMUNITY	NUMBER	PANEL	SUFFIX
SANTEE, CITY OF	060703	1651	G

REVISED TO REFLECT LOMR EFFECTIVE: November 20, 2015

VERSION NUMBER
1.0.0.0

MAP NUMBER
06073C1651G

EFFECTIVE DATE
May 16, 2012


FLOODING EFFECTS FROM SAN DIEGO RIVER
JOINS PANEL 1651
FLOODING EFFECTS FROM SAN DIEGO RIVER
ZONE AE
338.0
343.2
345.5
348
ZONE AE
ZONE AE
348
PRIVATE ROAD
PRIVATE ROAD
PRIVATE ROAD
BK
REVISED AREA
TRANSIT WAY
CUYAMACA STREET
RANCHO EL CAJON LAND GRANT
COTTONWOOD AVENUE
CIVIC CENTER DRIVE
WILLOW AVENUE
4TH STREET
City of Santee
060703
MISSION GORGE ROAD
RAILROAD
TAMBERLY COURT
HAPPY LANE
GIENKE LANE
LUNAR LANE
BRIGHTWOOD LANE
DAYBREAK LANE
PRIVATE ROAD
PRIVATE ROAD
PRIVATE ROAD
MISSION GREENS ROAD
BLUE BOY LANE
ASPENGLOW PLACE
BUENA VISTA AVENUE
CUYAMACA STREET
RHODES COURT
BUENA VALLEY DRIVE
COTTONWOOD AVENUE
EL TORO LANE
RICKY LANE
SPECIAL FLOOD HAZARD AREAS
Without Base Flood Elevation (BFE) Zone A,V, A99
With BFE or Depth Zone AE, AO, AH, VE, AR
Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD
0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
Future Conditions 1% Annual Chance Flood Hazard Zone X
Area with Reduced Flood Risk due to Levee See Notes. Zone X
SCALE
N
Map Projection:
NAD 1983 UTM Zone 11N;
Western Hemisphere; Vertical Datum: NAVD 88
1 inch = 500 feet 1:6,000
0 250 500 1,000 Feet
0 70 140 280 Meters
FEMA
National Flood Insurance Program
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
SAN DIEGO COUNTY, CA
AND INCORPORATED AREAS
PANEL 1653 OF 2375
FEMA
Panel Contains:
COMMUNITY NUMBER PANEL SUFFIX
EL CAJON, CITY OF 060289 1653 G
SANTEE, CITY OF 060703 1653 G
REVISED TO
REFLECT LOMR
EFFECTIVE: November 20, 2015
VERSION NUMBER
1.0.0.0
MAP NUMBER
06073C1653G
EFFECTIVE DATE
May 16, 2012

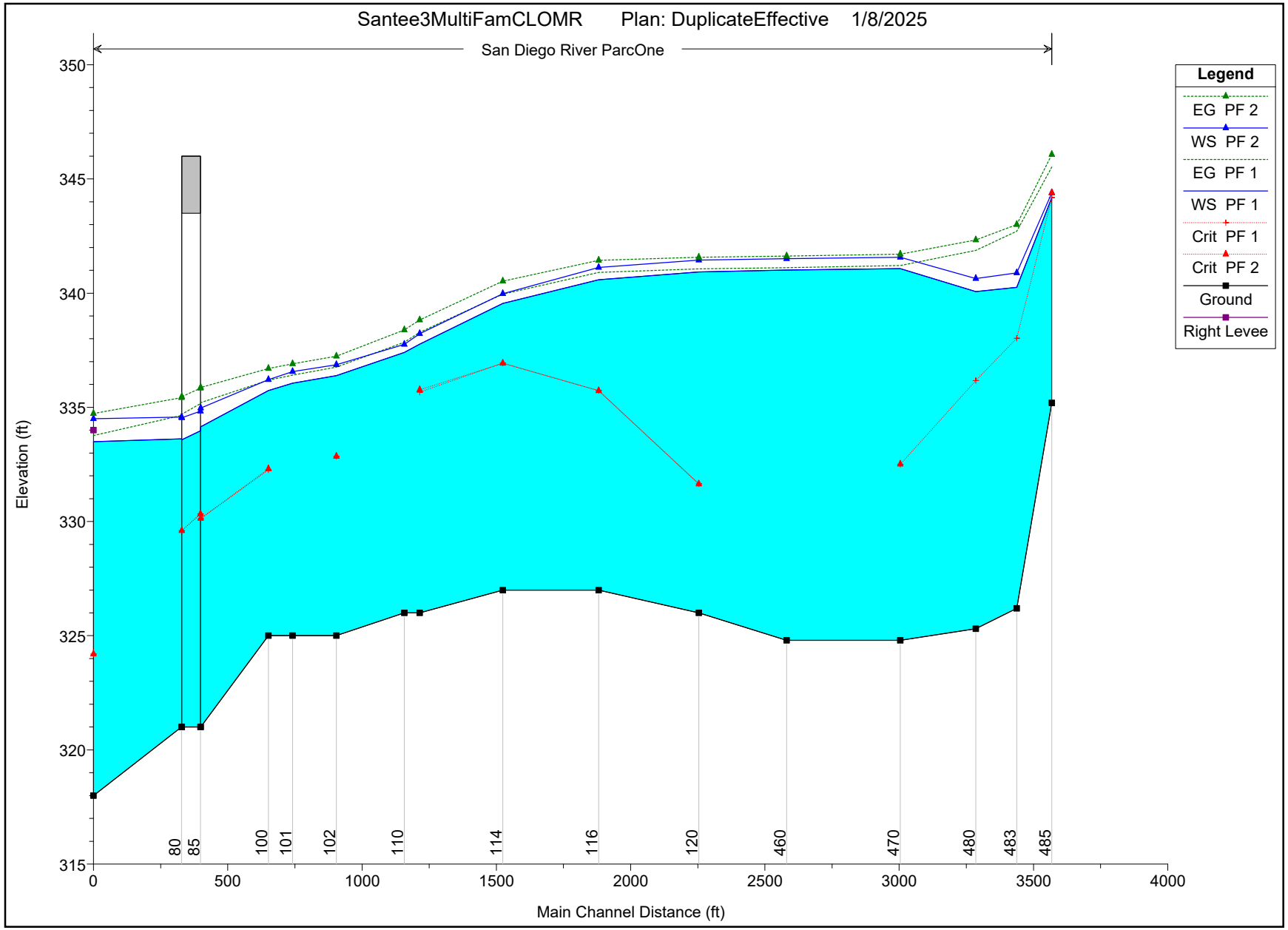
APPENDIX 6

Effective Data

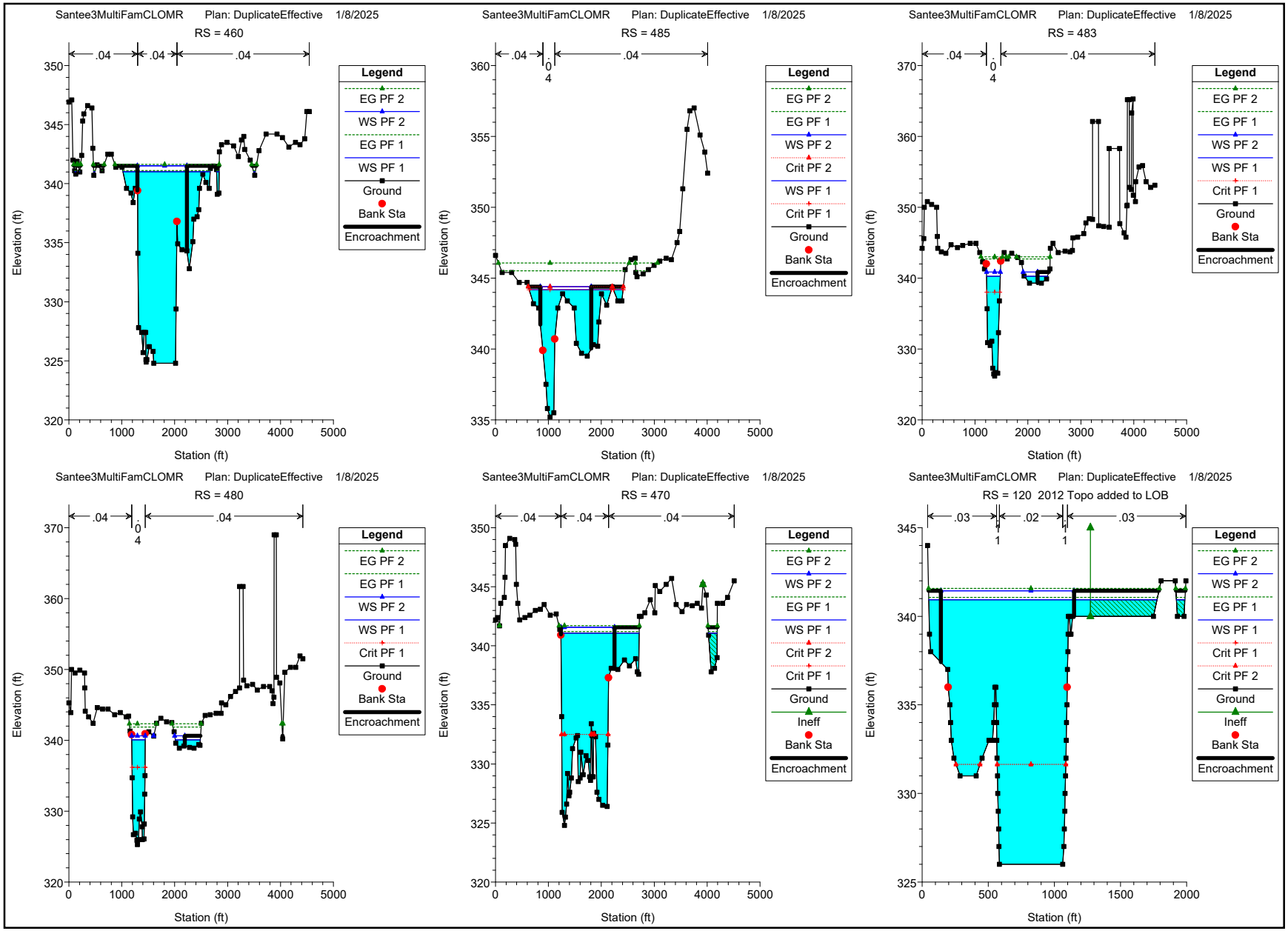
APPENDIX 7

Duplicate Effective Analysis

7A: HEC-2
7B: HEC-RAS


Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
San Diego River ParcOne
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Right Levee
Elevation (ft)
Main Channel Distance (ft)
350
345
340
335
330
325
320
315
0
500
1000
1500
2000
2500
3000
3500
4000
80
85
100
101
102
110
114
116
120
460
470
480
483
485

7A: HEC-2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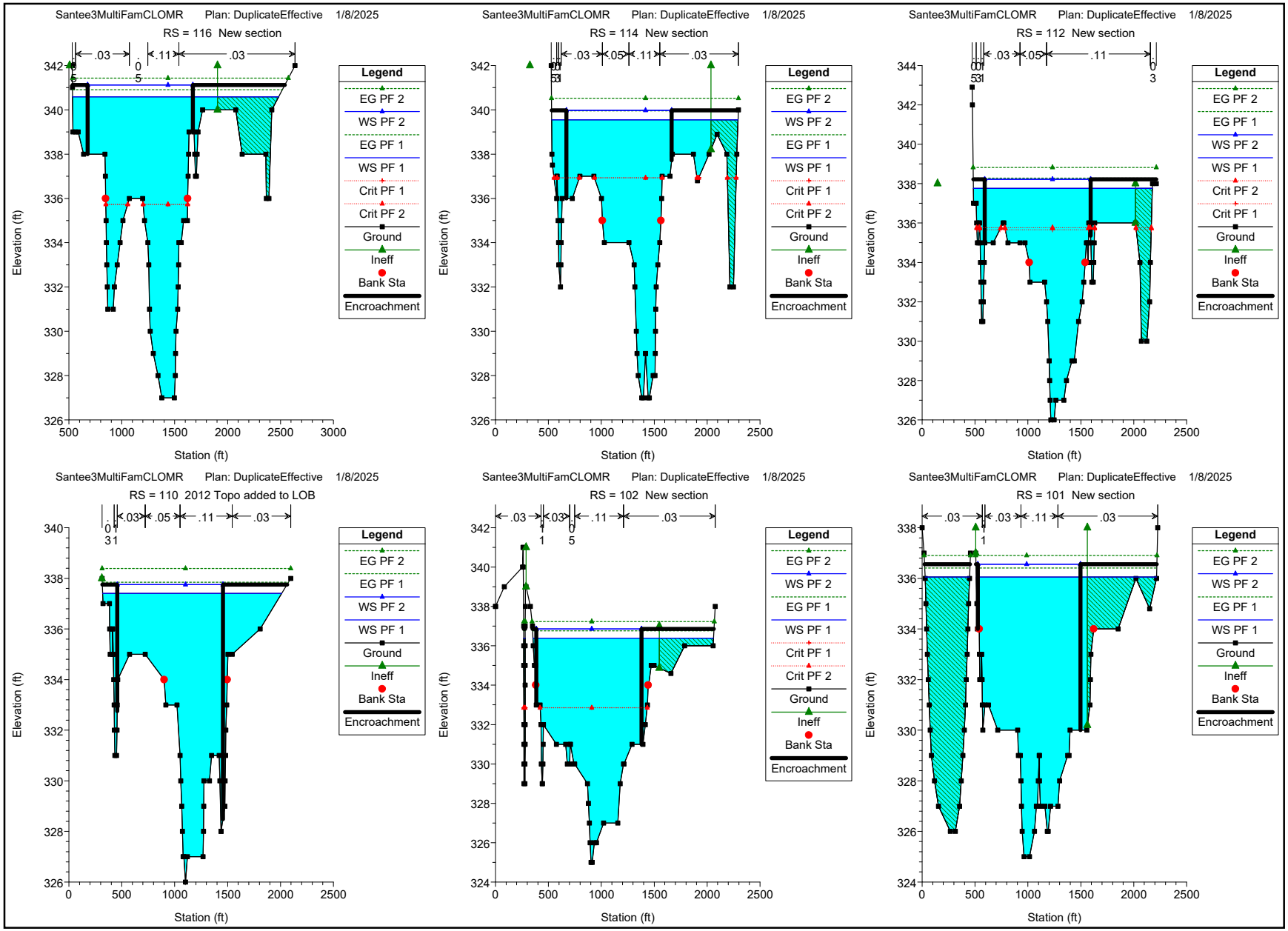
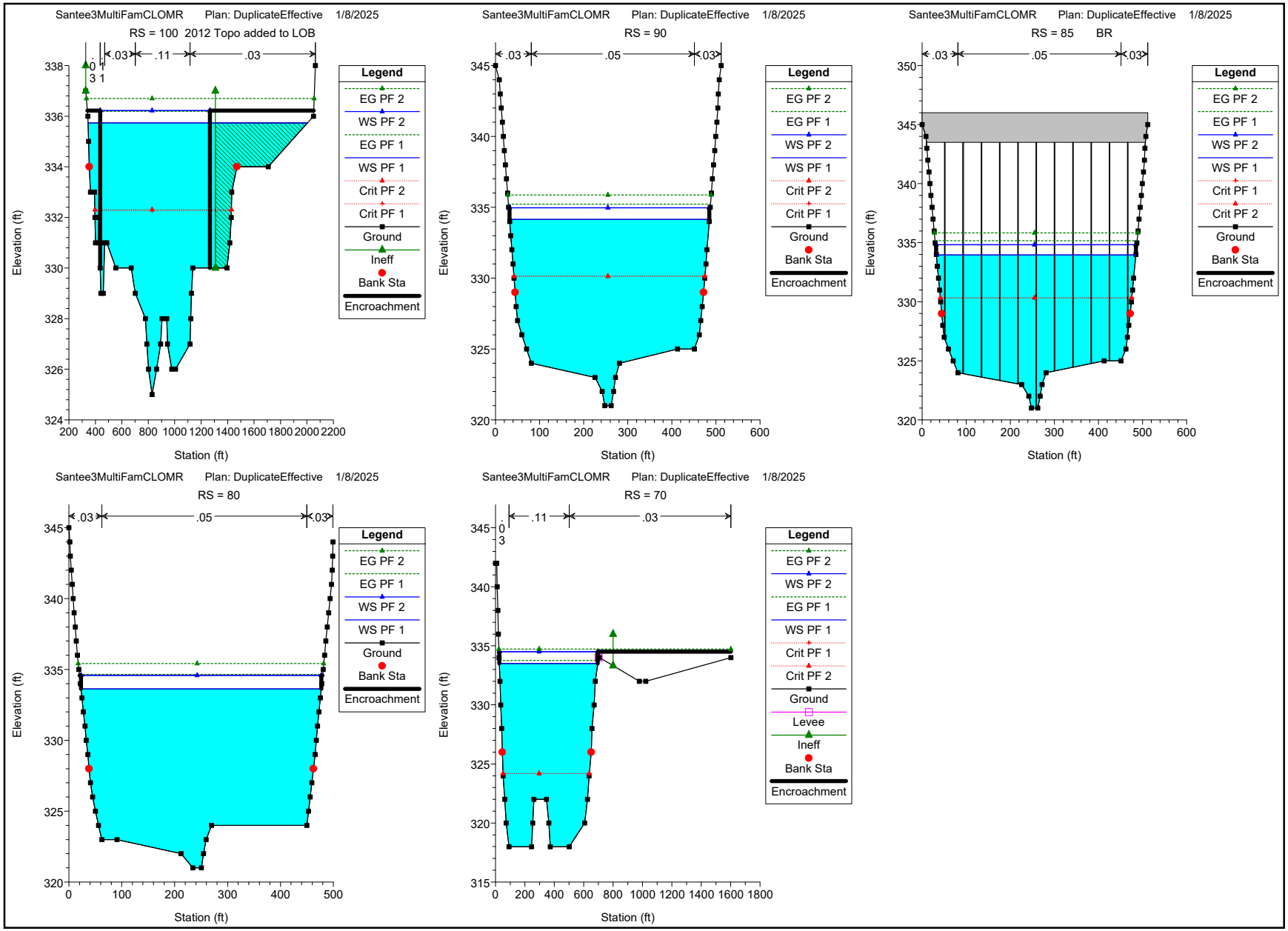
RS = 460
.04 .04 .04
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 485
.04 .04 .04
Legend
EG PF 2
EG PF 1
WS PF 2
Crit PF 2
WS PF 1
Crit PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 483
.04 .04 .04
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 480
.04 .04 .04
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 470
.04 .04 .04
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 120 2012 Topo added to LOB
.03 .02 .03
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 116 New section
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 114 New section
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 112 New section
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 110 2012 Topo added to LOB
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 102 New section
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 101 New section
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 100 2012 Topo added to LOB
.03 .11 .03
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 90
.03 .05 .03
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 2
Crit PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 85 BR
.03 .05 .03
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Crit PF 2
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 80
.03 .05 .03
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: DuplicateEffective 1/8/2025
RS = 70
.11 .03
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Levee
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

7B: HEC-RAS

HEC-RAS Plan: DupeEff River: San Diego River Reach: ParcOne

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
ParcOne	485	PF 1	34000.00	335.20	344.18	344.18	345.52	0.006466	11.48	4639.36	1733.81	0.74
ParcOne	485	PF 2	34000.00	335.20	344.39	344.39	346.07	0.007066	12.23	3803.27	965.00	0.77
ParcOne	483	PF 1	34000.00	326.20	340.26	338.03	342.72	0.005481	12.71	2945.38	696.59	0.70
ParcOne	483	PF 2	34000.00	326.20	340.89		343.00	0.004489	11.85	3135.93	532.54	0.64
ParcOne	480	PF 1	34000.00	325.30	340.07	336.17	341.88	0.003315	10.93	3472.04	726.13	0.56
ParcOne	480	PF 2	34000.00	325.30	340.64		342.33	0.002905	10.51	3439.08	451.74	0.52
ParcOne	470	PF 1	34000.00	324.80	341.07	332.50	341.21	0.000242	3.00	12339.43	1653.44	0.15
ParcOne	470	PF 2	34000.00	324.80	341.57	332.51	341.71	0.000229	2.99	11600.01	1015.00	0.15
ParcOne	460	PF 1	34000.00	324.80	341.01		341.12	0.000143	2.71	14467.03	1776.53	0.12
ParcOne	460	PF 2	34000.00	324.80	341.51		341.62	0.000141	2.74	12966.33	935.00	0.12
ParcOne	120	PF 1	34000.00	326.00	340.93	331.65	341.07	0.000161	3.02	11660.95	1789.27	0.15
ParcOne	120	PF 2	34000.00	326.00	341.44	331.64	341.58	0.000143	2.93	11792.95	1008.18	0.14
ParcOne	116	PF 1	34000.00	327.00	340.59	335.73	340.91	0.001844	4.64	7637.40	1948.19	0.28
ParcOne	116	PF 2	34000.00	327.00	341.12	335.73	341.43	0.001566	4.49	7632.65	996.12	0.26
ParcOne	114	PF 1	34000.00	327.00	339.55	336.94	339.95	0.004085	4.66	6778.60	1761.54	0.29
ParcOne	114	PF 2	34000.00	327.00	339.98	336.92	340.52	0.004543	5.12	6005.26	994.75	0.32
ParcOne	112	PF 1	34000.00	326.00	337.76	335.66	338.29	0.007357	5.44	6489.22	1691.75	0.35
ParcOne	112	PF 2	34000.00	326.00	338.22	335.76	338.82	0.006741	5.44	5784.53	999.79	0.34
ParcOne	110	PF 1	36000.00	326.00	337.40		337.85	0.007007	5.07	6834.44	1692.32	0.32
ParcOne	110	PF 2	36000.00	326.00	337.76		338.39	0.008135	5.66	5833.91	998.62	0.35
ParcOne	102	PF 1	36000.00	325.00	336.39	332.86	336.76	0.002805	4.92	7371.32	1720.54	0.33
ParcOne	102	PF 2	36000.00	325.00	336.86	332.86	337.24	0.002601	4.90	7350.36	993.35	0.32
ParcOne	101	PF 1	36000.00	325.00	336.05		336.41	0.001671	4.78	7546.27	2123.32	0.31
ParcOne	101	PF 2	36000.00	325.00	336.56		336.91	0.001554	4.73	7624.94	970.68	0.30
ParcOne	100	PF 1	36000.00	325.00	335.73	332.27	336.19	0.003181	5.46	6600.68	1658.69	0.37
ParcOne	100	PF 2	36000.00	325.00	336.22	332.30	336.70	0.003231	5.56	6471.46	831.06	0.35

HEC-RAS Plan: DupeEff River: San Diego River Reach: ParcOne (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
ParcOne	90	PF 1	36000.00	321.00	334.15	330.13	335.21	0.003185	8.31	4360.99	453.26	0.46
ParcOne	90	PF 2	36000.00	321.00	334.96	330.14	335.87	0.002432	7.66	4731.66	453.32	0.41
ParcOne	85		Bridge									
ParcOne	80	PF 1	36000.00	321.00	333.62		334.65	0.003154	8.14	4451.60	454.28	0.45
ParcOne	80	PF 2	36000.00	321.00	334.57		335.42	0.002329	7.42	4883.48	454.28	0.39
ParcOne	70	PF 1	36000.00	318.00	333.50	324.19	333.77	0.000896	4.17	8691.09	669.33	0.20
ParcOne	70	PF 2	36000.00	318.00	334.50	324.19	334.73	0.000699	3.86	9360.42	669.33	0.18

APPENDIX 8

Corrected Effective Condition
Workmap

LEGEND

- BL — FEMA CROSS SECTION
- HYDRAULIC MODEL X-SECTION
- STREAM CENTERLINE
- FEMA 100-YEAR FLOODPLAIN (ZONE AE)
- FEMA 100-YEAR FLOODWAY (ZONE AE)
- EXISTING 100-YEAR HYD. FLOODWAY
- EXISTING 100-YEAR HYD. FLOODPLAIN
- TIE-IN LOCATION
- ONSITE TOPO LIMITS
- STUDY LIMITS
- 350.6 — FEMA BASE FLOOD ELEV. (BFE)
- PROPOSED HYD. MODEL WSE

NOTES:

1. CROSS SECTIONS ARE ORIENTED LEFT TO RIGHT LOOKING UPSTREAM.
2. ELEVATIONS SHOWN ARE ON THE NGVD29 VERTICAL DATUM.
3. BSI CROSS-SECTION LOCATIONS APPROXIMATED FROM DIGITIZED STUDY EXHIBIT.
4. ARCHITECTURAL SITE PLAN DATED 12-18-2023.
5. RESULTS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE.
6. HYDRAULIC ANALYSIS RESULTS SHOWN HEREON SHALL BE USED FOR PRELIMINARY DESIGN ONLY. SUBSEQUENT ANALYSIS REQUIRED ONCE SITE DESIGN IS DEVELOPED.

460 116 112 120 114 470 480 483 485 BL BM BN BH BG BI BJ BK

N

200 100 0 200 400 600

GRAPHIC SCALE: 1" = 200'

RICK
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rickengineering.com

SANTEE 3

HEC-RAS HYDRAULIC WORKMAP
PROPOSED CONDITION

PROJECT NO:	19472	SCALE:	1"=200'
DRAWN BY:	KM/TR	DATE:	1/10/2025

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C:\DESIGN\projects\19500\19999_CityHomesSantee\Draft\Family\Waterflies\19999_dm_HECRS_CLOMR.dwg
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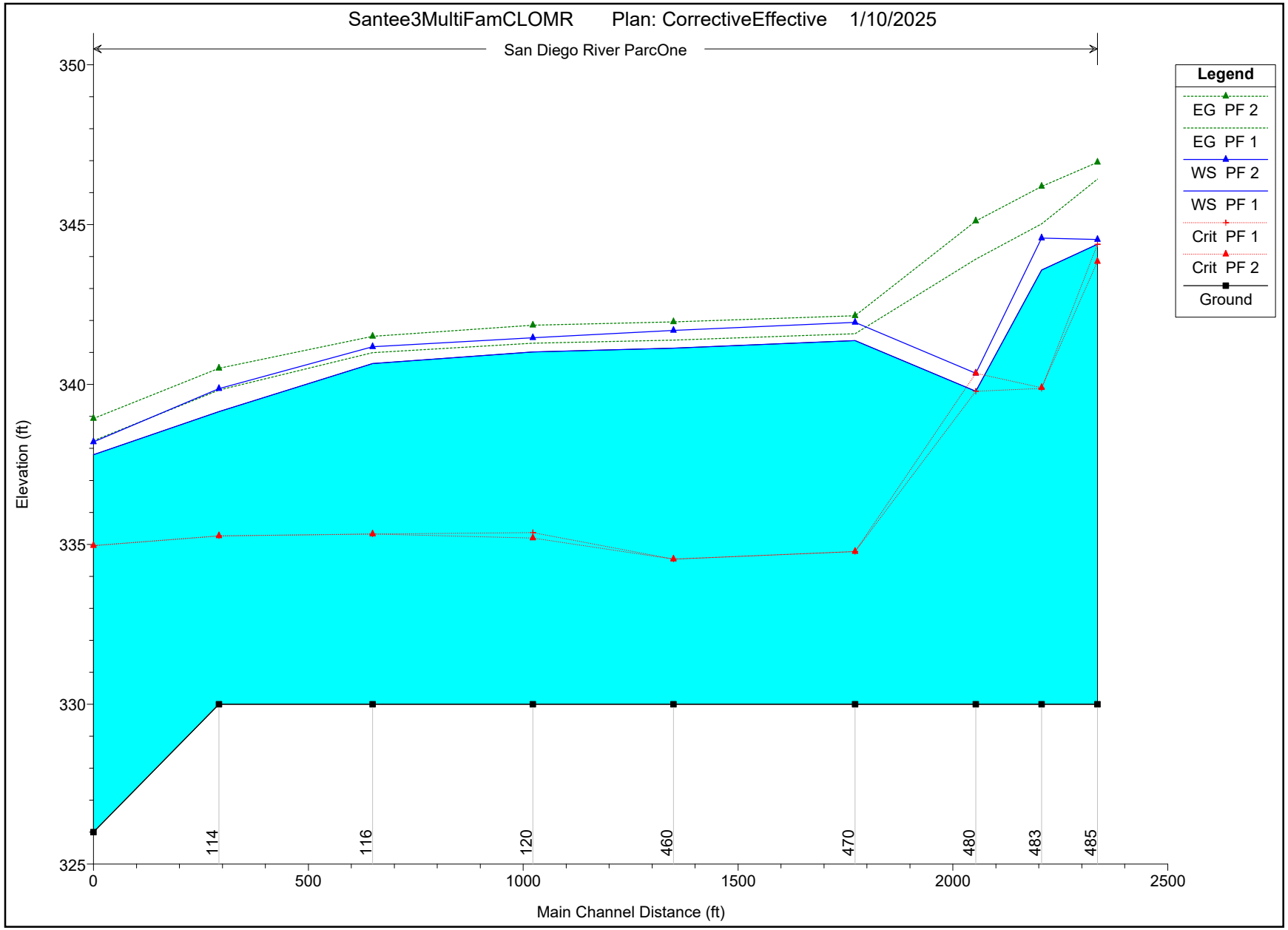
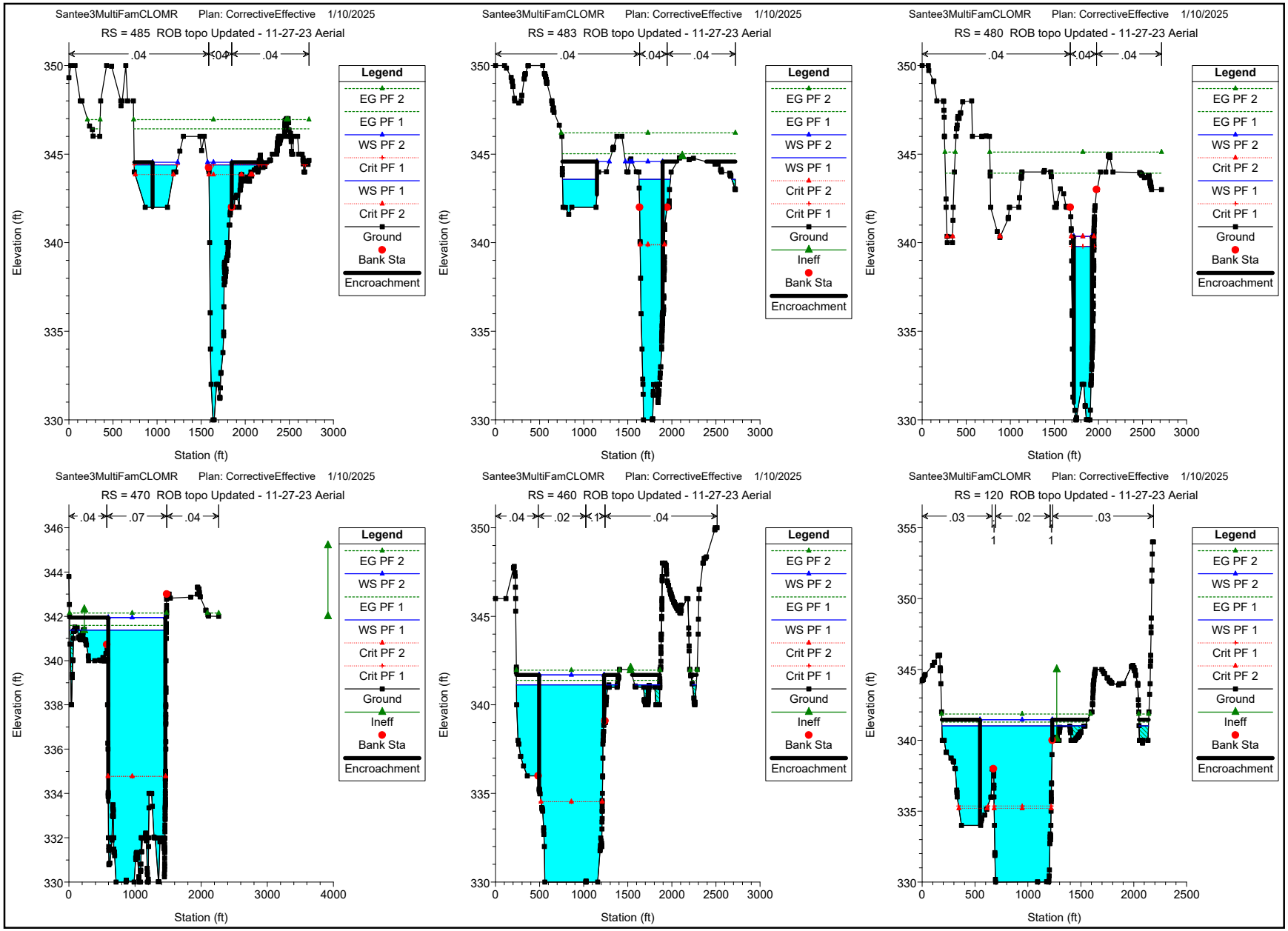
APPENDIX 9

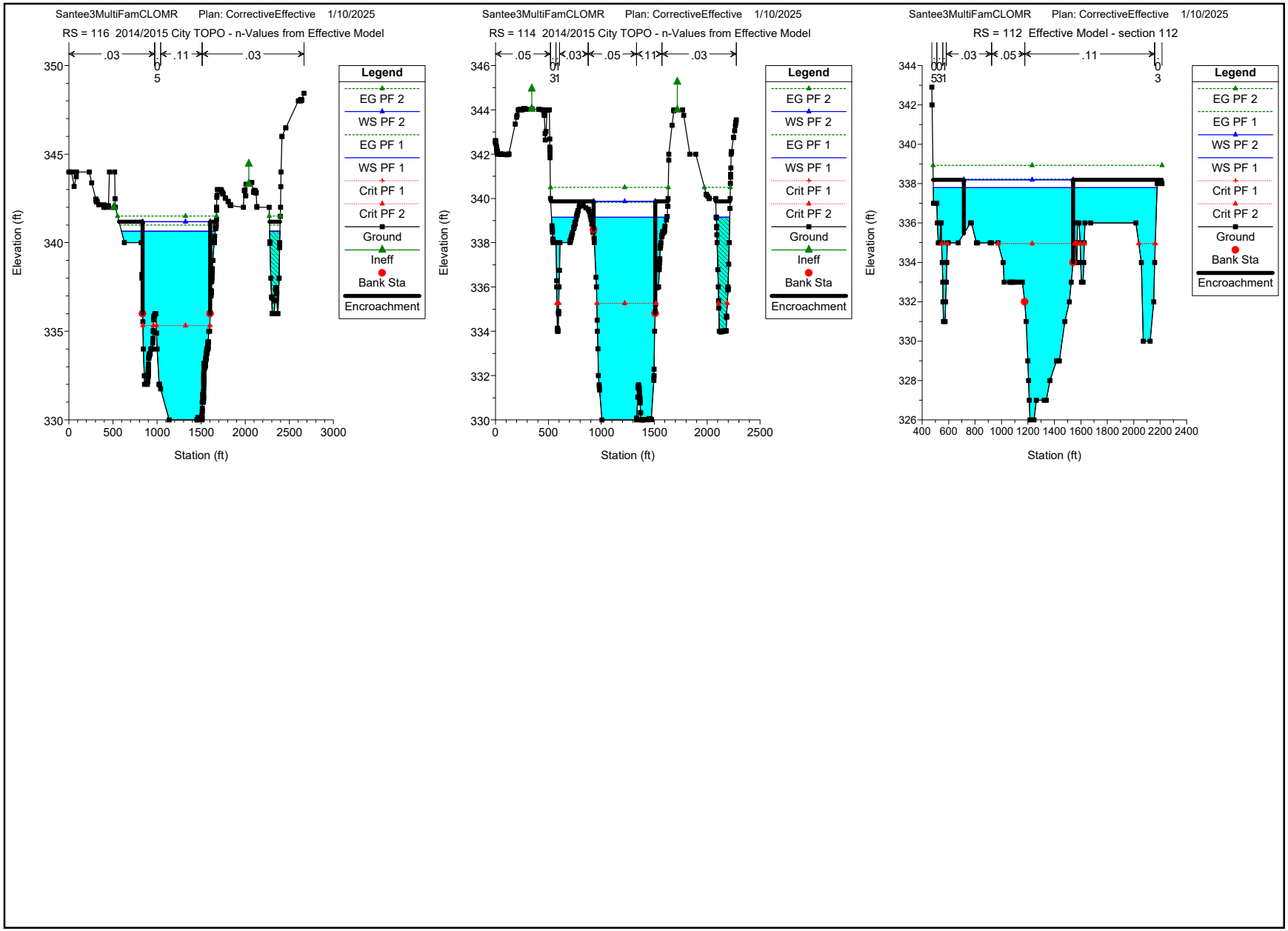
Corrected Effective Condition Analysis

9A: Multiple Profile
9B: Floodplain and Floodway


Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
San Diego River ParcOne
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Crit PF 2
Ground
Elevation (ft)
350
345
340
335
330
325
0
500
1000
1500
2000
2500
Main Channel Distance (ft)
114
116
120
460
470
480
483
485

9A: Multiple Profile


Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 485 ROB topo Updated - 11-27-23 Aerial
.04 .04 .04
Legend
EG PF 2
EG PF 1
WS PF 2
Crit PF 1
WS PF 1
Crit PF 2
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 483 ROB topo Updated - 11-27-23 Aerial
.04 .04 .04
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 480 ROB topo Updated - 11-27-23 Aerial
.04 .04 .04
Legend
EG PF 2
EG PF 1
WS PF 2
Crit PF 2
WS PF 1
Crit PF 1
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 470 ROB topo Updated - 11-27-23 Aerial
.04 .07 .04
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 460 ROB topo Updated - 11-27-23 Aerial
.04 .02 .1 .04
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 120 ROB topo Updated - 11-27-23 Aerial
.03 .02 .03
1 1
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
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.03
.11
.03
0
5
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 114 2014/2015 City TOPO - n-Values from Effective Model
.05
.03
.05
.11
.03
0
31
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: CorrectiveEffective 1/10/2025
RS = 112 Effective Model - section 112
.03
.05
.11
0
3
Elevation (ft)
Station (ft)
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Crit PF 2
Ground
Bank Sta
Encroachment

9B: Floodplain and Floodway

HEC-RAS Plan: CorrEff River: San Diego River Reach: ParcOne

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
ParcOne	485	PF 1	34000.00	330.00	344.39	344.39	346.42	0.005694	12.21	3627.50	1135.05	0.71
ParcOne	485	PF 2	34000.00	330.00	344.54	343.85	346.95	0.006297	12.89	2997.88	556.24	0.74
ParcOne	483	PF 1	34000.00	330.00	343.58	339.88	345.02	0.003136	9.88	3930.10	800.55	0.54
ParcOne	483	PF 2	34000.00	330.00	344.58	339.90	346.19	0.002714	10.23	3451.82	539.85	0.51
ParcOne	480	PF 1	34000.00	330.00	339.79	339.79	343.92	0.011928	16.30	2085.43	255.05	1.01
ParcOne	480	PF 2	34000.00	330.00	340.35	340.35	345.11	0.012307	17.50	1942.55	205.00	1.00
ParcOne	470	PF 1	34000.00	330.00	341.38	334.77	341.59	0.001443	3.72	9377.43	1393.63	0.21
ParcOne	470	PF 2	34000.00	330.00	341.94	334.78	342.15	0.001274	3.65	9327.56	863.65	0.20
ParcOne	460	PF 1	34000.00	330.00	341.14	334.53	341.39	0.000220	4.14	8958.74	1470.61	0.23
ParcOne	460	PF 2	34000.00	330.00	341.69	334.54	341.96	0.000210	4.18	8124.36	736.85	0.22
ParcOne	120	PF 1	34000.00	330.00	341.02	335.37	341.29	0.000383	4.54	8449.58	1442.89	0.25
ParcOne	120	PF 2	34000.00	330.00	341.46	335.20	341.85	0.000471	5.11	6920.23	682.71	0.27
ParcOne	116	PF 1	34000.00	330.00	340.65	335.32	340.99	0.002457	4.72	7323.96	1180.82	0.27
ParcOne	116	PF 2	34000.00	330.00	341.18	335.32	341.51	0.002160	4.57	7436.26	765.46	0.26
ParcOne	114	PF 1	34000.00	330.00	339.15	335.27	339.82	0.004291	6.68	5421.31	1083.31	0.41
ParcOne	114	PF 2	34000.00	330.00	339.87	335.26	340.50	0.003519	6.38	5333.21	582.74	0.37
ParcOne	112	PF 1	34000.00	326.00	337.80	334.96	338.24	0.006231	4.62	7401.11	1692.01	0.27
ParcOne	112	PF 2	34000.00	326.00	338.20	334.96	338.94	0.008782	5.61	5221.56	827.14	0.32

APPENDIX 10

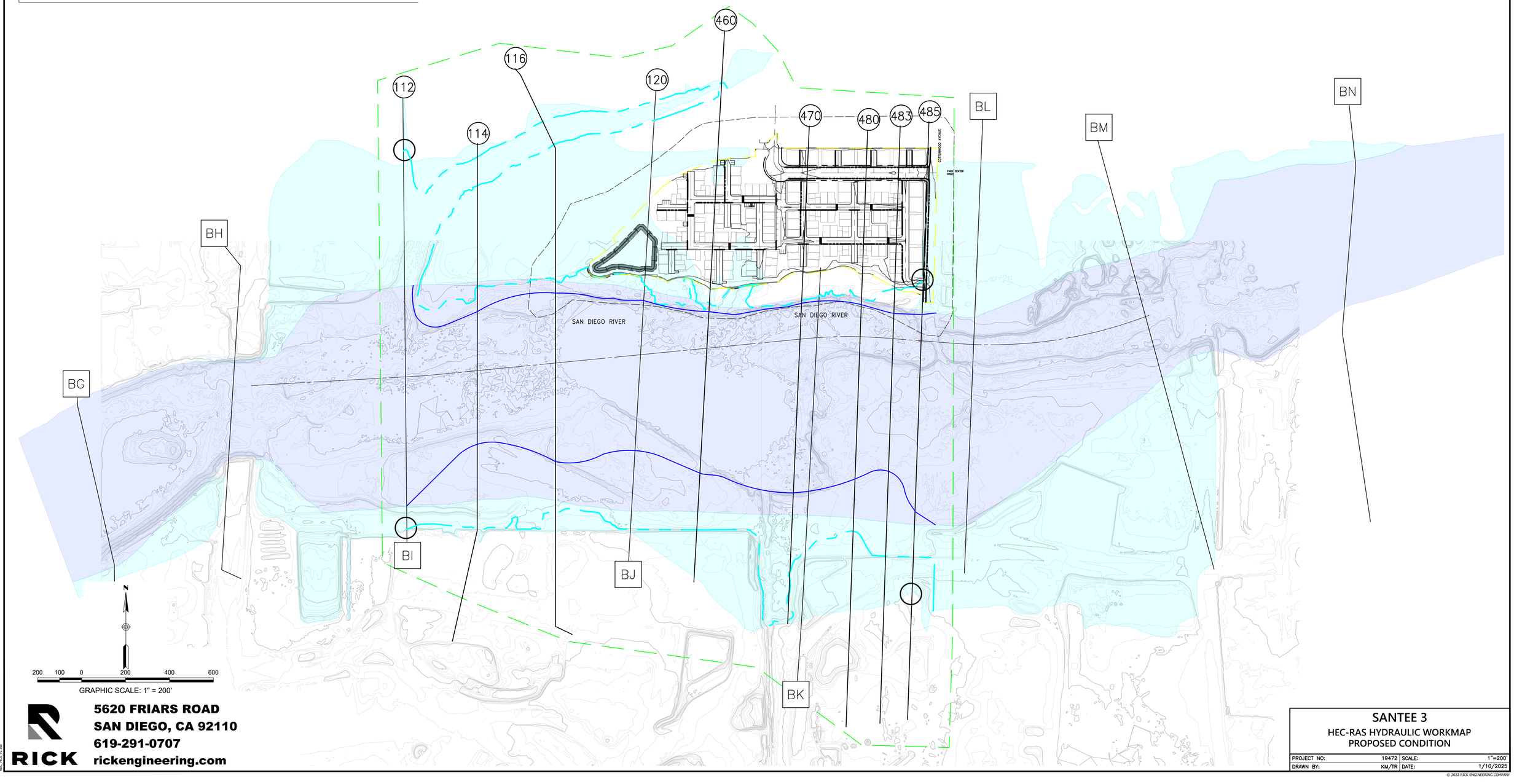
Proposed Condition
Workmap

LEGEND

- BL — FEMA CROSS SECTION
- HYDRAULIC MODEL X-SECTION
- STREAM CENTERLINE
- FEMA 100-YEAR FLOODPLAIN (ZONE AE)
- FEMA 100-YEAR FLOODWAY (ZONE AE)
- PROPOSED 100-YEAR HYD. FLOODWAY
- PROPOSED 100-YEAR HYD. FLOODPLAIN
- TIE-IN LOCATION
- ONSITE TOPO LIMITS
- PROJECT LIMITS
- STUDY LIMITS

NOTES:

1. CROSS SECTIONS ARE ORIENTED LEFT TO RIGHT LOOKING UPSTREAM.
2. ELEVATIONS SHOWN ARE ON THE NGVD29 VERTICAL DATUM.
3. BSI CROSS-SECTION LOCATIONS APPROXIMATED FROM DIGITIZED STUDY EXHIBIT.
4. ARCHITECTURAL SITE PLAN DATED 12-18-2023.
5. RESULTS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE
6. HYDRAULIC ANALYSIS RESULTS SHOWN HEREON SHALL BE USED FOR PRELIMINARY DESIGN ONLY. SUBSEQUENT ANALYSIS REQUIRED ONCE SITE DESIGN IS DEVELOPED.



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SANTEE 3

HEC-RAS HYDRAULIC WORKMAP
PROPOSED CONDITION

PROJECT NO:	19472	SCALE:	1"=200'
DRAWN BY:	KM/TR	DATE:	1/10/2025

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C:\DOCS\Projects\19500\19969_CityAvenueSaleoftruffamily\Water\Res\19969_drn_HECRS_CLOMR_Prop.dwg
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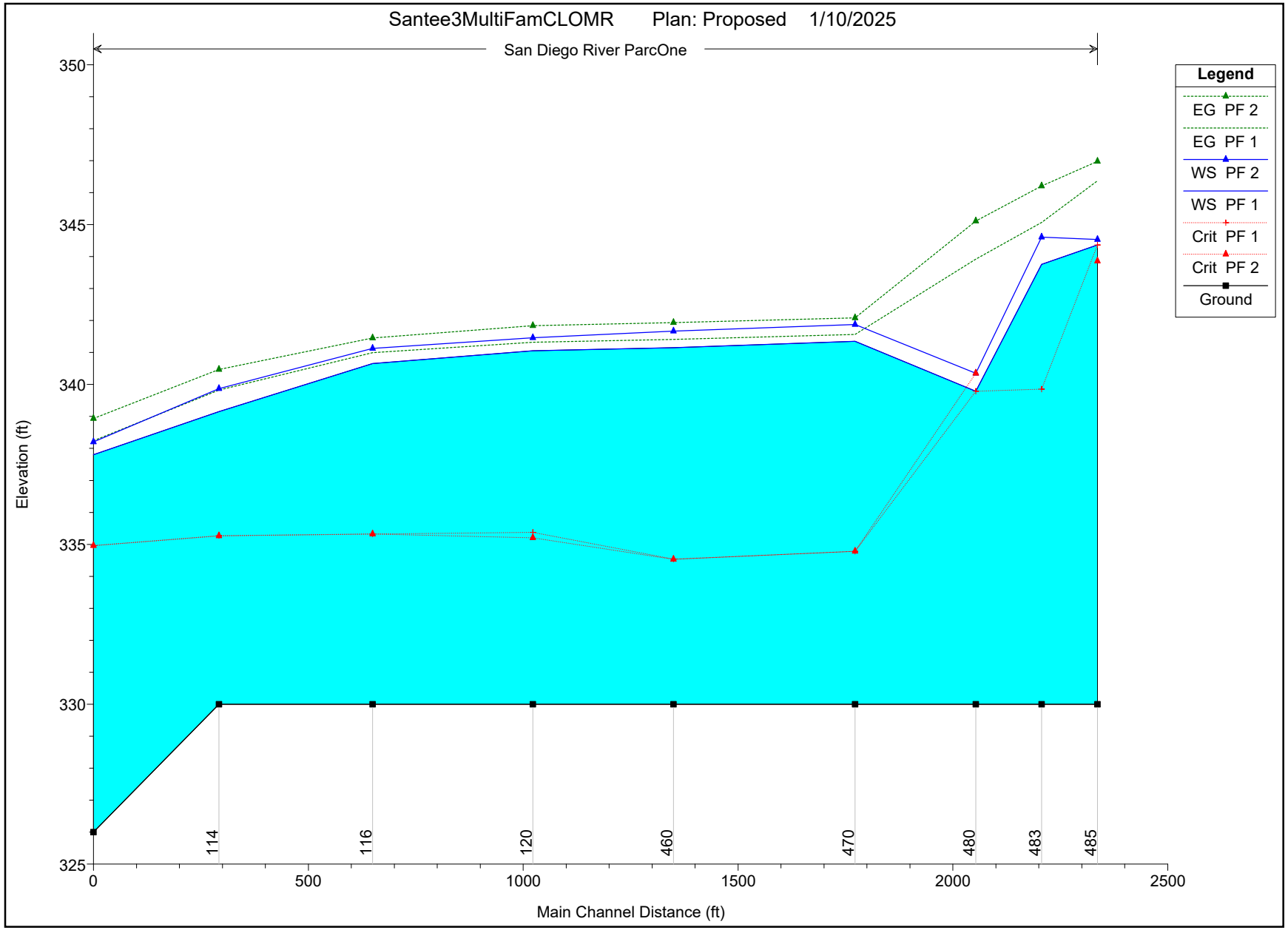
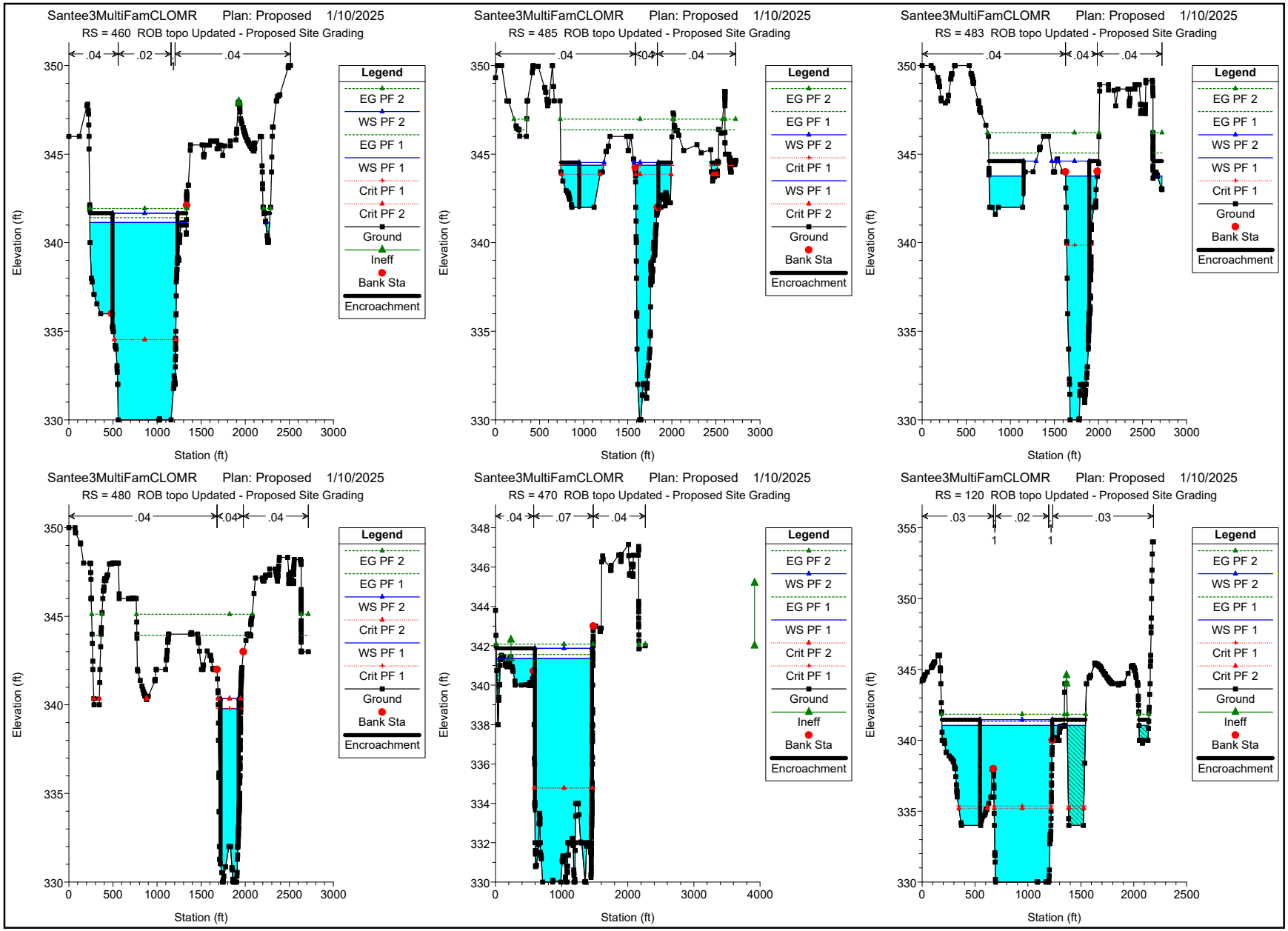
APPENDIX 11

Proposed Condition
Analysis

11A: Multiple Profile
11B: Floodplain and Floodway


Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
San Diego River ParcOne
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Crit PF 2
Ground
Elevation (ft)
350
345
340
335
330
325
0
500
1000
1500
2000
2500
Main Channel Distance (ft)
114
116
120
460
470
480
483
485

11A: Multiple Profile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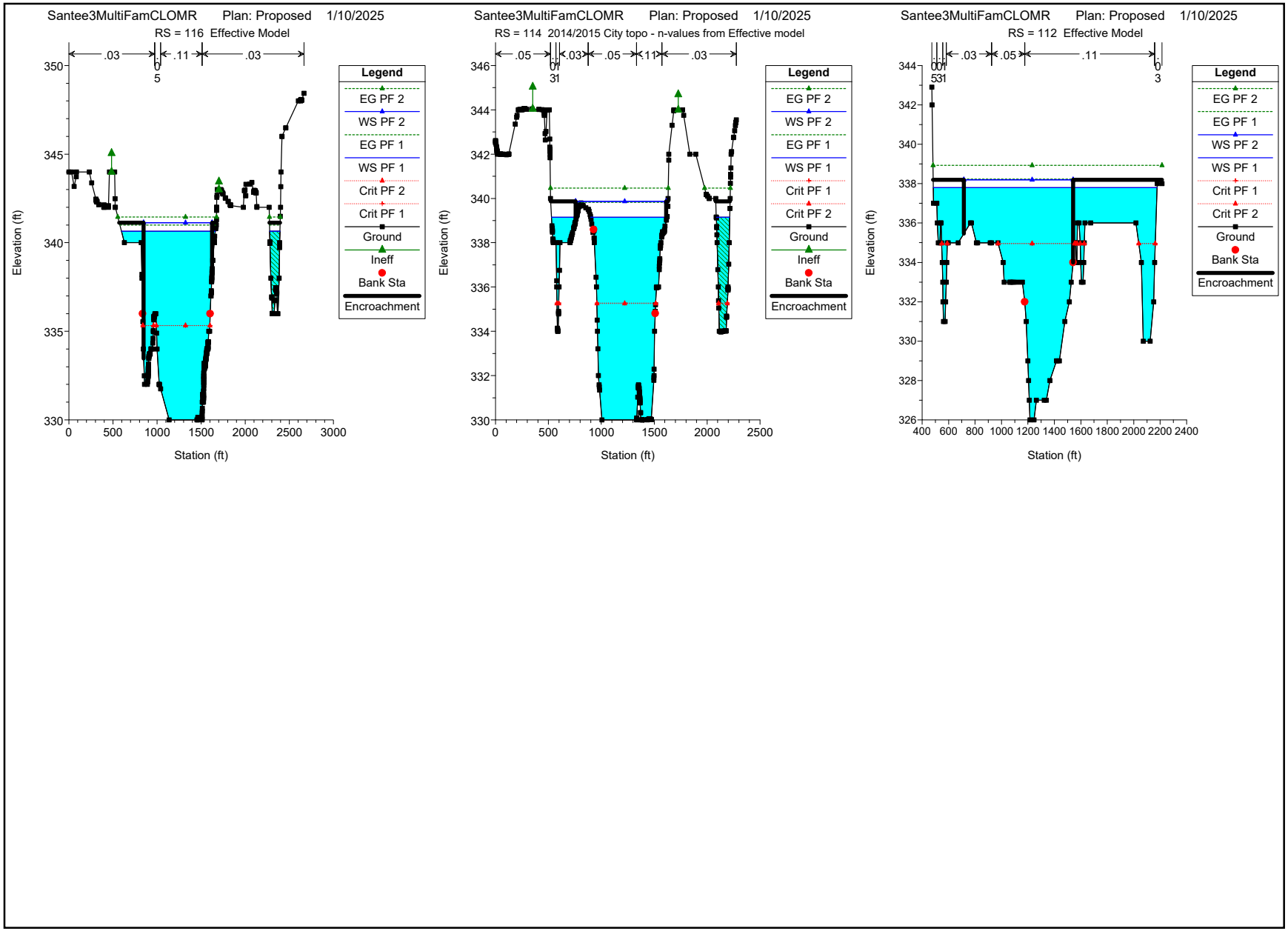
RS = 460 ROB topo Updated - Proposed Site Grading
.04 .02 .04
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 485 ROB topo Updated - Proposed Site Grading
.04 .04 .04
Elevation (ft)
Station (ft)
Legend
EG PF 2
EG PF 1
WS PF 2
Crit PF 1
WS PF 1
Crit PF 2
Ground
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 483 ROB topo Updated - Proposed Site Grading
.04 .04 .04
Elevation (ft)
Station (ft)
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Ground
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 480 ROB topo Updated - Proposed Site Grading
.04 .04 .04
Elevation (ft)
Station (ft)
Legend
EG PF 2
EG PF 1
WS PF 2
Crit PF 2
WS PF 1
Crit PF 1
Ground
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 470 ROB topo Updated - Proposed Site Grading
.04 .07 .04
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 120 ROB topo Updated - Proposed Site Grading
.03 .02 .03
1 1
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment


Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 116 Effective Model
.03
.11
.03
0
5
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 2
Crit PF 1
Ground
Ineff
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 114 2014/2015 City topo - n-values from Effective model
.05
.03
.05
.11
.03
0
31
Elevation (ft)
Station (ft)
Legend
EG PF 2
WS PF 2
EG PF 1
WS PF 1
Crit PF 1
Crit PF 2
Ground
Ineff
Bank Sta
Encroachment
Santee3MultiFamCLOMR Plan: Proposed 1/10/2025
RS = 112 Effective Model
.03
.05
.11
0
3
Elevation (ft)
Station (ft)
Legend
EG PF 2
EG PF 1
WS PF 2
WS PF 1
Crit PF 1
Crit PF 2
Ground
Bank Sta
Encroachment

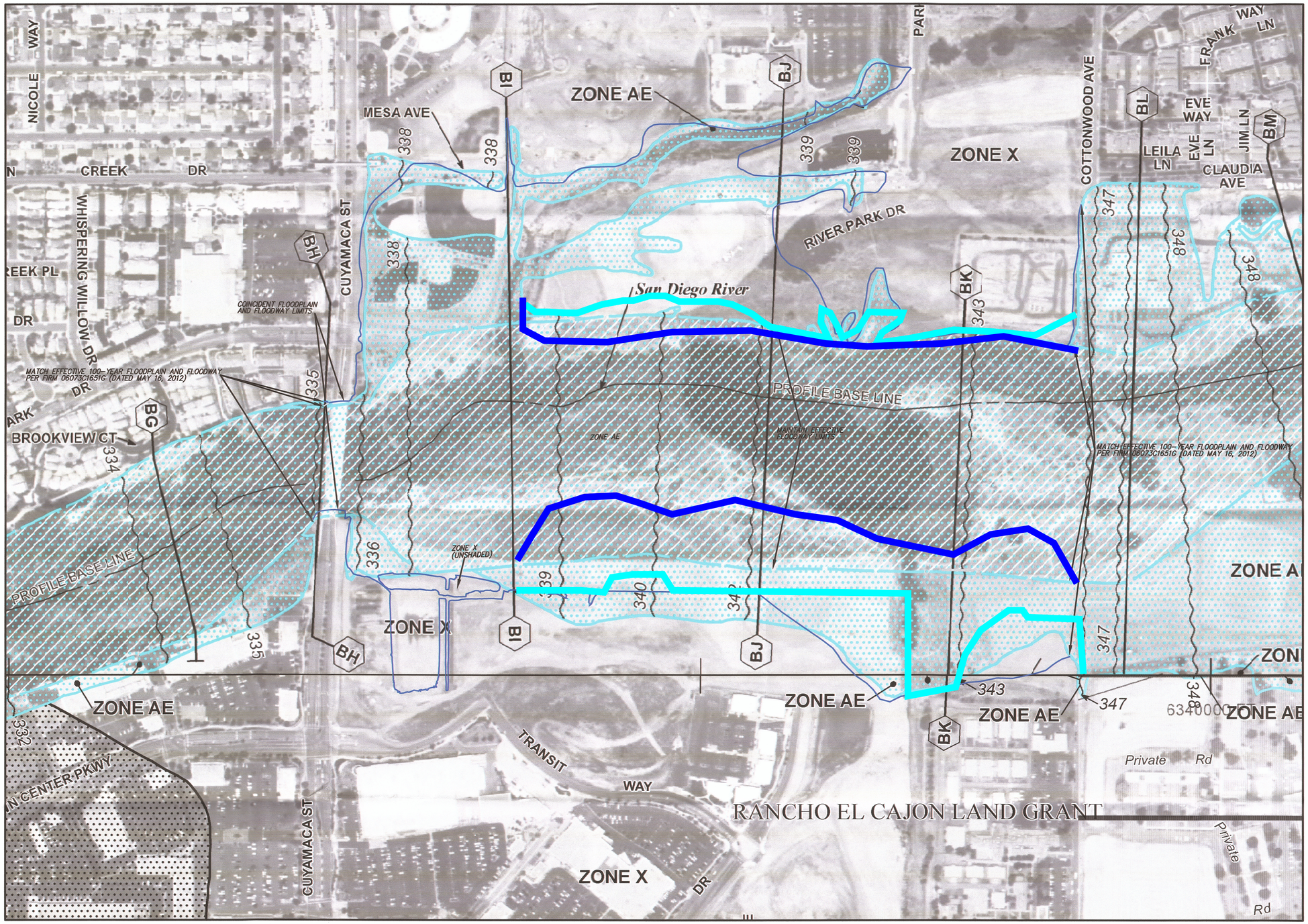
11B: Floodplain and Floodway

HEC-RAS Plan: PropCond River: San Diego River Reach: ParcOne

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
ParcOne	485	PF 1	34000.00	330.00	344.36	344.36	346.37	0.005504	12.21	3606.92	991.71	0.70
ParcOne	485	PF 2	34000.00	330.00	344.53	343.86	346.98	0.006085	12.99	2998.62	556.64	0.74
ParcOne	483	PF 1	34000.00	330.00	343.76	339.86	345.07	0.003326	9.46	4086.53	828.34	0.54
ParcOne	483	PF 2	34000.00	330.00	344.61		346.21	0.002769	10.16	3471.67	547.43	0.51
ParcOne	480	PF 1	34000.00	330.00	339.79	339.79	343.92	0.011929	16.30	2085.39	255.05	1.01
ParcOne	480	PF 2	34000.00	330.00	340.35	340.35	345.11	0.012307	17.50	1942.50	205.00	1.00
ParcOne	470	PF 1	34000.00	330.00	341.35	334.78	341.56	0.001454	3.73	9345.50	1388.29	0.21
ParcOne	470	PF 2	34000.00	330.00	341.88	334.79	342.09	0.001300	3.67	9272.24	863.65	0.20
ParcOne	460	PF 1	34000.00	330.00	341.15	334.54	341.41	0.000159	4.15	8968.02	1139.20	0.24
ParcOne	460	PF 2	34000.00	330.00	341.67	334.53	341.94	0.000149	4.19	8106.89	736.85	0.22
ParcOne	120	PF 1	34000.00	330.00	341.06	335.38	341.32	0.000437	4.41	8526.99	1416.93	0.24
ParcOne	120	PF 2	34000.00	330.00	341.46	335.20	341.84	0.000559	5.06	6920.93	682.71	0.27
ParcOne	116	PF 1	34000.00	330.00	340.65	335.32	340.99	0.002457	4.72	7323.96	1180.82	0.27
ParcOne	116	PF 2	34000.00	330.00	341.13	335.33	341.46	0.002200	4.58	7410.00	775.57	0.26
ParcOne	114	PF 1	34000.00	330.00	339.15	335.27	339.82	0.004291	6.68	5421.31	1083.31	0.41
ParcOne	114	PF 2	34000.00	330.00	339.87	335.26	340.47	0.003372	6.26	5666.15	855.15	0.36
ParcOne	112	PF 1	34000.00	326.00	337.80	334.96	338.24	0.006231	4.62	7401.11	1692.01	0.27
ParcOne	112	PF 2	34000.00	326.00	338.20	334.96	338.94	0.008782	5.61	5221.56	827.14	0.32

APPENDIX 12

Revised FIRMette



LEGEND

100-YEAR FLOODPLAIN (NV5 2014)

GRAPHIC SCALE
0' 100' 200' 400'
SCALE 1"= 200'

Legend

Approx Revised
100-year Floodplain

Approx. Revsied
100-year Floodway

DRAFT

DATE: 10/16/14 TIME: 10:35:38 AM
SERVER: NONE LAYOUT: Layout1
PATH: N:\SD0078619\CADD\HH
DRAWING NAME: ANNOTATED_FIRM_FEMA.DWG
PAGE SETUP: ----
DESIGNER: #### PROJ. MGR: ####

NO.	BY	DATE	REVISIONS:

CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

GRIFFITHS XREFS:

NV5
BEYOND ENGINEERING
15070 AVENUE OF SCIENCE, SUITE 100 SAN DIEGO, CA 92128
858.385.0500 TEL 858.385.0400 FAX WWW.NV5.COM

PARC ONE LOMR
ANNOTATED FIRM

PREPARED FOR: PARC ONE
DATE SUBMITTED: OCT. 2014

SHEET NUMBER 1 OF 1 SHEETS
SCALE VERTICAL: 1"= NA HORIZONTAL: 1"= 200'
JOB NUMBER SD0078619

APPENDIX 13

As-Built Plans

To be completed during future submittal

APPENDIX 14

Proposed Condition Plans

VESTING TENTATIVE TRACT MAP 2024- 0001

LOTS 1 AND 2 FOR CONDOMINIUM PURPOSES

IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA

LEGAL DESCRIPTION:

REAL PROPERTY IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THAT PORTION OF LOTS 1 AND 2 OF BLOCK 3, AND A PORTION OF LOT 1 OF BLOCK 2 AND A PORTION OF MESA AVENUE, VACATED AND CLOSED TO PUBLIC USE ON JUNE 22, 1925, OF THE SUBDIVISION OF LOTS "H" AND "O" OF RANCHO EL CAJON, IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 817, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY ON APRIL 2, 1896, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF THAT LAND DESCRIBED IN PARCEL NO. 2012-0128-A IN DEED TO THE CITY OF SANTEE RECORDED JUNE 12, 2014 AS DOCUMENT NO. 2014-0243460 IN SAID COUNTY RECORDER'S OFFICE;

THENCE ALONG THE EASTERLY LINE OF SAID CITY'S LAND, NORTH 01°43'14" EAST, 45.39 FEET TO THE SOUTHERLY LINE OF A 30 FOOT WIDE EASEMENT TO PADRE DAM MUNICIPAL WATER DISTRICT RECORDED AUGUST 12, 2009 AS DOCUMENT NO. 2009 0451673 IN SAID COUNTY RECORDER'S OFFICE:

THENCE ALONG SAID SOUTHERLY LINE NORTH 88°08'38" EAST 8.73 FEET;
THENCE CONTINUING ALONG SAID SOUTHERLY LINE, AND ITS EASTERLY PROLONGATION, SOUTH 89°58'28" EAST 734.05 FEET TO THE CENTERLINE OF COTTONWOOD AVENUE ACCORDING TO SAID MAP 817;
THENCE ALONG SAID CENTERLINE, SOUTH 1°43'14" WEST, 703.75 FEET;
THENCE LEAVING SAID CENTERLINE, SOUTH 89°19'31" WEST, 10.45 FEET;
THENCE NORTH 86°33'13" WEST, 197.73 FEET;
THENCE SOUTH 86°42'24" WEST, 691.81 FEET;
THENCE NORTH 81°58'12" WEST, 427.62 FEET;
THENCE NORTH 87°30'34" WEST, 355.69 FEET;
THENCE NORTH 12°38'06" WEST, 112.64 FEET TO THE SOUTHERLY BOUNDARY OF SAID CITY'S LAND, BEING A POINT IN THE ARC OF A NON-TANGENT 508.00 FOOT RADIUS CURVE CONCAVE NORTHWESTERLY, A RADIAL LINE TO SAID CURVE BEARS, SOUTH 12°38'06" EAST;
THENCE NORTHEASTERLY, ALONG SAID SOUTHERLY BOUNDARY AND ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 33°55'09", A DISTANCE OF 300.74 FEET;
THENCE CONTINUING ALONG SAID BOUNDARY, TANGENT TO SAID CURVE, NORTH 43°26'41" EAST, 238.74 FEET TO THE BEGINNING OF A TANGENT 592.00 FOOT RADIUS CURVE CONCAVE SOUTHEASTERLY;
THENCE NORTHEASTERLY AND EASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 48°19'09", A DISTANCE OF 499.25 FEET;
THENCE TANGENT TO SAID CURVE, SOUTH 88°14'12" EAST, 109.06 FEET TO THE POINT OF BEGINNING.

APN: 381-051-18

SITE ADDRESS:

COTTON WOOD AVENUE & PARK CENTER DRIVE
SANTEE, CA 92071

VESTED OWNER:

SANTEE 3 INV, LLC A DELAWARE LIMITED LIABILITY COMPANY

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING NORTH 81°01'41" WEST BETWEEN CALIFORNIA SPATIAL REFERENCE CENTER, CSRC, CONTINUOUSLY OPERATING REFERENCE STATIONS, CORS, "DESC" AND "P472".

DATUM STATEMENT:

ALL COORDINATES SHOWN HEREON ARE GRID VALUES BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983, CCS83, ZONE 5, (2017.50 EPOCH), IN ACCORDANCE WITH THE CALIFORNIA PUBLIC RESOURCES CODE SECTIONS 8801-8819. ALL DISTANCES SHOWN HEREON ARE GROUND VALUES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED. A COMBINATION SCALE FACTOR OF 0.99997452 WAS USED FOR THIS PROJECT AT NORTHING 1889534.892, EASTING 6338310.332. TO OBTAIN GRID DISTANCES, MULTIPLY GROUND DISTANCES BY THE COMBINATION SCALE FACTOR.

BENCHMARK STATEMENT:

CITY OF SANTEE STATION NO. 2118
ELEVATION: 362.64' (M.S.L.D.)
DESCRIBED AS: STANDARD STREET SURVEY MONUMENT STAMPED R.C.E. 13782 PER MAP 9425 CENTERLINE OF MAGNOLIA AVENUE 5' SOUTHERLY OF CENTERLINE OF BRAVERMAN DRIVE.

FLOOD NOTE:

THE SUBJECT PROPERTY FALLS WITHIN PORTIONS OF "ZONE X" AND "ZONE AE" OF FLOOD INSURANCE RATE MAP NUMBER 06073C1651G OF PANEL 1651 OF 2375, EFFECTIVE MAY 16, 2012

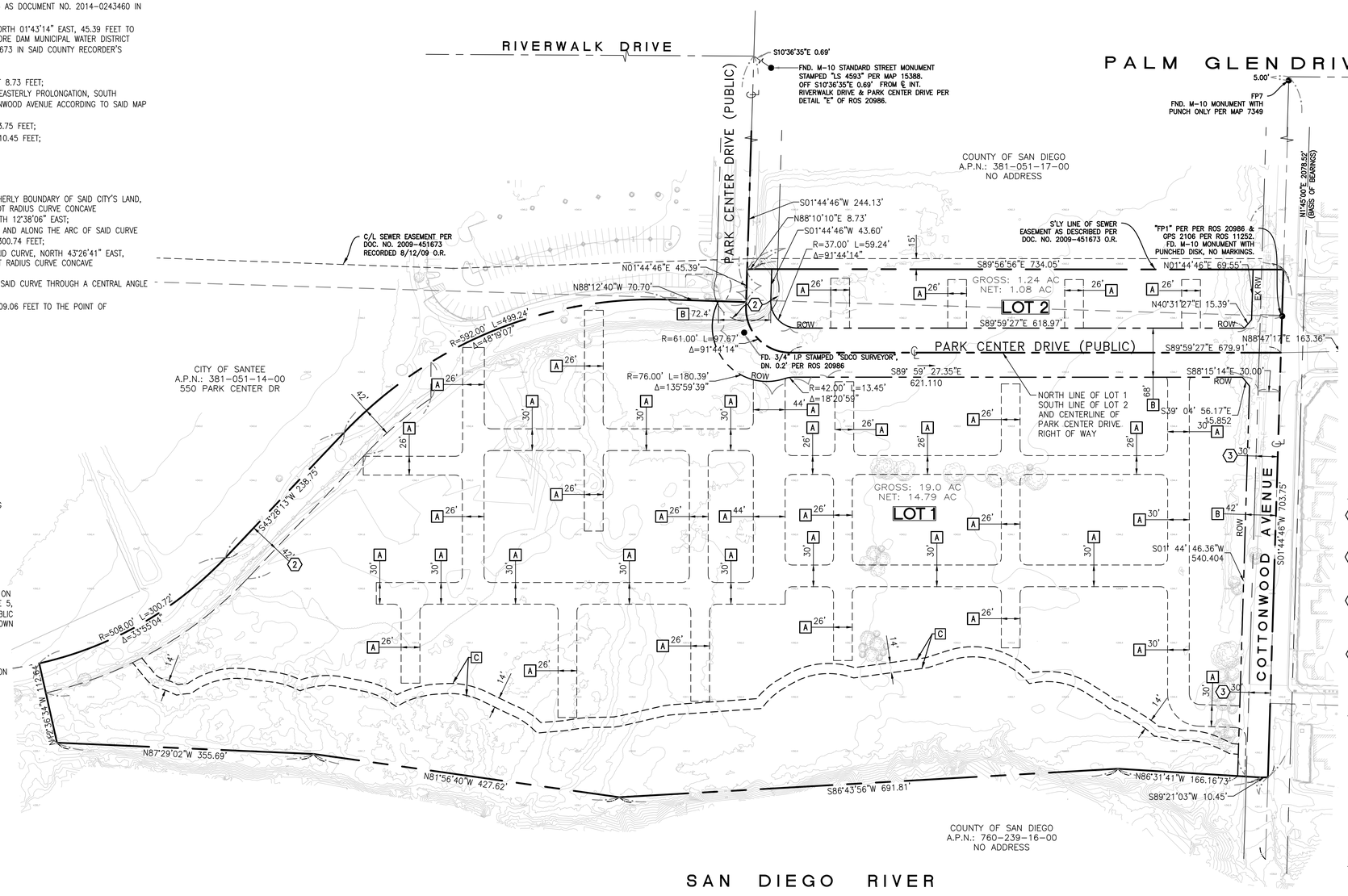
UTILITY PROVIDERS:

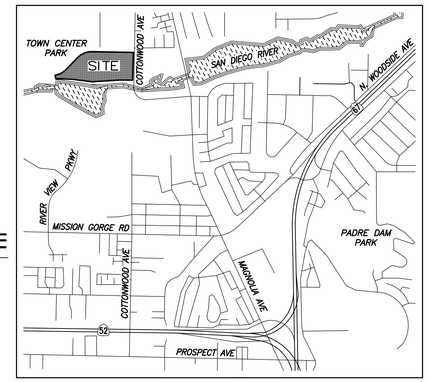
WATER: PADRE DAM MUNICIPAL WATER DISTRICT (619) 258-4600
SEWER: PADRE DAM MUNICIPAL WATER DISTRICT (619) 258-4600
STORM DRAIN: CITY OF SANTEE (619) 258-4100
ELECTRIC: SAN DIEGO GAS & ELECTRIC (800) 411-7343
GAS: SAN DIEGO GAS & ELECTRIC (800) 411-7343
TELEPHONE: AT&T (800) 311-0263
CABLE: COX COMMUNICATIONS (844) 211-0263
TRASH/REFUSE: WASTE MANAGEMENT (619) 596-5100
SCHOOL DISTRICT: SANTEE SCHOOL DISTRICT (619) 258-2300

LAND USE SUMMARY:

TOTAL GROSS AREA: 22.17 AC
TOTAL NET AREA: 17.42 AC
TOTAL PROPOSED LOTS: 2
TOTAL PROPOSED DWELLING UNITS: 291

NOTE:
NET ACREAGE DOES NOT REFLECT BUILDABLE AREA FOR RESIDENTIAL DEVELOPMENT.





VICINITY MAP
NTS

SUBDIVIDER:

CITY VENTURES HOMEBUILDING, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CA 92612
(949) 258-7515
CONTACT: KAREN ALVES

CIVIL ENGINEER:

FUSCOE ENGINEERING, INC.
6390 GREENWICH DR, SUITE 170, SAN DIEGO, CA 92122
(858) 554-1500
KENNETH KOZLIK, P.E., PRINCIPAL & PROJECT MANAGER

SHEET INDEX:

1	TITLE SHEET
2-3	PRELIMINARY GRADING PLAN
4	PRELIMINARY SECTIONS
5-6	PRELIMINARY UTILITY PLAN
7	DRAINAGE & WATER QUALITY DETAILS
8-9	PRELIMINARY FIRE ACCESS & HYDRANT LOCATION PLAN

EXISTING EASEMENTS:

(#) DENOTES PLOTTED ITEM.

(1) AN EASEMENT RESERVED BY G.L STROBECK, ET UX. FOR PLUMBING PLAT, WELLS, PIPE LINES, ETC. PER DOCUMENT RECORDED AUGUST 21, 1925 IN BOOK 1114, PAGE 118 OF DEEDS. (THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED ON RECORD)

(2) AN OFFER OF DEDICATION FROM THE COUNTY OF SAN DIEGO TO THE CITY OF SANTEE FOR PUBLIC STREET AND INCIDENTAL PURPOSES, ACCEPTED BY THE CITY PER DOCUMENT RECORDED JULY 19, 2013 AS INSTRUMENT NO. 2013-0451909 OF OFFICIAL RECORDS (TO BE VACATED)

(3) RIGHTS OF THE PUBLIC TO COTTONWOOD DRIVE PER MAP NO. 817.

PROPOSED EASEMENTS:

[A] INDICATES AN EASEMENT FOR INGRESS AND EGRESS FOR EMERGENCY AND PUBLIC SECURITY VEHICLE PURPOSES DEDICATED TO THE CITY OF SANTEE

[B] INDICATES AN EASEMENT FOR PUBLIC ROAD, PUBLIC UTILITY, AND OTHER PURPOSES DEDICATED TO THE CITY OF SANTEE

[C] INDICATES AN EASEMENT FOR PUBLIC TRAIL AND PEDESTRIAN ACCESS DEDICATED TO THE CITY OF SANTEE

NOTE:

1) PURSUANT TO SUBDIVISION MAP ACT SECTION 66456.1(a), MULTIPLE FINAL MAPS MAY BE FILED ON THIS TENTATIVE MAP.

LEGEND:

- EX. CENTERLINE
- PROP. CENTERLINE
- SUBDIVISION BOUNDARY
- EASEMENT
- EX. LOT LINE
- EX. R/W
- PROP. R/W

80' 0' 40' 80' 160'
SCALE: 1" = 80'

ENGINEER'S STATEMENT:

THIS VESTING TENTATIVE MAP WAS PREPARED BY ME, OR UNDER MY DIRECTION ON JANUARY 15, 2025.

REGISTERED PROFESSIONAL ENGINEER · KENNETH T. KOZLIK · No. RCE 71883 · EXP. 12-31-24 · Civil · STATE OF CALIFORNIA

KENNETH T. KOZLIK, R.C.E. 71883

City Ventures

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(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
TITLE SHEET

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500 fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C1.0

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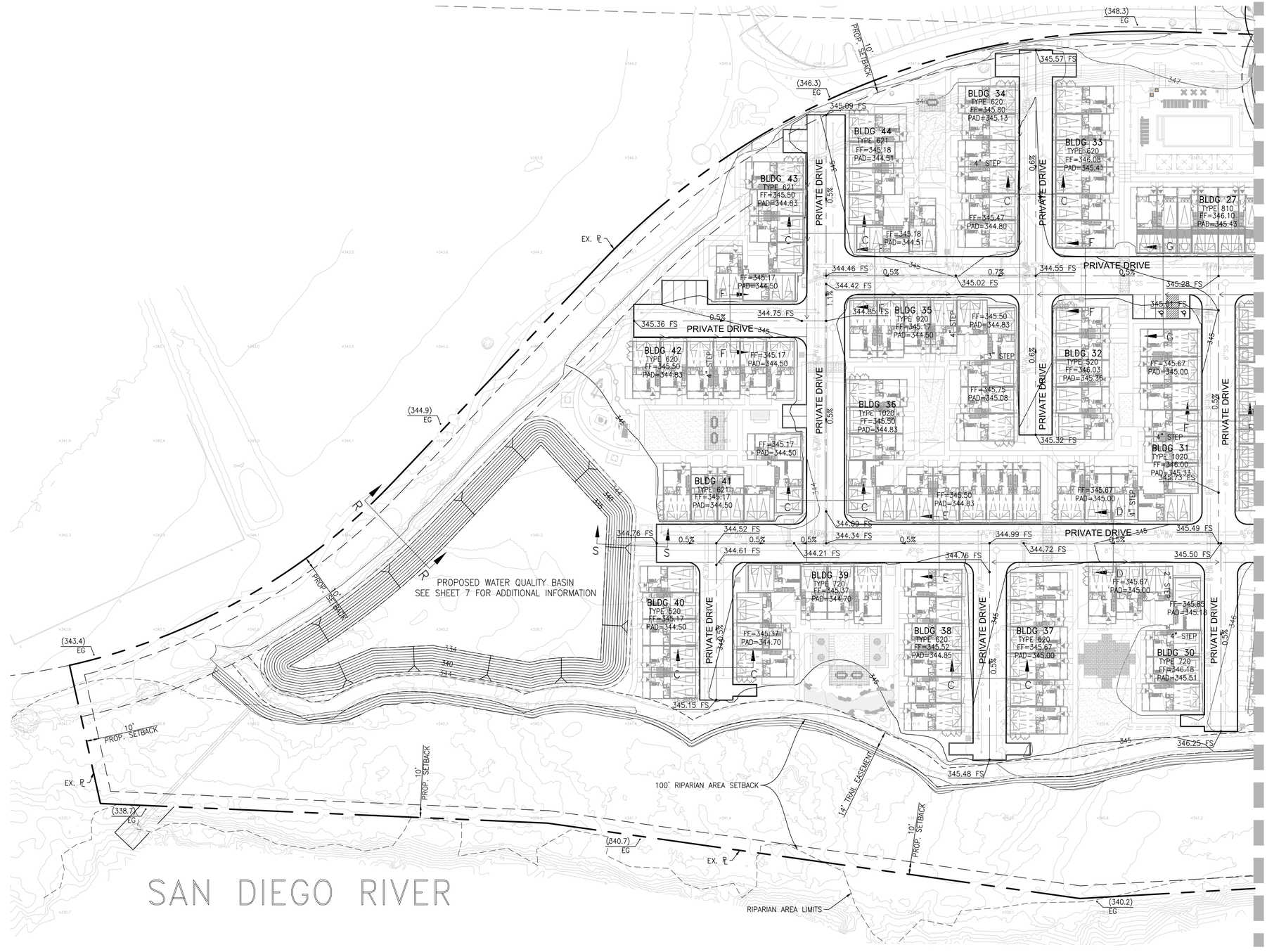

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY GRADING PLAN

City Ventures

CITY VENTURES HOMEBUILDING, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CA 92612
(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500
fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C2.0

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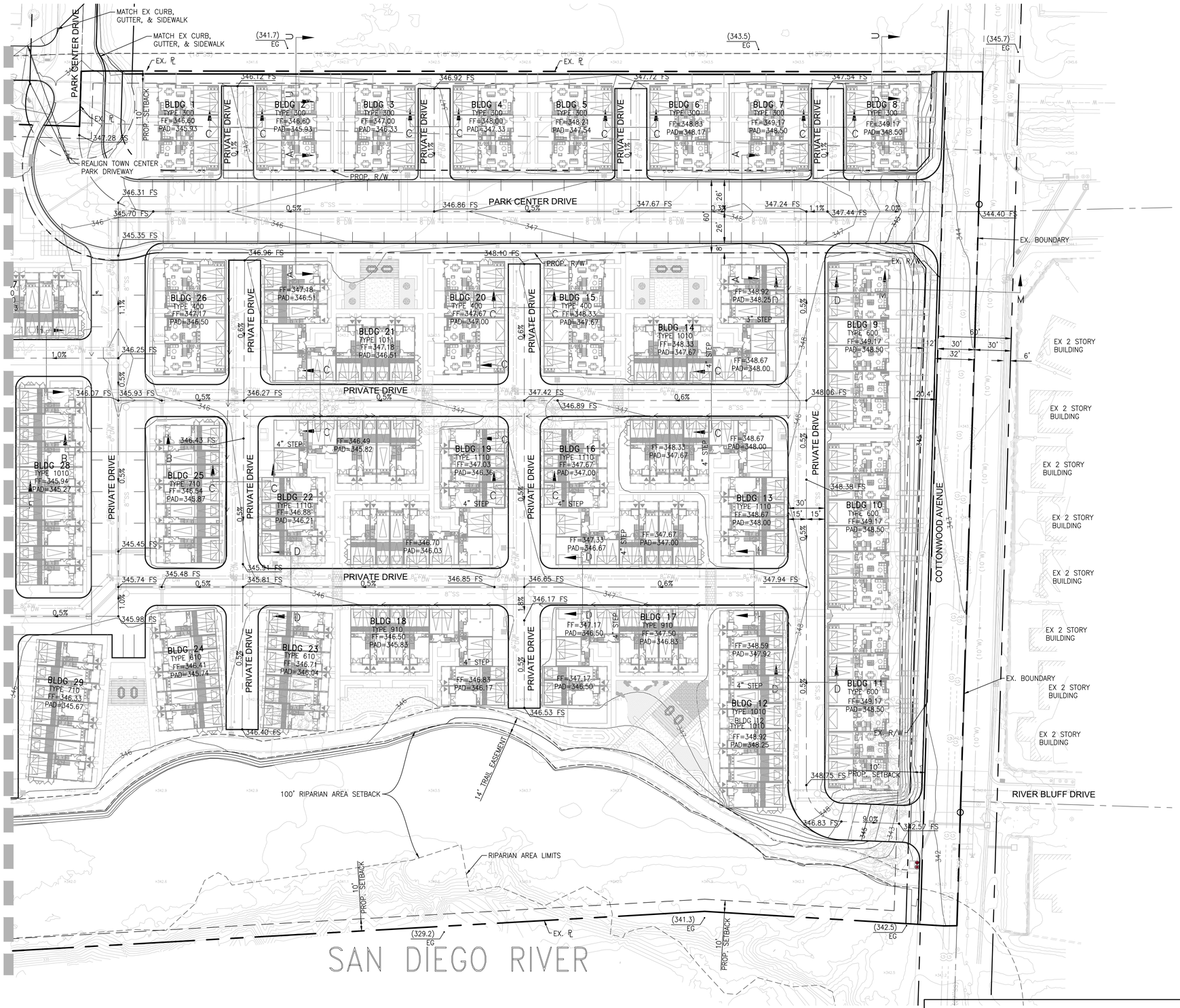

CITY VENTURES HOMEBUILDING, LLC
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(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY GRADING PLAN

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500 fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C3.0

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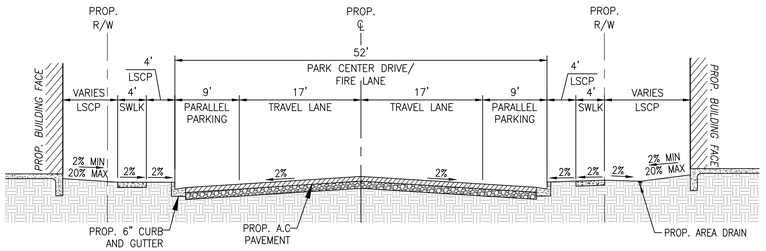

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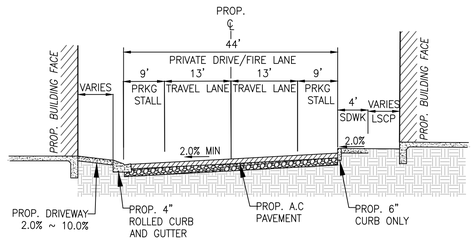

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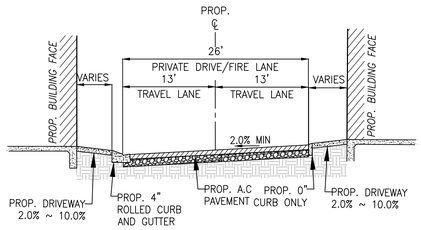

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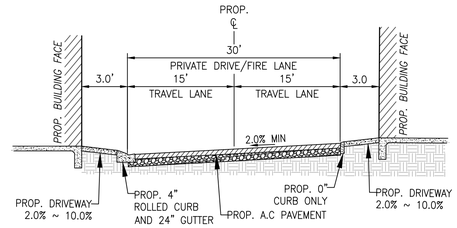

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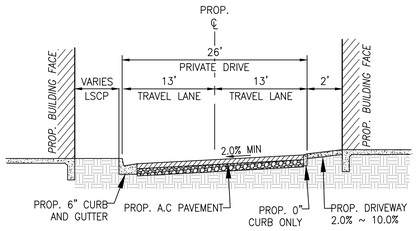

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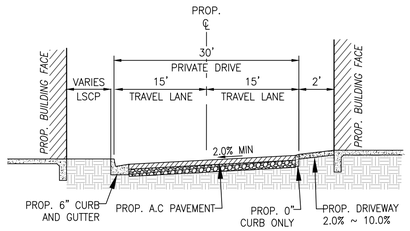

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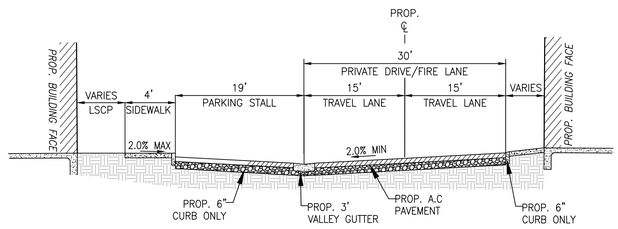

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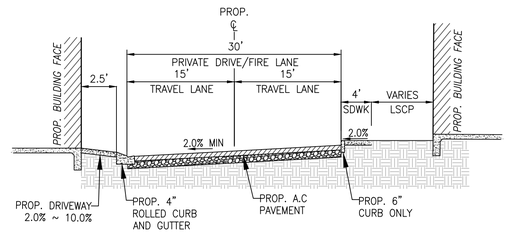

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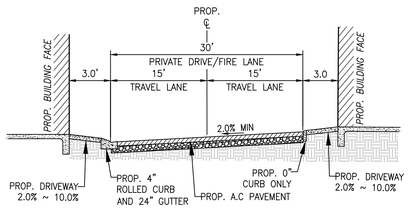

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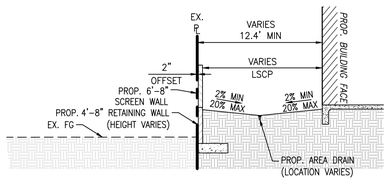

SECTION U
NTS

City Ventures

CITY VENTURES HOMEBUILDING, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CA 92612
(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY SECTIONS

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500
fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C4.0

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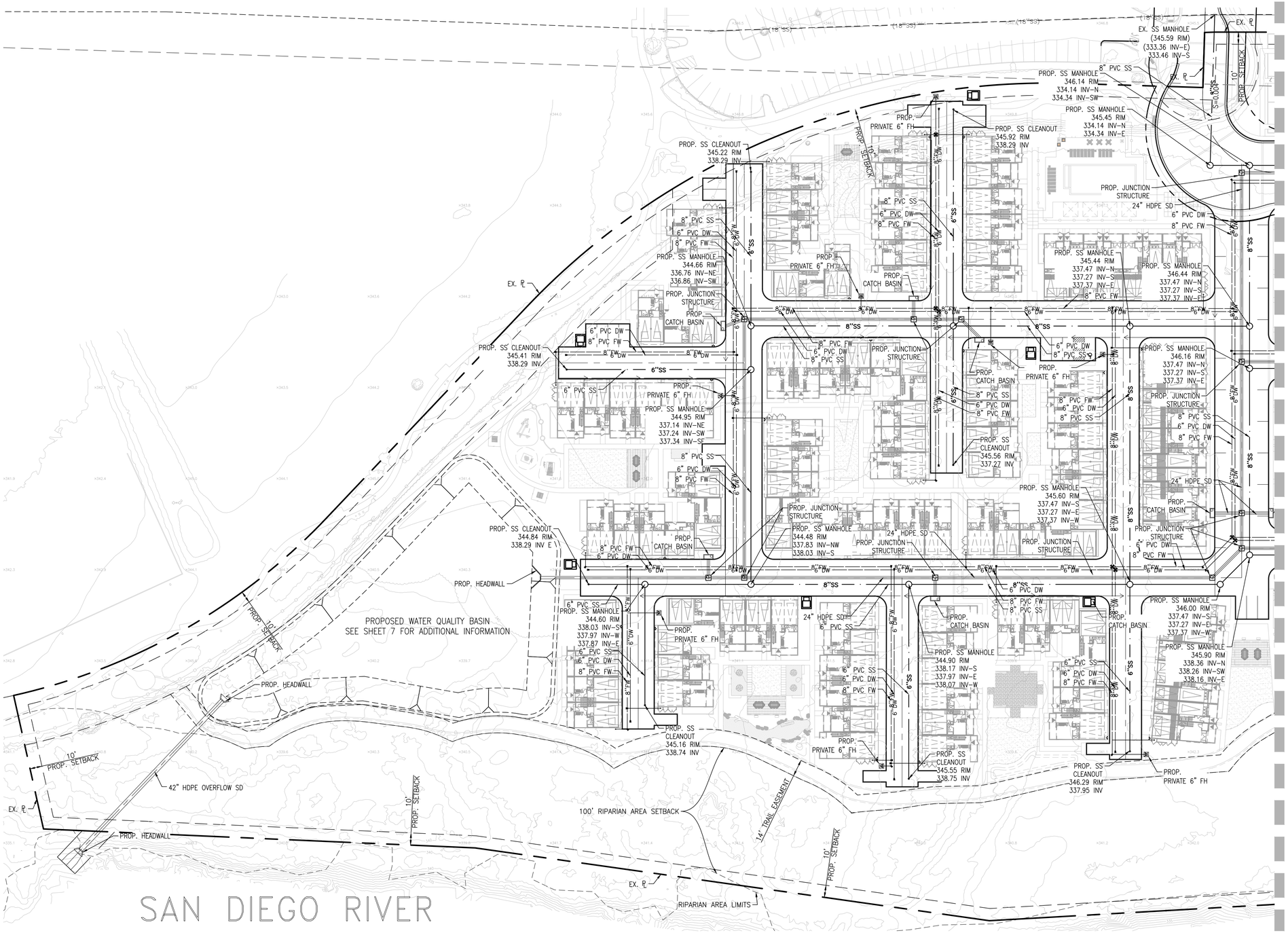

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY UTILITY PLAN

City Ventures

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(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500
fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C5.0

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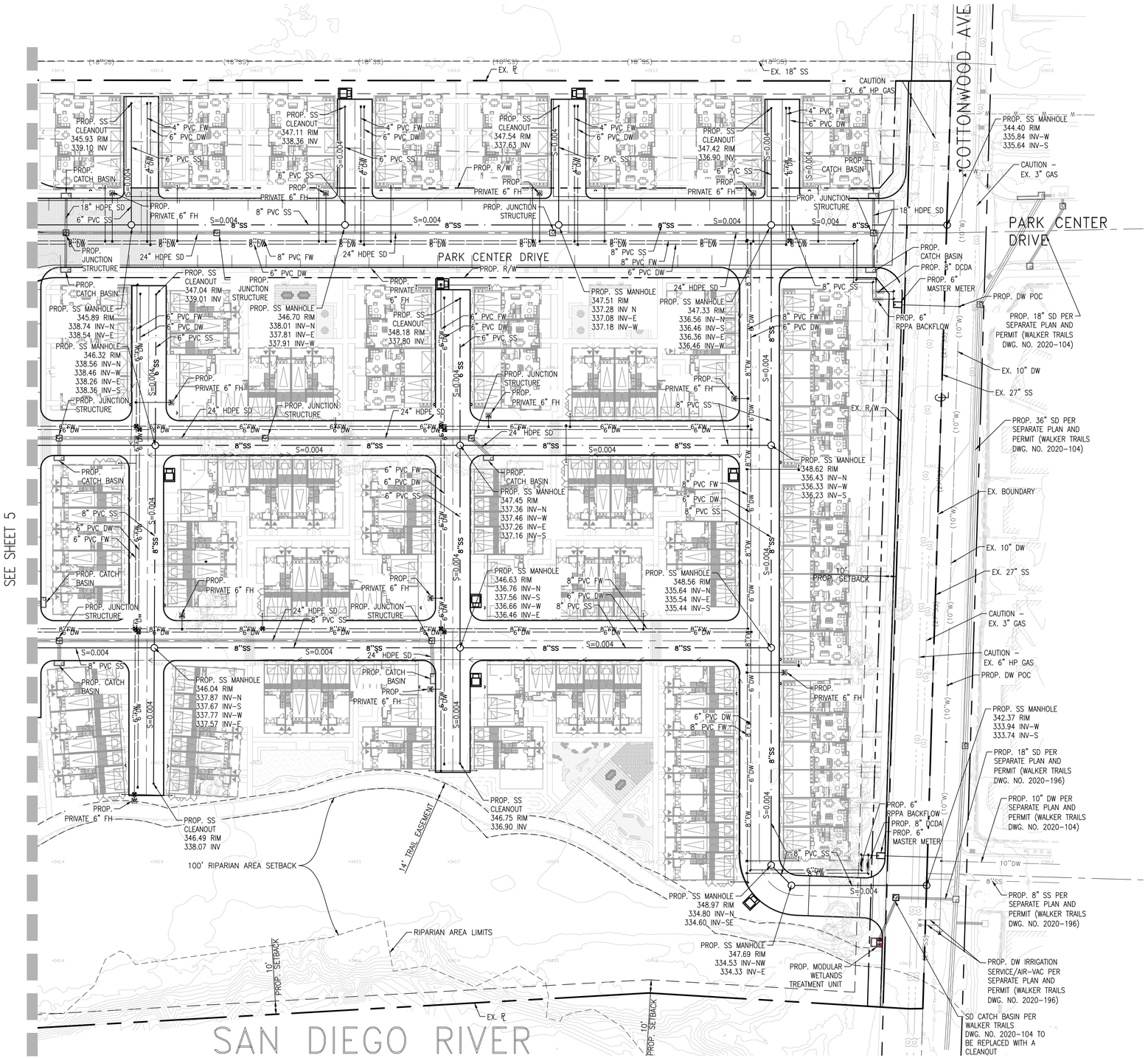

40' 0' 20' 40' 80'

SCALE: 1" = 40'

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY UTILITY PLAN

CITY VENTURES HOMEBUILDING, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CA 92612
(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500 fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C6.0

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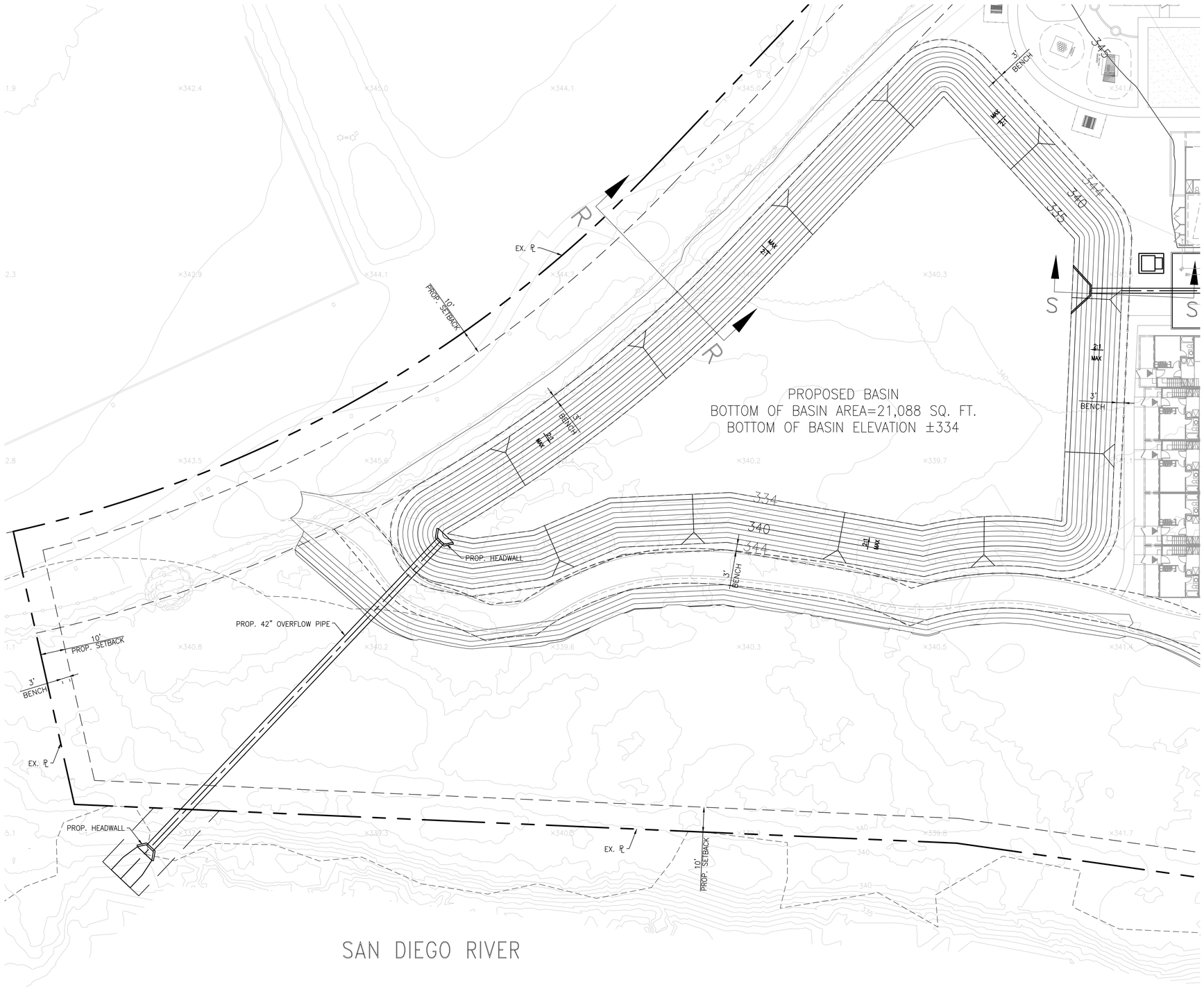
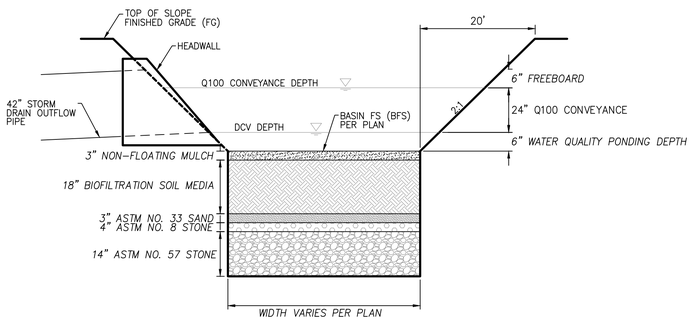
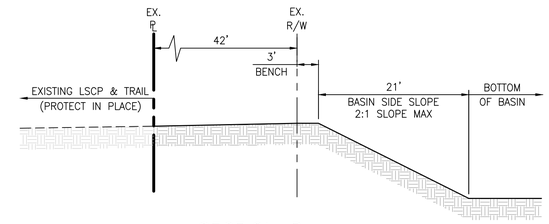




INFILTRATION BASIN CROSS-SECTION
WITH 2:1 SIDE SLOPES

NTS



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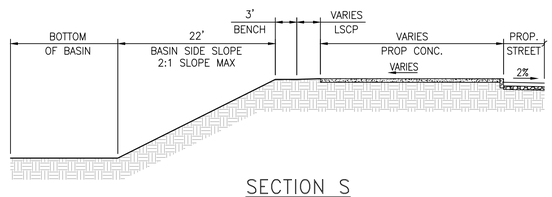

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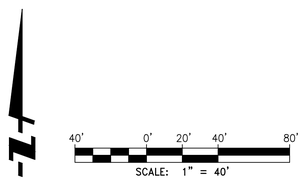

COTTONWOOD AVENUE & PARK
CENTER DRIVE

TM-2024-0001
DRAINAGE AND WATER QUALITY
DETAILS

City Ventures

CITY VENTURES HOMEBUILDING, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CA 92612
(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500 fuscoe.com

JOB NO. 1076-005
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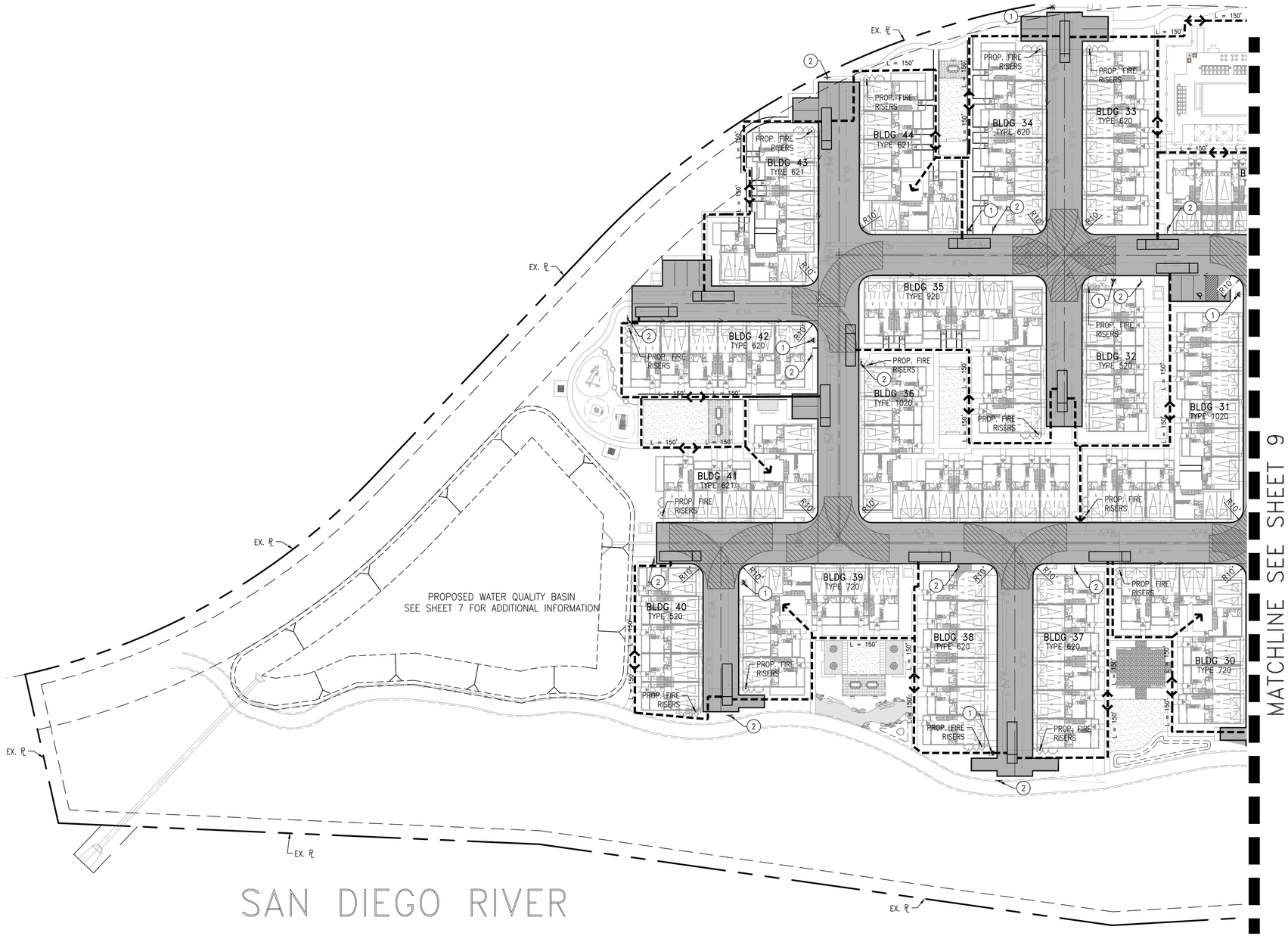
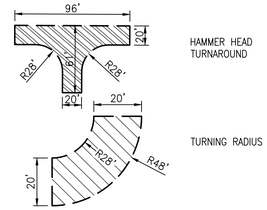


LEGEND

- FIRE HYDRANT
- FIRE ENGINE
- PROPOSED FIRE ACCESS LANE
- HOSE PULL LENGTH = 150'
- SIGNS



R/W	RIGHT OF WAY
R	RADIUS
EX.	EXISTING
N.A.P.	NOT A PART
℄	PROPERTY LINE
PROP.	PROPOSED
℄	CENTERLINE
FH	FIRE HYDRANT
FW	FIRE WATER
LSCP	LANDSCAPE
SWLK	SIDEWALK

CONSTRUCTION NOTES:

1. INSTALL PROPOSED PRIVATE FIRE HYDRANT PER WATER AGENCIES STD. WF-01
2. INSTALL "FIRE LANE – NO PARKING" SIGN PER DETAIL CITY OF SANTEE STD. 2000-03
3. INSTALL "PRIVATE ROAD" SIGN PER CITY OF SANTEE STD. 2000-03

N

40' 0' 20' 40'

SCALE: 1" = 40'

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY FIRE ACESS & HYDRANT LOCATION PLAN

City Ventures

CITY VENTURES HOMEBUILDING, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CA 92612
(949) 258-7540

CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

FUSCOE ENGINEERING
6390 Greenwich Dr, Suite 170
San Diego, Ca 92122
858.554.1500
fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
SHEET C8.0

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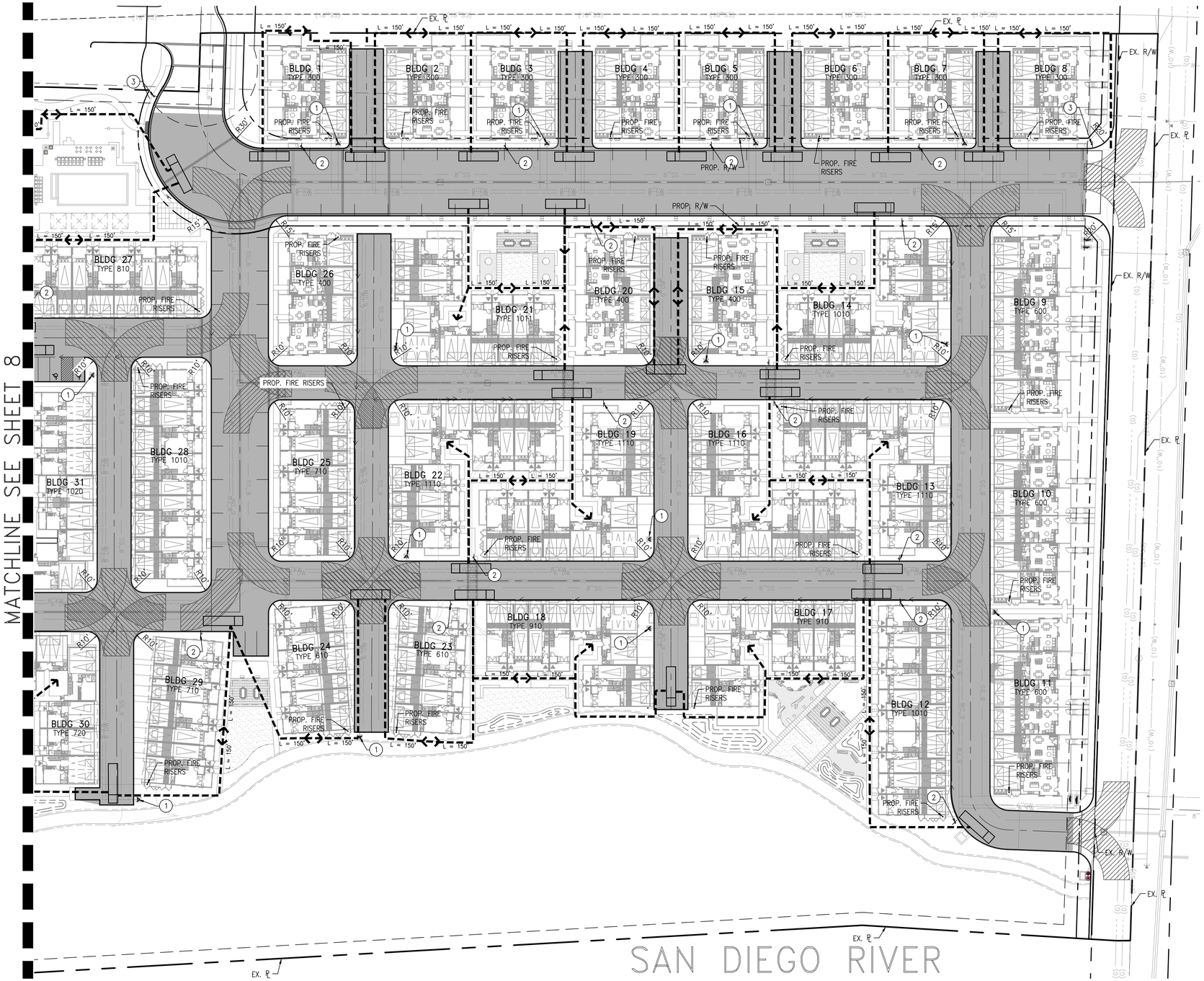
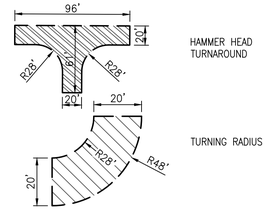


LEGEND

- FIRE HYDRANT
- FIRE ENGINE
- PROPOSED FIRE ACCESS LANE
- HOSE PULL LENGTH = 150'
- SIGNS



HAMMER HEAD TURNAROUND

TURNING RADIUS

R/W	RIGHT OF WAY
R	RADIUS
EX.	EXISTING
N.A.P.	NOT A PART
℄	PROPERTY LINE
PROP.	PROPOSED
℄	CENTERLINE
FH	FIRE HYDRANT
FW	FIRE WATER
LSCP	LANDSCAPE
SWLK	SIDEWALK

CONSTRUCTION NOTES:

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3. INSTALL "PRIVATE ROAD" SIGN PER CITY OF SANTEE STD. 2000-03

N

40' 0' 20' 40'

SCALE: 1" = 40'

COTTONWOOD AVENUE & PARK CENTER DRIVE

TM-2024-0001
PRELIMINARY FIRE ACCESS & HYDRANT LOCATION PLAN

City Ventures

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3121 MICHELSON DRIVE, SUITE 150
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CITY OF SANTEE
DEPARTMENT OF PLANNING AND DEVELOPMENT

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San Diego, Ca 92122
858.554.1500 fuscoe.com

JOB NO. 1076-005
DRAWN BY: K.K.
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APPENDIX 15

Digital Data

Appendix E-2

Storm Water Quality Management Plan (SWQMP) for
Santee 3 Multifamily Housing

CITY OF SANTEE

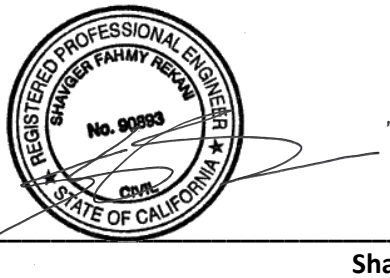
PRIORITY DEVELOPMENT PROJECT (PDP)

STORM WATER QUALITY MANAGEMENT PLAN (SWQMP)

FOR

SANTEE 3 MULTIFAMILY HOUSING
Santee, CA 92071
TM-2024-0001 & DR-2024-0001

ASSESSOR'S PARCEL NUMBER(S):
381-051-18



ENGINEER OF WORK:
Shavger Rekani PE

Shavger Rekani PE 90893, 3/26

PREPARED FOR:

Santee 3 Inv, LLC.
3121 Michelson Drive, Suite 150
Irvine, California 92612

PDP SWQMP PREPARED BY:

RICK Engineering Company
5620 Friars Rd, San Diego, CA 92110
(619) 291-0707

PLANS PREPARED BY:

RICK Engineering Company
5620 Friars Rd, San Diego, CA 92110
(619) 291-0707

DATE OF SWQMP:
February 2, 2024
Revised January 10, 2025
Revised April 16, 2025

PDP SWQMP Template Date: February 2016
PDP SWQMP Preparation Date: [4-16-2025]

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FORM I-2 Project Type Determination Checklist (Standard Project or PDP)

FORM I-3B Site Information Checklist for PDPs

FORM I-4 Source Control BMP Checklist for All Development Projects

FORM I-5 Site Design BMP Checklist for All Development Projects

FORM I-6 Summary of PDP Structural BMPs

Attachment 1: Backup for PDP Pollutant Control BMPs

- Attachment 1a: DMA Exhibit
- Attachment 1b: Tabular Summary of DMAs and Design Capture Volume Calculations
- Attachment 1c: Harvest and Use Feasibility Screening (when applicable)
- Attachment 1d: Categorization of Infiltration Feasibility Condition (when applicable)
- Attachment 1e: Pollutant Control BMP Design Worksheets / Calculations

Attachment 2: Backup for PDP Hydromodification Control Measures

- Attachment 2a: Hydromodification Management Exhibit
- Attachment 2b: Management of Critical Coarse Sediment Yield Areas
- Attachment 2c: Geomorphic Assessment of Receiving Channels
- Attachment 2d: Flow Control Facility Design

Attachment 3: Structural BMP Maintenance Plan

- Attachment 3a: B Structural BMP Maintenance Thresholds and Actions
- Attachment 3b: Draft Maintenance Agreement (when applicable)

Attachment 4: Copy of Plan Sheets Showing Permanent Storm Water BMPs

ACRONYMS

APN	Assessor's Parcel Number
BMP	Best Management Practice
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWQMP	Storm Water Quality Management Plan

SWQMP PREPARER'S
CERTIFICATION PAGE

Project Name: Santee 3 Multifamily Housing
Permit Application Number: TM-2024-0001 & DR-2024-0001

PREPARER'S CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the City of Santee BMP Design Manual, which is a design manual for compliance with local City of Santee and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

I have read and understand that the [City Engineer] has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the BMP Design Manual. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by the [City Engineer] is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

_____
Engineer of Work's Signature, PE Number & Expiration Date

Shavger Rekani, PE 90893, Exp. 3/26
_____
Print Name

RICK Engineering Company
Company

4/16/2025
Date

Engineer's Seal:

PDP SWQMP Template Date: February 2016
PDP SWQMP Preparation Date: [4-16-2025]

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SWQMP PROJECT OWNER'S
CERTIFICATION PAGE

Project Name: Santee 3 Multifamily Housing
Permit Application Number: TM-2024-0001 & DR-2024-0001

PROJECT OWNER'S CERTIFICATION

This PDP SWQMP has been prepared for Santee 3 Inv, LLC by RICK. The PDP SWQMP is intended to comply with the PDP requirements of the City of Santee BMP Design Manual, which is a design manual for compliance with local City of Santee and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan. Once the undersigned transfers its interests in the property, its successor-in-interest shall bear the aforementioned responsibility to implement the best management practices (BMPs) described within this plan, including ensuring on-going operation and maintenance of structural BMPs. A signed copy of this document shall be available on the subject property into perpetuity.

Project Owner's Signature

Michael Yoo

Print Name

Santee 3 Inv, LLC.

Company

4/16/2025

Date

Page intentionally blank

SUBMITTAL RECORD

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In column 4 summarize the changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck comments behind this page.

Submittal Number	Date	Project Status	Summary of Changes
1	2/2/2024	☒ Preliminary Design / Planning/ CEQA ☐ Final Design	Initial Submittal
2	1/10/2025	☒ Preliminary Design / Planning/ CEQA ☐ Final Design	2nd Resubmittal
3	4/16/2025	☒ Preliminary Design / Planning/ CEQA ☐ Final Design	3rd Resubmittal
		☐ Preliminary Design / Planning/ CEQA ☐ Final Design	

PRIORITY DEVELOPMENT PROJECT STORM WATER QUALITY MANAGEMENT PLAN FOR SANTEE 3 MULTIFAMILY HOUSING

Revision Page

April 16, 2025

This PDPSWQMP presents a revision to the January 10, 2025 report pursuant to the City of Santee plan check comments received March 18, 2025. The following text identifies the plan check comments along with the responses in bold.

Engineering Comments – Claire Singh (Dated 1/17/2025)

9. Provide a Storm Water Quality Management Plan (SWQMP) prepared in compliance with the City of Santee Storm Water Ordinance and in accordance with the City of Santee Best Management Practices (BMP) Design Manual. The SWQMP must include best management practices (BMPs) to address water quality and hydromodification. An Operation and Maintenance Plan describing maintenance requirements and costs for BMP maintenance and provision of maintenance verification shall be provided.

Noted; PDP SWQMP has been included in submittal.

9a. The SWQMP shall include the following: Develop and implement appropriate Best Management Practices (BMPs) to ensure that the project does not increase pollutant loads from the site. A combination of respective storm water BMPs, including Site Design, Source Control, and Structural Treatment Control shall be implemented in accordance with the approved SWQMP.

Noted; PDP SWQMP has been included in submittal.

9b. The project design shall incorporate Low Impact Development (LID) and site design BMPs to minimize directly connected impervious areas and to promote infiltration using LID techniques as outlined in the County of San Diego's LID handbook. Parking areas shall be designed to drain to landscape areas. Private roads shall be designed to drain to vegetated swales or landscaped areas.

Noted; LID and site design BMPs have been included in submittal.

9c. The site shall comply with full trash capture requirements by providing completely enclosed trash and recycling enclosures, and fitting all storm drain inlets with a State certified grate/screen or trash rack. Said devices must be designed to capture debris of 5 mm or greater, while preventing flooding potential. In addition, any adjacent public storm drain inlet structure to which the site discharges must also be retrofitted with trash capture devices. The device which shall be used for public inlets is the ADS FlexStorm Connector Pipe Screen system or approved equal.

Noted; full trash capture devices to be installed in all storm drain inlets.

9d. All inlets must be labeled with concrete stamp or equivalent - stating, "No Dumping - Drains to River". If work is performed on a public inlet, the public inlet must be labeled with the following standard specification: Public storm drain inlet markers shall be 4" diameter, stainless steel, natural embossed, inlet marker as manufactured by Almetek Industries or approved equal. Marker shall contain/state "No Dumping" with "Fish w/ Wave" symbol and "Drains to Waterways" legend. Marker shall contain 2" long x 1/4" diameter threaded rod and shall be installed flush and wet-set in top of inlet, centered on width of inlet opening.

Noted.

9e. Down spouts and HVAC systems are not permitted to be connected to any storm drain conveyance system. All non-storm water discharges must either drain to landscaped areas, or be plumbed to the sewer.

Noted.

City of Santee Stormwater Comments – Claire Singh (Dated 2/24/2025)

1. The grading plans, drainage study, and Storm Water Quality Management Plan (SWQMP) depict a bioretention basin that features a headwall as its overflow structure. Please redesign the basin's overflow structure to match the standard shown on the City of Santee's BMP Design Manual (e.g. swap it for a grated outflow structure).

A headwall structure is used as the overflow structure of the basin to avoid the potential of clogging. The headwall will be designed to meet the City of Santee criterion and follow the San Diego County Regional Standard Drawings.

2ai. SWQMP DMA Exhibit - Call out all inlets as containing a Full Trash Capture device.

Callout added to inlet noting "installation of full trash capture device (TYP)".

2aii. SWQMP DMA Exhibit - Add a note to the exhibit stating that the HOA is the responsible party for maintenance of the bioretention basin, MWS, and full trash capture devices.

Note added to exhibit stating, "The modular wetland system (MWS), bioretention basin, and trash capture devices, are to be maintained by the HOA into perpetuity."

2b. Form I-8 - Please fill out entire form to completion.

Updated I-8 Form provided.

2c. Attachment 3a: Include maintenance thresholds and indicators for Full Trash Capture devices. Must specify how full of debris the unit can be until maintenance actions are required.

Trash capture device operation and maintenance has been included in O&M Table.

PDP SWQMP Redline Comments – Claire Singh (Dated 2/24/2025)

1. (Page 7) Different development.

Updated PDP SWQMP to note Santee 3 Inv, LLC.

2. (Page 23) Different project.

Description has been updated.

3. (Page 43) The MWS may need to be relocated (therefore resized) due to conflict at the Cottonwood Ave terminus.

The MWS is located in the most ideal location to treat runoff from the proposed driveway. No conflicts are anticipated at Cottonwood Ave.

4. (MWS Detail) Unit may be resized or relocated due to conflict at the Cottonwood Ave. terminus.

The proposed MWS unit is sized appropriately to treat the runoff from the proposed driveway. No conflicts are anticipated at Cottonwood Ave.

PDP SWQMP Redline Comments – Emily Stein (Dated 2/24/2025)

1. (Page 36) This page can be deleted.

Form I-6 pages removed.

2. (Page 37) This page can be deleted.

Form I-6 pages removed.

3. (Page 42) Mark box if project is exempt from PDP hydromodification management requirements

Attachment 2 checklist has been updated accordingly to indicate that the project is PDP hydromodification exempt.

4. (Page 49) Please add maintenance actions/thresholds for full trash capture devices. Must include how full of debris the device can be which would trigger maintenance action.

Trash capture device operation and maintenance has been included in O&M Table.

5. (Page 50) Please fill out these sections (Form I-8).

Updated I-8 Form provided.

6. (DMA Exhibit) Add note stating to the effect, "HOA is the responsible party for maintenance of the bioretention basin, MWS, and full trash capture devices.

Note added to exhibit stating, "The modular wetland system (MWS), bioretention basin, and trash capture devices, are to be maintained by the HOA into perpetuity."

7. (DMA Exhibit) Doesn't completely match what is in the grading plans.

DMA exhibit has been updated to match civil plans.

8. (DMA Exhibit) Please replace with a grated outflow structure to align with the standard depicted in the City of Santee's BMP Design Manual.

A headwall structure is used as the overflow structure of the basin to avoid the potential of clogging. The headwall will be designed to meet the City of Santee criterion and follow the San Diego County Regional Standard Drawings.

9. (DMA Exhibit) Call out all inlets as being equipped with a Full Trash Capture device.

Callout added to inlet noting "installation of full trash capture device (TYP)".

10. (Basin Cross Section) Doesn't match exactly what is in the grading plans.

Cross-section has been updated accordingly to match civil plans.

11. (Basin Cross Section) Please replace with a grated outflow structure to align with the standard depicted in the City of Santee's BMP Design Manual.

A headwall structure is used as the overflow structure of the basin to avoid the potential of clogging. The headwall will be designed to meet the City of Santee criterion and follow the San Diego County Regional Standard Drawings.

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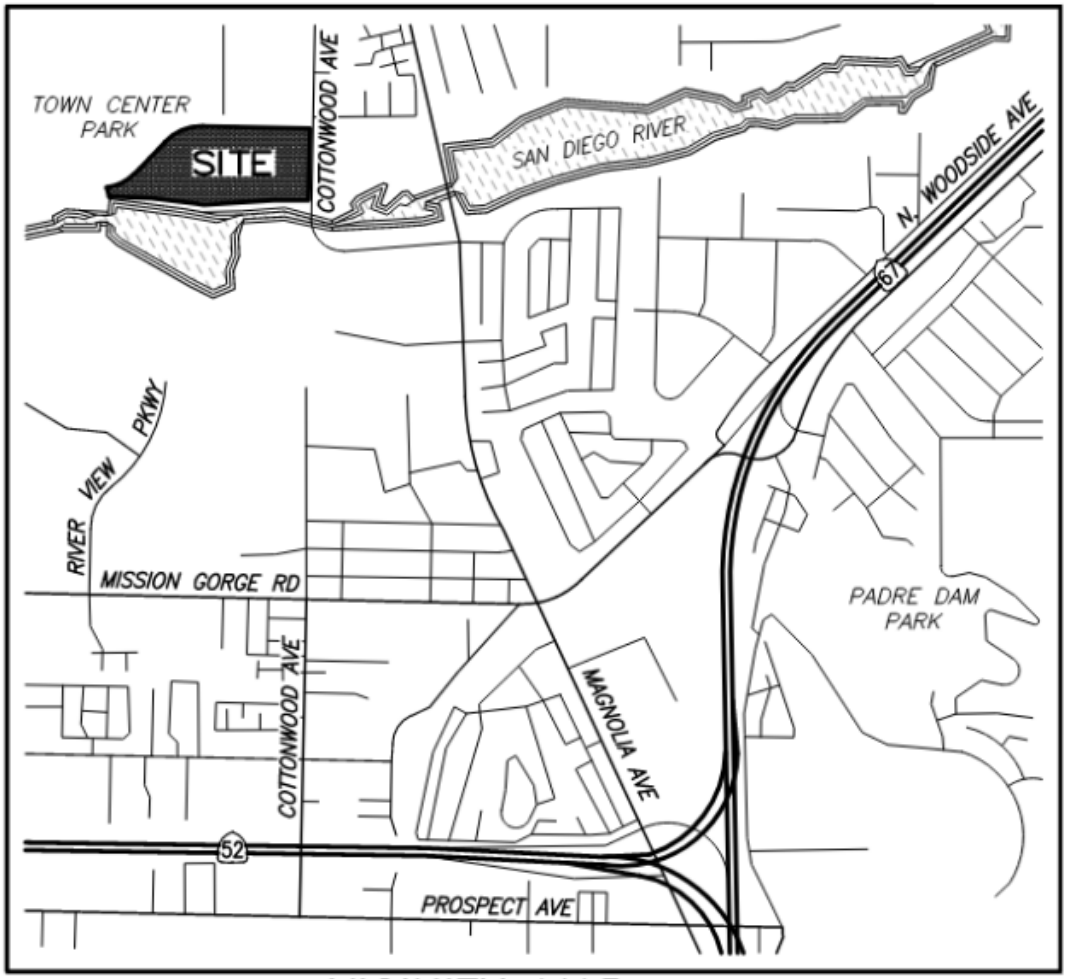
PROJECT VICINITY MAP

Project Name: Santee 3 Multifamily Housing
Permit Application Number: TM-2024-0001 & DR-2024-0001



VICINITY MAP
NTS

Applicability of Permanent, Post-Construction Storm Water BMP Requirements **(Storm Water Intake Form for all Development Permit Applications)**	**Form I-1** Model BMP Design Manual [August 31, 2015]

Project Identification

Project Name: Santee 3 Multifamily Housing	
Permit Application Number: TM-2024-0001 & DR-2024-0001	Date: 4/16/2025
Project Address: APN: 381-051-18 Santee, CA 92071	

Determination of Requirements

The purpose of this form is to identify permanent, post-construction requirements that apply to the project. This form serves as a short summary of applicable requirements, in some cases referencing separate forms that will serve as the backup for the determination of requirements.

Answer each step below, starting with Step 1 and progressing through each step until reaching "Stop". **Upon reaching a Stop, do not complete further Steps beyond the Stop.**

Refer to BMP Design Manual sections and/or separate forms referenced in each step below.

Step	Answer	Progression
Step 1: Is the project a "development project"? See Section 1.3 of the BMP Design Manual for guidance.	☒ Yes	Go to Step 2.
	☐ No	Stop. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.
Discussion / justification if the project is not a "development project" (e.g., the project includes *only* interior remodels within an existing building):		
Step 2: Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, see Section 1.4 of the BMP Design Manual *in its entirety* for guidance, AND complete Form I-2, Project Type Determination.	☐ Standard Project	Stop. Only Standard Project requirements apply, including Standard Project SWQMP.
	☒ PDP	Standard and PDP requirements apply, including PDP SWQMP. Go to Step 3.
	☐ Exception to PDP definitions	Stop. Standard Project requirements apply, and any additional requirements specific to the type of project. Provide discussion and list any additional requirements below. Prepare Standard Project SWQMP.

Form I-1 Page 2, Form Template Date: August 31, 2015		
[Step 2 Continued from Page 1] Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		
Step 3 (PDPs only). Is the project subject to earlier PDP requirements due to a prior lawful approval? See Section 1.10 of the BMP Design Manual for guidance.	☐ Yes	Consult the [City Engineer] to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	☒ No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements (*not required if prior lawful approval does not apply*):		
Step 4 (PDPs only). Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual for guidance.	☐ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 5.
	☒ No	Stop. PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below.
Discussion / justification if hydromodification control requirements do <u>not</u> apply: Project discharges directly to the San Diego River, therefore it is HMP exempt. Water quality requirements are still required and will be provided and met prior to discharge to the San Diego River.		
Step 5 (PDPs subject to hydromodification control requirements only). Does protection of critical coarse sediment yield areas apply based on review of WMAA Potential Critical Coarse Sediment Yield Area Map? See Section 6.2 of the BMP Design Manual for guidance.	☐ Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Stop.
	☐ No	Management measures not required for protection of critical coarse sediment yield areas. Provide brief discussion below. There are no critical coarse sediment yield areas on the project site. Critical coarse sediment protection measures are not required if the project does not impact any yield areas. Attachment 2B provides a map showing the absence of critical coarse sediment yield areas on the project site.

Priority Determination Form	Form I-2 Model BMP Design Manual [August 31, 2015]
Project Information	
Project Name: Santee 3 Multifamily Housing	
Permit Application Number: TM-2024-0001 & DR-2024-0001	Date: 4/16/2025
Project Address: APN: 381-051-18 Santee, CA 92071	
Project Type Determination: Standard Project or Priority Development Project (PDP)	
The project is (select one): ☒ New Development ☐ Redevelopment	
The total proposed newly created or replaced impervious area is: 504,156 ft^2 (11.6) acres	
Is the project in any of the following categories, (a) through (f)?	

Yes	No		
☒	☐	(a)	New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
☐	☒	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
☒	☐	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

Form I-2 Page 2, Form Template Date: August 31, 2015			
Yes ☒	No ☐	(d)	New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). *Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See BMP Design Manual Section 1.4.2 for additional guidance.*
Yes ☐	No ☒	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
Yes ☒	No ☐	(f)	New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction. *Note: See BMP Design Manual Section 1.4.2 for additional guidance.*

Does the project meet the definition of one or more of the Priority Development Project categories (a) through (f) listed above?

☐ No – the project is not a Priority Development Project (Standard Project).

☒ Yes – the project is a Priority Development Project (PDP).

The following is for redevelopment PDPs only:

The area of existing (pre-project) impervious area at the project site is: 0 ft^2 (A)
The total proposed newly created or replaced impervious area is 504,156 ft^2 (B)
Percent impervious surface created or replaced (B/A)*100: 100 %
The percent impervious surface created or replaced is (select one based on the above calculation):

☐ less than or equal to fifty percent (50%) – only new impervious areas are considered PDP

OR

☒ greater than fifty percent (50%) – the entire project site is a PDP

Site Design Checklist For PDPs	Form I-3B (PDPs) Model BMP Design Manual [August 31, 2015]
Project Summary Information	
Project Name	Santee 3 Multifamily Housing
Project Address	Santee, CA 92071
Assessor's Parcel Number(s) (APN(s))	381-051-18
Permit Application Number	TM-2024-0001 & DR-2024-0001
Project Hydrologic Unit	Select One: ☐ Santa Margarita 902 ☐ San Luis Rey 903 ☐ Carlsbad 904 ☐ San Dieguito 905 ☐ Penasquitos 906 ☒ San Diego 907 ☐ Pueblo San Diego 908 ☐ Sweetwater 909 ☐ Otay 910 ☐ Tijuana 911
Project Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	907.12
Parcel Area (total area of Assessor's Parcel(s) associated with the project)	22.2 Acres (967,032 Square Feet)
Area to be Disturbed by the Project (Project Area)	16.5 Acres (720,727 Square Feet)
Project Proposed Impervious Area (subset of Project Area)	11.6 Acres (504,156 Square Feet)
Project Proposed Pervious Area (subset of Project Area)	4.9 Acres (216,571 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Parcel Area.	

Form I-3B Page 2 of 10, Form Template Date: August 31, 2015
Description of Existing Site Condition
Current Status of the Site (select all that apply): ☐ Existing development ☐ Previously graded but not built out ☐ Demolition completed without new construction ☐ Agricultural or other non-impervious use ☒ Vacant, undeveloped/natural Description / Additional Information: The existing site is vacant and undeveloped area.
Existing Land Cover Includes (select all that apply): ☒ Vegetative Cover ☒ Non-Vegetated Pervious Areas ☐ Impervious Areas Description / Additional Information: The current site landscape has vegetative cover with trees and shrubs. There are no existing structures as the site is vacant.
Underlying Soil belongs to Hydrologic Soil Group (select all that apply): ☒ NRCS Type A ☐ NRCS Type B ☐ NRCS Type C ☐ NRCS Type D
Approximate Depth to Groundwater (GW): ☐ GW Depth < 5 feet ☐ 5 feet < GW Depth < 10 feet ☒ 10 feet < GW Depth < 20 feet ☐ GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

☐ Watercourses

☐ Seeps

☐ Springs

☐ Wetlands

☒ None

Description / Additional Information:

There are no existing natural hydrologic features onsite, but there is the existing San Diego River adjacent to the site.

Description of Existing Site Drainage Patterns

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

(1) whether existing drainage conveyance is natural or urban;

The existing drainage conveyance onsite is natural, with no existing inlets or storm drains to convey flows. Water sheet flows off the site and is conveyed southwest to the San Diego River.

(2) Is runoff from offsite conveyed through the site? if yes, quantify all offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site,

There are no offsite flows conveyed through the existing site.

(3) Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels;

There is no existing drainage conveyance network located at the project site. The existing area is vacant, and sheet flows to the San Diego River which is located south, adjacent to the project.

(4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations;

There is no existing drainage conveyance network located at the project site. The existing site sheet flows in the southwest direction and discharges at one location located at the western end of the site.

(5) Describe existing site drainage patterns;

The pre-project site drains generally southwest to a single point of compliance (POC). The POC is located at the west corner of the property. After leaving the project site, runoff from Basin 100 flows into the San Diego River adjacent to the project site.

Form I-3B Page 4 of 10, Form Template Date: August 31, 2015
Description of Proposed Site Development
Project Description / Proposed Land Use and/or Activities: **The project proposes the development of multifamily housing, residential streets and parking, amenities and open space, and a bioretention basin and modular wetland system for water quality treatment.**
List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features): **The project's impervious features include multifamily dwellings and residential streets with parking area.**
List/describe proposed pervious features of the project (e.g., landscape areas): **The project's pervious features include landscaped areas, open space areas, a modular wetland system, and a bioretention basin.**
Does the project include grading and changes to site topography? ☒ Yes ☐ No Description / Additional Information: The site will be mass graded for the proposed development.

Description of Proposed Site Drainage Patterns

Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

☒ Yes
☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

The proposed drainage system will collect surface flows via grate and curb storm drain inlets. Flows will be conveyed via underground storm drains to the proposed bioretention basin, which discharge to the San Diego River. A portion of the project's proposed driveway and frontage that is not treated by the bioretention basin will be routed to a modular wetland system for treatment, then discharged to the San Diego River to join discharged flows from the bioretention basin. Based on the drainage study analysis, it's anticipated that the post-project peak flows from the 100-year, 6-hour storm event will increase in comparison to the pre-project peak flows. Although there's an increase in peak flows, it is anticipated that the increase of peak flows will not have adverse effects to the downstream drainage characteristics/system. Additionally, detention for this project is not provided or required as runoff is discharged directly to a segment of the San Diego River that's considered hydromodification exempt.

Describe proposed site drainage patterns:

Drainage patterns for the proposed condition will remain similar to the drainage patterns in the pre-project condition. In the post-project condition, there's DMA-1 (16.0AC) which drains a majority of the project to the bioretention basin located at the Southwest corner of the site, DMA-2 (0.2AC), which is a portion of the project's proposed driveway and frontage that's routed to a modular wetland system for treatment, SM-1 and SM-2 that are 0.4AC each along the eastern property frontage classified as self-mitigating, and DM-1 (0.4AC), which is a segment of the project's proposed driveway that is classified as de-minimis area. Runoff from the site all confluence at POC-1 in the San Diego River, which ultimately flows west and discharges to the Pacific Ocean.

Form I-3B Page 6 of 10, Form Template Date: August 31, 2015

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply):

- [X] On-site storm drain inlets
- [ ] Interior floor drains and elevator shaft sump pumps
- [ ] Interior parking garages
- [ ] Need for future indoor & structural pest control
- [ ] Landscape/Outdoor Pesticide Use
- [ ] Pools, spas, ponds, decorative fountains, and other water features
- [ ] Food service
- [X] Refuse areas
- [ ] Industrial processes
- [ ] Outdoor storage of equipment or materials
- [ ] Vehicle and Equipment Cleaning
- [ ] Vehicle/Equipment Repair and Maintenance
- [ ] Fuel Dispensing Areas
- [ ] Loading Docks
- [ ] Fire Sprinkler Test Water
- [ ] Miscellaneous Drain or Wash Water
- [X] Plazas, sidewalks, and parking lots

Description / Additional Information:

Identification and Narrative of Receiving Water and Pollutants of Concern

Runoff from the project site is collected by curb inlets and is conveyed via storm drain to a bioretention basin. The bioretention basin discharges directly to the San Diego River, which flows west and ultimately discharges to the Pacific Ocean.

List any 303(d) impaired water bodies within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
San Diego River	Indicator bacteria	Indicator bacteria
Forester Creek	Indicator bacteria	Indicator bacteria

Identification of Project Site Pollutants*

***Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)**

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6):

Pollutant	Not Applicable to the Project Site	Expected from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

☐ Yes, hydromodification management flow control structural BMPs required.

☒ No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

This project is considered to be hydromodification exempt as the project's flows will discharge directly to the San Diego River adjacent to the site.

Critical Coarse Sediment Yield Areas*
***This Section only required if hydromodification management requirements apply**

Based on the maps provided within the WMAA, do potential critical coarse sediment yield areas exist within the project drainage boundaries?

☐ Yes

☒ No, No critical coarse sediment yield areas to be protected based on WMAA maps

If yes, have any of the optional analyses presented in Section 6.2 of the BMP Design Manual been performed?

☐ 6.2.1 Verification of Geomorphic Landscape Units (GLUs) Onsite

☐ 6.2.2 Downstream Systems Sensitivity to Coarse Sediment

☐ 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite

☐ No optional analyses performed, the project will avoid critical coarse sediment yield areas identified based on WMAA maps

If optional analyses were performed, what is the final result?

☐ No critical coarse sediment yield areas to be protected based on verification of GLUs onsite

☐ Critical coarse sediment yield areas exist but additional analysis has determined that protection is not required. Documentation attached in Attachment 2.b of the SWQMP.

☐ Critical coarse sediment yield areas exist and require protection. The project will implement management measures described in Sections 6.2.4 and 6.2.5 as applicable, and the areas are identified on the SWQMP Exhibit.

Discussion / Additional Information:

Form I-3B Page 9 of 10, Form Template Date: August 31, 2015
Flow Control for Post-Project Runoff*   ***This Section only required if hydromodification management requirements apply**
List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.   There is 1 point of compliance (POC-1) that is located at the southwest corner of the property at the bioretention basin.
☒ No, the low flow threshold is 0.1Q2 (default low flow threshold)   ☐ Yes, the result is the low flow threshold is 0.1Q2   ☐ Yes, the result is the low flow threshold is 0.3Q2   ☐ Yes, the result is the low flow threshold is 0.5Q2   If a geomorphic assessment has been performed, provide title, date, and preparer: Discussion / Additional Information: (optional)

Form I-3B Page 10 of 10, Form Template Date: August 31, 2015
Other Site Requirements and Constraints
When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.
Optional Additional Information or Continuation of Previous Sections As Needed
This space provided for additional information or continuation of information from previous sections as needed. An existing 100-foot riparian buffer is located along the San Diego River edge, providing a 100-foot setback from the Riparian limit to the project's proposed improvements.

Source Control BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)	Form I-4 Model BMP Design Manual [August 31, 2015]

Project Identification

Project Name: Santee 3 Multifamily Housing

Permit Application Number: TM-2024-0001 & DR-2024-0001

Source Control BMPs

All development projects must implement source control BMPs SC-1 through SC-6 where applicable and feasible. See Chapter 4 and Appendix E of the Model BMP Design Manual for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the Model BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	☒ Yes	☐ No	☐ N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	☒ Yes	☐ No	☐ N/A
Discussion / justification if SC-2 not implemented:			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒ N/A
Discussion / justification if SC-3 not implemented: Not anticipated for site.			
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒ N/A
Discussion / justification if SC-4 not implemented: Not anticipated for site.			

Form I-4 Page 2 of 2, Form Template Date: August 31, 2015			
Source Control Requirement	**Applied?**		
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒ N/A
Discussion / justification if SC-5 not implemented: No designated trash storage areas proposed.			
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
☒ On-site storm drain inlets	☒ Yes	☐ No	☐ N/A
☐ Interior floor drains and elevator shaft sump pumps	☐ Yes	☐ No	☒ N/A
☐ Interior parking garages	☐ Yes	☐ No	☒ N/A
☒ Need for future indoor & structural pest control	☒ Yes	☐ No	☐ N/A
☒ Landscape/Outdoor Pesticide Use	☒ Yes	☐ No	☐ N/A
☐ Pools, spas, ponds, decorative fountains, and other water features	☐ Yes	☐ No	☒ N/A
☐ Food service	☐ Yes	☐ No	☒ N/A
☒ Refuse areas	☒ Yes	☐ No	☐ N/A
☐ Industrial processes	☐ Yes	☐ No	☒ N/A
☐ Outdoor storage of equipment or materials	☐ Yes	☐ No	☒ N/A
☐ Vehicle and Equipment Cleaning	☐ Yes	☐ No	☒ N/A
☐ Vehicle/Equipment Repair and Maintenance	☐ Yes	☐ No	☒ N/A
☐ Fuel Dispensing Areas	☐ Yes	☐ No	☒ N/A
☐ Loading Docks	☐ Yes	☐ No	☒ N/A
☒ Fire Sprinkler Test Water	☒ Yes	☐ No	☐ N/A
☐ Miscellaneous Drain or Wash Water	☐ Yes	☐ No	☒ N/A
☒ Plazas, sidewalks, and parking lots	☒ Yes	☐ No	☐ N/A

Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for all "No" answers shown above.

Site Design BMP Checklist for All Development Projects (Standard Projects and Priority Development Projects)	Form I-5 Model BMP Design Manual [August 31, 2015]

Project Identification

Project Name: Santee 3 Multifamily Housing

Permit Application Number: TM-2024-0001 & DR-2024-0001

Site Design BMPs

All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the Model BMP Design Manual for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the Model BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

Site Design Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-1 not implemented: There are no existing hydrologic feature on site.			
SD-2 Conserve Natural Areas, Soils, and Vegetation	☐ Yes	☒ No	☐ N/A
Discussion / justification if SD-2 not implemented: Site is intended to be a new residential development with parking and a residential street. Clearing of natural areas will be required but will be limited to only the proposed development area. An existing 100-foot riparian buffer is located along the San Diego River edge, providing a 100-foot setback from the Riparian limit to the project's proposed improvements.			
SD-3 Minimize Impervious Area	☒ Yes	☐ No	☐ N/A
Discussion / justification if SD-3 not implemented:			
SD-4 Minimize Soil Compaction	☒ Yes	☐ No	☐ N/A
Discussion / justification if SD-4 not implemented:			
SD-5 Impervious Area Dispersion	☒ Yes	☐ No	☐ N/A
Discussion / justification if SD-5 not implemented:			

Form I-5 Page 2 of 2, Form Template Date: August 31, 2015			
Site Design Requirement	**Applied?**		
SD-6 Runoff Collection	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-6 not implemented: Rain barrels or permeable pavements not proposed; therefore runoff collection is not applicable to project.			
SD-7 Landscaping with Native or Drought Tolerant Species	☒ Yes	☐ No	☐ N/A
Discussion / justification if SD-7 not implemented:			
SD-8 Harvesting and Using Precipitation	☐ Yes	☐ No	☒ N/A
Discussion / justification if SD-8 not implemented: Harvest and use is not feasible for project. Reference Worksheet B.3-1 (Form I-7) in Attachment 1c of this report for the Harvest and Use Feasibility Screening Checklist.			

Summary of PDP Structural BMPs	Form I-6 (PDPs) Model BMP Design Manual [August 31, 2015]
Project Identification	
Project Name: Santee 3 Multifamily Housing	
Permit Application Number: TM-2024-0001 & DR-2024-0001	
PDP Structural BMPs	
All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s). PDP structural BMPs must be verified by the local jurisdiction at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Section 1.12 of the BMP Design Manual). PDP structural BMPs must be maintained into perpetuity, and the local jurisdiction must confirm the maintenance (see Section 7 of the BMP Design Manual). Use this form to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).	
Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate. **The site contains one drainage management area (DMA-1) which includes entirety the proposed development. DMA-1 is 16.5 acres and requires pollutant control BMPs. DMA-1 drains to a bioretention basin located at the Southwest corner of the site, which provides pollutant control for the entirety of DMA-1. Runoff leaves the site from the bioretention basin and is discharged to the adjacent San Diego River.** (Continue on page 2 as necessary.)	

Form I-6 Page 1 of 4 (Copy as many as needed) , Form Template Date: August 31, 2015
Structural BMP Summary Information **(Copy this page as needed to provide information for each individual proposed structural BMP)**
Structural BMP ID No. 1
Construction Plan Sheet No.
Type of structural BMP: ☐ Retention by harvest and use (HU-1) ☐ Retention by infiltration basin (INF-1) ☒ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☐ Biofiltration (BF-1) ☐ Biofiltration with Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)
Purpose: ☒ Pollutant control only ☐ Hydromodification control only ☐ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms if required by the [City Engineer] (See Section 1.12 of the BMP Design Manual)	RICK Engineering Company Shavger Rekani PE (619) 291-0707
Who will be the final owner of this BMP?	HOA
Who will maintain this BMP into perpetuity?	HOA
What is the funding mechanism for maintenance?	HOA

Form I-6 Page 2 of 4 (Copy as many as needed) , Form Template Date: August 31, 2015	
Structural BMP Summary Information **(Copy this page as needed to provide information for each individual proposed structural BMP)**	
Structural BMP ID No. 2	
Construction Plan Sheet No.	
Type of structural BMP: ☐ Retention by harvest and use (HU-1) ☐ Retention by infiltration basin (INF-1) ☐ Retention by bioretention (INF-2) ☐ Retention by permeable pavement (INF-3) ☐ Partial retention by biofiltration with partial retention (PR-1) ☐ Biofiltration (BF-1) ☐ Biofiltration with Nutrient Sensitive Media Design (BF-2) ☒ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F ☐ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) ☐ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) ☐ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) ☐ Detention pond or vault for hydromodification management ☐ Other (describe in discussion section below)	
Purpose: ☒ Pollutant control only ☐ Hydromodification control only ☐ Combined pollutant control and hydromodification control ☐ Pre-treatment/forebay for another structural BMP ☐ Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms if required by the [City Engineer] (See Section 1.12 of the BMP Design Manual)	RICK Engineering Company Shavger Rekani PE (619) 291-0707
Who will be the final owner of this BMP?	HOA
Who will maintain this BMP into perpetuity?	HOA
What is the funding mechanism for maintenance?	HOA

ATTACHMENT 1
BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.

Indicate which Items are Included behind this cover sheet:

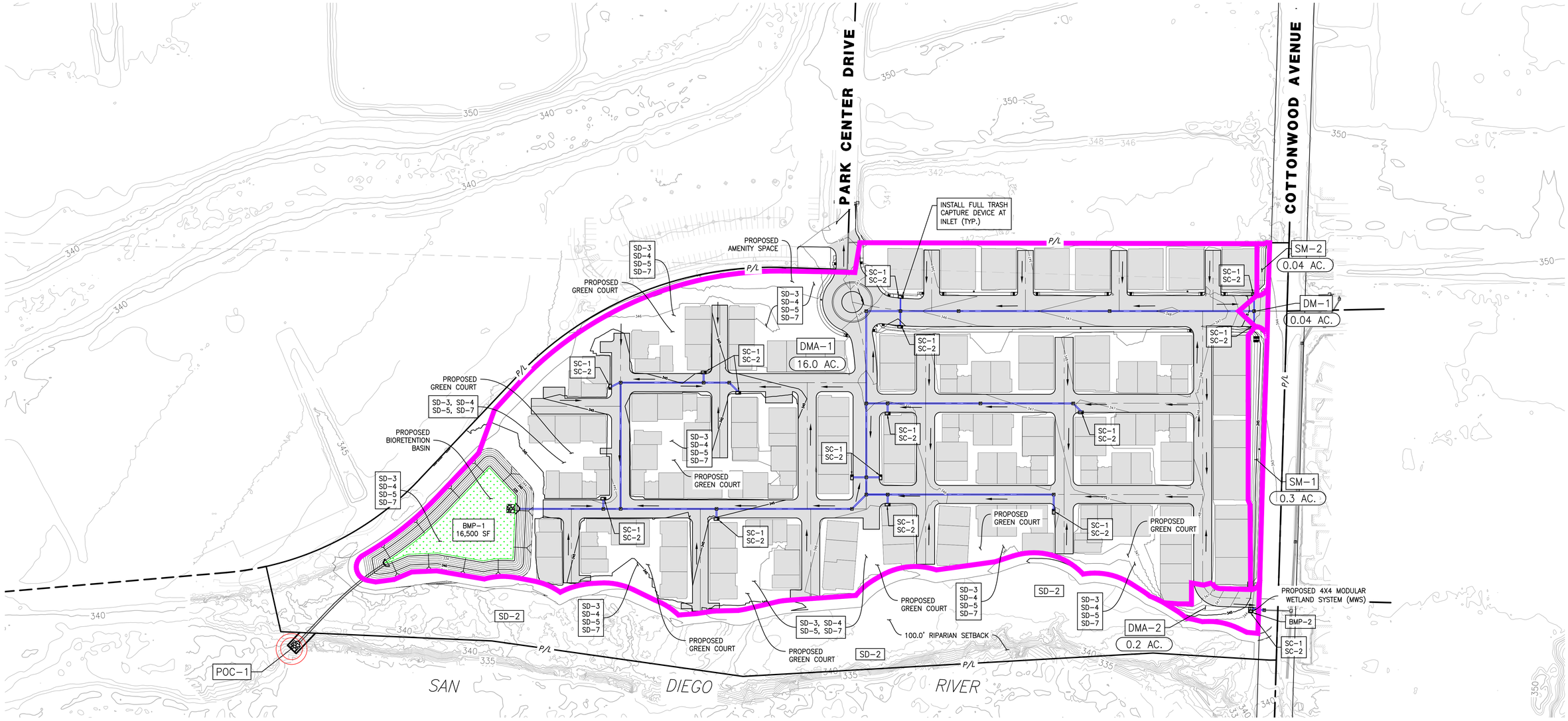
Attachment Sequence	Contents	Checklist
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this Attachment cover sheet.	☒ Included
Attachment 1b	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)* *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	☐ Included on DMA Exhibit in Attachment 1a ☒ Included as Attachment 1b, separate from DMA Exhibit
Attachment 1c	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs) Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	☒ Included ☐ Not included because the entire project will use infiltration BMPs
Attachment 1d	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	☒ Included ☐ Not included because the entire project will use harvest and use BMPs
Attachment 1e	Pollutant Control BMP Design Worksheets / Calculations (Required) Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines	☒ Included

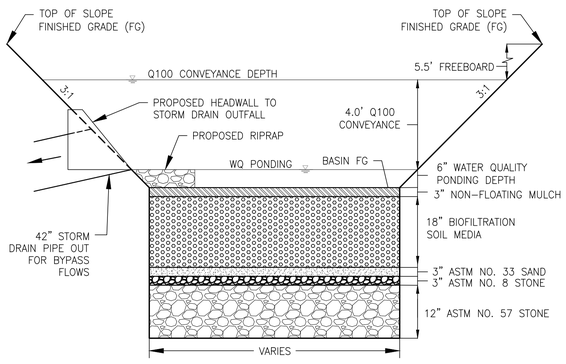
Use this checklist to ensure the required information has been included on the DMA Exhibit:

The DMA Exhibit must identify:

- [X] Underlying hydrologic soil group
- [X] Approximate depth to groundwater
- [X] Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- [X] Critical coarse sediment yield areas to be protected
- [X] Existing topography and impervious areas
- [X] Existing and proposed site drainage network and connections to drainage offsite
- [ ] Proposed demolition
- [X] Proposed grading
- [X] Proposed impervious features
- [X] Proposed design features and surface treatments used to minimize imperviousness
- [X] Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
- [X] Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Form I-3B)
- [X] Structural BMPs (identify location, type of BMP, and size/detail)

Attachment 1A





BIORETENTION BASIN CROSS-SECTION WITH 3:1 SIDE SLOPES

NTS

LEGEND

- PROPOSED INFILTRATION BASIN BMP LOCATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- BMP AREA CALLOUT — BMP-X X,XXX SF
- DRAINAGE MANAGEMENT BOUNDARY
- DMA ID — DMA-X
- DMA AREA — XX.X AC
- POINT OF COMPLIANCE LOCATION (POC)
- PROPOSED STORM DRAIN
- IMPERVIOUS AREA HATCH (476,192 SF)

476,192\720,727 = 66% IMPERVIOUS (70% ASSUMED)

SOURCE CONTROL BMP'S

PREVENTION OF ILLICIT DISCHARGES INTO THE MS4	SC-1
STORM DRAIN STENCILING / SIGNAGE	SC-2
ADDITIONAL BMP'S	SC-6
CONSERVE NATURAL AREAS, SOILS, AND VEGETATION	SD-2
MINIMIZE IMPERVIOUS AREA	SD-3
MINIMIZE SOIL COMPACTION	SD-4
IMPERVIOUS AREA DISPERSION	SD-5
LANDSCAPING WITH NATIVE / DROUGHT TOLERANT SPECIES	SD-7

N

80 40 0 80 160

GRAPHIC SCALE: 1"=80'

EXHIBIT NOTES:

1. SIZES OF THE POLLUTANT CONTROL BMPs SHOWN ON THIS EXHIBIT ADDRESS THE PERMANENT STORM WATER QUALITY REQUIREMENTS OF THE CITY OF SANTEE BMP DESIGN MANUAL DATED FEBRUARY 2016.
2. HYDROLOGIC SOIL GROUP TYPE "A" HAVE BEEN IDENTIFIED ON SITE.
3. NO CRITICAL COARSE SEDIMENT YIELD AREAS TO BE PROTECTED IN PROXIMITY TO PROJECT.
4. DEPTH TO GROUNDWATER WAS ENCOUNTERED AT DEPTHS OF 13 FEET BELOW THE GROUND SURFACE, PER THE PRELIMINARY GEOTECHNICAL INVESTIGATION PREPARED BY LEIGHTON AND ASSOCIATES, INC. DATED MAY 19, 2023.
5. 85TH PERCENTILE STORM EVENT = 0.50 IN.
6. THIS PROJECT IS CONSIDERED HMP EXEMPT AS IT DISCHARGES DIRECTLY INTO THE SAN DIEGO RIVER.
7. THE MODULAR WETLAND SYSTEM (MWS), BIORETENTION BASIN, AND TRASH CAPTURE DEVICES, ARE TO BE MAINTAINED BY THE HOA INTO PERPETUITY.

SHEET 1 OF 1

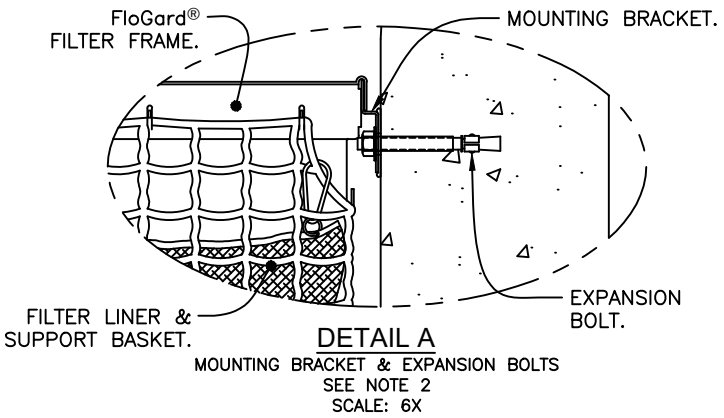
RICK
619-291-0707
rickengineering.com
5620 FRIARS ROAD
SAN DIEGO, CA 92110
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

DRAINAGE MANAGEMENT EXHIBIT
FOR
SANTEE 3 MULTIFAMILY HOUSING

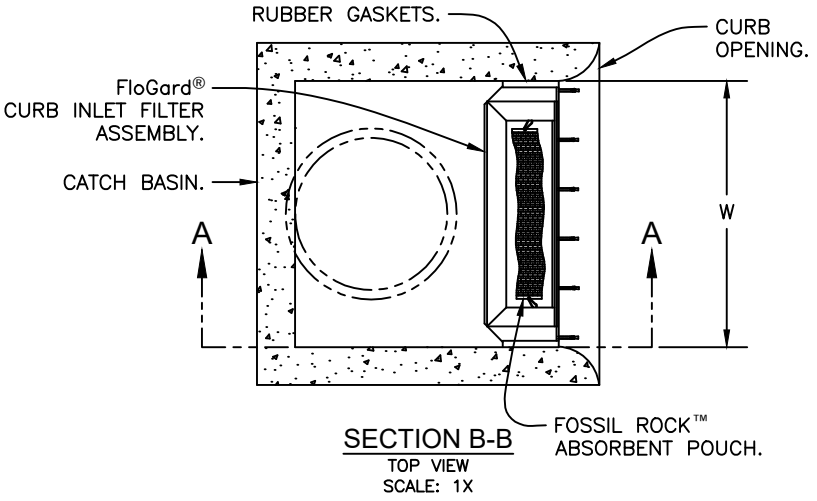
PROJECT NO:	19969	SCALE:	1"=80'
DRAWN BY:	EJS	DATE:	4/16/2025

C:\RICK Projects\C19500\19969_CityVentures\Santee\MultiFamily\WaterRes\19969_DMA_EXHIBIT.dwg - plotted by: jsantos ON: 2025-04-16 @ 12:55 - ctbrres_nrcs_v2.ctb - © 2025 Rick Engineering Company

FGP-0002

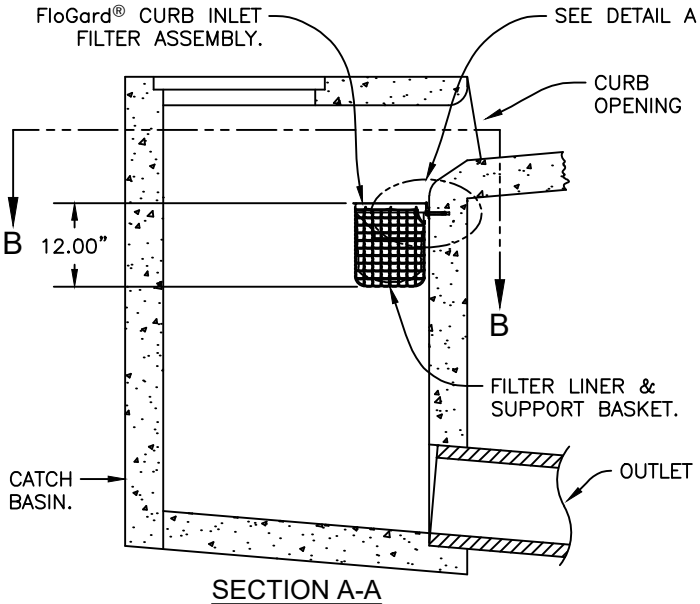


DETAIL A
MOUNTING BRACKET & EXPANSION BOLTS
SEE NOTE 2
SCALE: 6X



SECTION B-B
TOP VIEW
SCALE: 1X

SPECIFIER CHART				
MODEL NO.	Curb Opening Width - W -	Storage Capacity - Cu. Ft. -	Filtered Flow Rate - GPM/CFS -	Bypass Flow Rate - GPM/CFS -
FGP-24CI	2.0' (24")	.95	338 / .75	2,513 / 5.6
FGP-30CI	2.5' (30")	1.20	450 / 1.00	3,008 / 6.7
FGP-36CI	3.0' (36")	1.50	563 / 1.25	3,547 / 7.9
FGP-42CI	3.5' (42")	1.80	675 / 1.50	3,951 / 8.8
FGP-48CI	4.0' (48")	2.10	768 / 1.76	4,445 / 9.9
FGP-5.0CI	5.0' (60")	2.40	900 / 2.00	5,208 / 11.6
FGP-6.0CI	6.0' (72")	3.05	1,126 / 2.51	6,196 / 13.8
FGP-7.0CI	7.0' (84")	3.65	1,350 / 3.01	7,139 / 15.9
FGP-8.0CI	8.0' (96")	4.25	1,576 / 3.51	8,082 / 18.0
FGP-10.0CI	10.0' (120")	4.85	1,800 / 4.01	9,833 / 21.9
FGP-12.0CI	12.0' (144")	6.10	2,252 / 5.02	11,764 / 26.2
FGP-14.0CI	14.0' (168")	7.30	2,700 / 6.02	13,515 / 30.1
FGP-16.0CI	16.0' (192")	8.55	3.152 / 7.02	15,446 / 34.4
FGP-18.0CI	18.0' (216")	9.45	3,490 / 7.78	17,152 / 38.2
FGP-21.0CI	21.0' (252")	10.95	4,050 / 9.02	19,891 / 44.3
FGP-28.0CI	28.0 (336")	14.60	5,400 / 12.03	26,311 / 58.6



SECTION A-A
SIDE VIEW
SCALE: 1X

NOTES:

1. Certified as a Trash Capture Full Capture System by CAWRCB (10/13/22)
2. Filter insert shall have a high flow bypass feature.
3. Filter support frame shall be constructed from stainless steel Type 304.
4. Filter medium shall be *Fossil Rock*™, installed and maintained in accordance with manufacturer specifications.
5. Storage capacity reflects 80% of maximum solids collection prior to impeding filtering bypass.

Inlet Filtration

FloGard®+Plus®

Catch Basin Trash Screen Insert Filter, Curb (Combination) Inlet Style

Oldcastle Infrastructure™
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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DRAWING NO.	REV	ECO	DATE	
FGP-0002	G		PPS 5/26/23	SHEET 1 OF 1

Attachment 1B

SANTEE 3 MULTIFAMILY HOUSING
J-19969
4/16/2025

Water Quality - Mod Wetland - BMP Sizing Calculations

DMA/BMP Name	BMP Type	Drainage Management Area (acres)	Drainage Management Area (ft^2)	% Impervious	Impervious Area (ft^2)	Pervious Area (ft^2)	Runoff Factor for Impervious Area	Runoff Factor for Pervious Area	Effective Impervious Area (ft^2)	Runoff Factor	85th Percentile Storm Event (in)	Design Capture Volume (c.f.)	Biofiltration Area Provided (ft^2)	Biofiltration Area Required (ft^2)	DCV Multiplier	Volume Provided (ft^3)	Volume Required (ft^3)	Water Quality Intensity (in/hr)	Water Quality Flow Rate, Q (cfs)	Required Water Quality Flow Rate (cfs) 1.5*Q	Provided BMP Flow Rate (cfs)	MWS Model Name
DMA-1	Bioretention Basin	16.0	698192	70%	488734	209458	0.9	0.35	513,171	0.74	0.50	21,382	16,500	15,395	1.25	23,100	21,553	-	-	-	-	-
DMA-2	Biofiltration - Mod Wetlands	0.2	7605	90%	6845	761	0.9	0.35	6,426	0.85	0.50	268	-	193	1.25	-	-	0.2	0.030	0.044	0.052	MWS-L-4-4
SM-1	Self Mitigating Area	0.3	11263	0%	0	11263	0.9	0.35	3,942	0.35	0.50	164	-	-	1.25	-	-	-	-	-	-	-
SM-1	Self Mitigating Area	0.04	1709	0%	0	1709	0.9	0.35	598	0.35	0.50	25	-	-	1.25	-	-	-	-	-	-	-
DM-1	De minimis Area	0.04	1958	90%	1762	196	0.9	0.35	1,655	0.85	0.50	69	-	-	1.25	-	-	-	-	-	-	-

Notes:
1. The required and provided Water Quality volumes are based on the 2013 MS4 permit and the City of Santee BMP Design Manual
2. Runoff Factors for pervious and impervious areas were determined from Table 0-1: " Runoff Factors for Surfaces Draining to BMPs - Pollutant Control BMPs" from the City of Santee BMP Design Manual
3.The DCV multiplier was found using Section B.4.2 Percent Capture Method and Figure 0-1 Percent Capture Nomgraph from the City of Santee BMP Design Manual
4. A conservative assumption of 90% impervious has been used for calculations.

SPECIFICATIONS

FLOW-BASED

The MWS Linear can be used in stand-alone applications to meet treatment flow requirements. Since the MWS Linear is the only biofiltration system that can accept inflow pipes several feet below the surface, it can be used not only in decentralized design applications but also as a large central end-of-the-line application for maximum feasibility.

MODEL #	DIMENSIONS	WETLANDMEDIA SURFACE AREA (sq ft.)	TREATMENT FLOW RATE (cfs)
MWS-L-4-4	4' x 4'	23	0.052
MWS-L-4-6	4' x 6'	32	0.073
MWS-L-4-8	4' x 8'	50	0.115
MWS-L-4-13	4' x 13'	63	0.144
MWS-L-4-15	4' x 15'	76	0.175
MWS-L-4-17	4' x 17'	90	0.206
MWS-L-4-19	4' x 19'	103	0.237
MWS-L-4-21	4' x 21'	117	0.268
MWS-L-6-8	7' x 9'	64	0.147
MWS-L-8-8	8' x 8'	100	0.230
MWS-L-8-12	8' x 12'	151	0.346
MWS-L-8-16	8' x 16'	201	0.462
MWS-L-8-20	9' x 21'	252	0.577
MWS-L-8-24	9' x 25'	302	0.693

0.052 > 0.044 REQUIRED, THEREFORE OKAY

Attachment 1C

Worksheet 0-2. Harvest and Use Feasibility Screening

<table>
<tr><th colspan="2">Harvest and Use Feasibility Screening</th><th>Worsksheet B.3-1</th></tr>
<tr><td colspan="3">1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?
☒ Toilet and urinal flushing
☒ Landscape irrigation
☐ Other:_____</td></tr>
<tr><td colspan="3">2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2.
9.3 gal/person/day * 800 people = (7,440 gal/day) * 1.5 days = 11,160 gal
Moderate plant water use = 1,470 gal/acre * 16.5 acres = 24,255 gal
Total Demand = 11,160 gal + 24,255 gal = 35,415 gallons = 4,735 cubic feet</td></tr>
<tr><td colspan="3">3. Calculate the DCV using worksheet B-2.1.

DCV = 25,455 cubic feet</td></tr>
<tr><td>3a. Is the 36-hour demand greater than or equal to the DCV?
Yes / (No) ⇨
⇩</td><td>3b. Is the 36-hour demand greater than 0.25DCV but less than the full DCV?
Yes / (No) ⇨
⇩</td><td>3c. Is the 36-hour demand less than 0.25DCV?
(Yes)
⇩</td></tr>
<tr><td>Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.</td><td>Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.</td><td>Harvest and use is considered to be infeasible.
✓</td></tr>
</table>

Worksheet 0-1. DCV

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.50	inches
2	Area tributary to BMP (s)	A=	16.5	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.85	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	25,455	cubic-feet

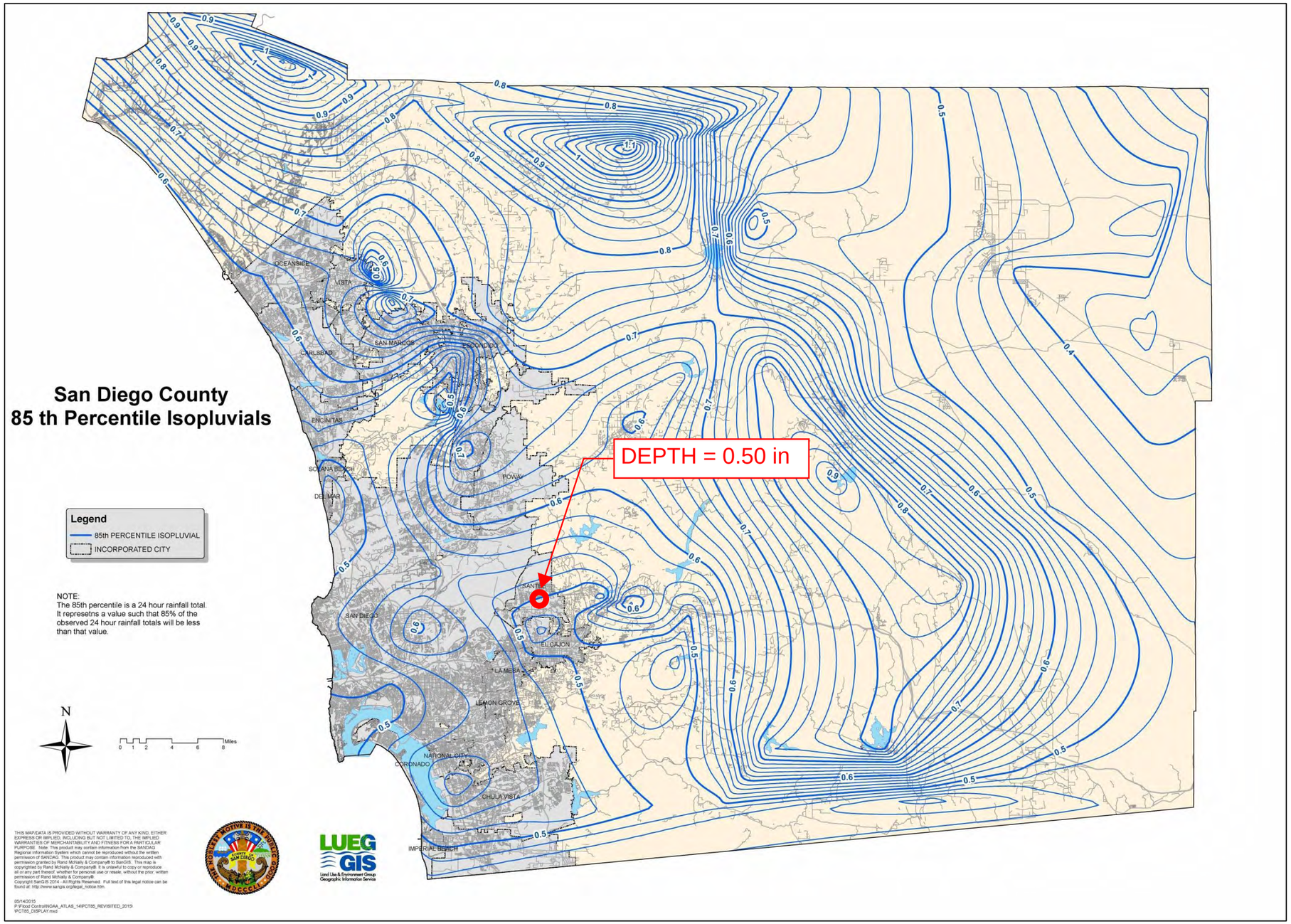

Figure 0-1: 85th Percentile 24-hour Isopluvial Map

Attachment 1D

Categorization of Infiltration Feasibility Condition	Form I-8

Part 1 - Full Infiltration Feasibility Screening Criteria

Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
1	**Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	✓	

Provide basis: Preliminary infiltration testing resulted in rates on the order of 12.3 - 15.6 in./hr.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

2	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	✓	

Provide basis: Based on a review of the architectural site plan, the proposed basin allows for safe infiltration from a geotechnical standpoint.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

Form I-8 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	✓	
Provide basis: Proposed WQMP system includes a bioretention basin, designed to mitigate potential pollutants prior to further infiltration. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	**Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	✓	
Provide basis: Based on the proposed site design, it is not anticipated that this project will not cause potential water balance issues. Per Preliminary Geotechnical Investigation for the Santee 3 Residential Development, published May 19, 2023 by Leighton and Associates, Inc., groundwater was not encountered for 13-feet below ground. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result *	If all answers to rows 1 - 4 are "**Yes**" a full infiltration design is potentially feasible. The feasibility screening category is **Full Infiltration** If any answer from row 1-4 is "**No**", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

Form I-8 Page 3 of 4

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
5	**Do soil and geologic conditions allow for infiltration in any appreciable rate or volume?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	✓	

Provide basis: Based on our recent investigation, the onsite soils consist of fine to medium grained sand, with tested infiltration rates of 12.3-15.6 in/hr

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

6	**Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	✓	

Provide basis: Based on a review of the architectural site plan, the proposed basin allows for safe infiltration from a geotechnical standpoint.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Form I-8 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	**Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	✓	

Provide basis: Proposed WQMP system includes a bio retention basin, designed to mitigate potential pollutants prior to further infiltration.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

8	**Can infiltration be allowed without violating downstream water rights**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	

Provide basis:

There are no known downstream water rights applicable to runoff from the project site.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is **Partial Infiltration.** If any answer from row 5-8 is no, then infiltration of any volume is considered to be **infeasible** within the drainage area. The feasibility screening category is **No Infiltration.**	

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

Factor of Safety and Design Infiltration Rate Worksheet					Form I-9
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
A	Suitability Assessment	Soil assessment methods	0.25	2	0.5
		Predominant soil texture	0.25	2	0.5
		Site soil variability	0.25	2	0.5
		Depth to groundwater / impervious layer	0.25	2	0.5
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			2.0
B	Design	Level of pretreatment/ expected sediment loads	0.5	3	1.5
		Redundancy/resiliency	0.25	3	0.75
		Compaction during construction	0.25	2	0.5
		Design Safety Factor, $S_B = \Sigma p$			2.75
Combined Safety Factor, $S_{total} = S_A \times S_B$					5.5
Observed Infiltration Rate, inch/hr, $K_{observed}$ (corrected for test-specific bias)					12.3
Design Infiltration Rate, in/hr, $K_{design} = K_{observed} / S_{total}$					2.24
Supporting Data					
Briefly describe infiltration test and provide reference to test forms: Preliminary infiltration of the basin utilizing borehole percolation method resulted in rates of 12.3-15.6 in./hr.					

Attachment 1E

Worksheet 0-1. DCV

Design Capture Volume		Worksheet B-2.1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.50	inches
2	Area tributary to BMP (s)	A=	16.5	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.85	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	25,455	cubic-feet

B.4.1 Simple Method

Stepwise Instructions:

1. Compute DCV using Worksheet B.4-1
2. Estimate design infiltration rate using Worksheet D.5-1
3. Design BMP(s) to ensure that the DCV is fully retained (i.e., no surface discharge during the design event) and the stored effective depth draws down in no longer than 36 hours.

Worksheet 0-1: Simple Sizing Method for Infiltration BMPs

Simple Sizing Method for Infiltration BMPs		Worksheet B.4-1		
1	DCV (Worksheet B-2.1)	DCV=	25,455	cubic-feet
2	Estimated design infiltration rate (Worksheet D.5-1)	K_{design}=	1.17	in/hr
3	Available BMP surface area	A_{BMP}=	21,092	sq-ft
4	Average effective depth in the BMP footprint (DCV/A_{BMP})	D_{avg}=	1.21	feet
5	Drawdown time, T (D_{avg} *12/K_{design})	T=	12.4	hours
6	Provide alternative calculation of drawdown time, if needed.			

Notes:

- Drawdown time must be less than 36 hours. This criterion was set to achieve average annual capture of 80% to account for back to back storms (See rationale in Section B.4.3). In order to use a different drawdown time, BMPs should be sized using the percent capture method (Section B.4.2).
- The average effective depth calculation should account for any aggregate/media in the BMP. For example, 4 feet of stone at a porosity of 0.4 would equate to 1.6 feet of effective depth.
- This method may overestimate drawdown time for BMPs that drain through both the bottom and walls of the system. BMP specific calculations of drawdown time may be provided that account for BMP-specific geometry.

PRELIMINARY GEOTECHNICAL INVESTIGATION
SANTEE 3 RESIDENTIAL DEVELOPMENT
APN 181-151-018
SANTEE, CALIFORNIA

Prepared For

SANTEE 3 INV, LLC
3121 MICHELSON DRIVE, SUITE 150
IRVINE, CALIFORNIA 92612

Prepared By

LEIGHTON AND ASSOCIATES, INC.
3934 MURPHY CANYON ROAD, SUITE B-205
SAN DIEGO, CALIFORNIA 92123

Project No. 11832.002

May 19, 2023

Leighton and Associates, Inc.
A Leighton Group Company

May 19, 2023

Project No. 11832.002

Santee 3 Inv, LLC
3121 Michelson Drive, Suite 150
Irvine, California 92612

Attention: Ms. Karen Alves

Subject: Preliminary Geotechnical Investigation
Santee 3 Development
APN: 181-051-018
Santee, California

In accordance with your request and authorization, we have conducted a preliminary geotechnical investigation of the property for the design and construction of the proposed residential development project. Based on the results of our study, it is our professional opinion that the site is suitable to receive the proposed improvements provided mitigation of the underlying liquefiable soils is implemented prior to construction. The accompanying report presents a summary of our investigation and provides geotechnical conclusions and recommendations relative to the proposed site development.

If you have any questions regarding our report, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,
LEIGHTON AND ASSOCIATES, INC.

CERTIFIED ENGINEERING GEOLOGIST · TODD C. SCHMITZ · No. 2510 · STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER · NICHOLAS JAMES TRACY · G-3058 · GEOTECHNICAL · STATE OF CALIFORNIA

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Distribution: Client via email

3.5.3 Soil Corrosivity

A preliminary corrosive soil screening for the on-site materials was completed to evaluate their potential effect on concrete and ferrous metals. The corrosion potential was evaluated using the results of laboratory testing on one representative soil sample obtained during our subsurface evaluation.

Laboratory testing was performed to evaluate pH, minimum electrical resistivity, and chloride and soluble sulfate content. The sample tested had maximum measured pH value of 7.1, and a measured minimum electrical resistivity of 12,100 ohm-cm. Test results also indicated that the sample had a chloride content of 10 parts per million (ppm), and a soluble sulfate content of less than 150 ppm.

3.5.4 Excavation Characteristics

The site is underlain by Young Alluvial Floodplain Deposits generally consisting of silty to clayey sands with gravel. With regards to the proposed project, it is anticipated these on-site soils can be excavated with conventional heavy-duty construction equipment. Oversize cobble material, if encountered, should be placed in non-structural areas or hauled off-site.

3.5.5 Infiltration

Field percolation tests were performed during our investigation in general accordance with the County of San Diego BMP Design Manual (2020). Based on our field percolation testing, the in-situ percolation rates and calculated infiltration rates at tested locations and depths are summarized in Table 2 below. It should be noted that we have used the following equation based upon the Porchet Method to convert measured percolation rates to infiltration rates in accordance with County of San Diego Standards. In addition, we have included a recommended infiltration rate with a minimum factor of safety of 2 for the preliminary design of potential infiltration systems:

$$I_t = \frac{\Delta H * 60 * r}{\Delta t(r+2H_{AVG})}$$

Where:

I_t = calculated infiltration rate, inches/hour
ΔH = change in head over the time interval, inches
Δt = time interval, minutes
r = radius of test hole
H_{AVG} = average head over the time interval, inches

The field percolation test locations are shown on the Geotechnical Map (Figur 2). Field data and measured percolation rates are presented in Appendix B.

Table 1. Percolation and Infiltration Rates

Test No.	Depth (ft)	Soil Type	Measured Percolation Rate (mins/in)	Calculated Infiltration Rate (inches/hr)	Recommended Infiltration Rate w/ FS of 2 (inches/hr)
P-1	3.0	SM	1.1	2.35	1.17
P-2	3.0	SM	0.95	3.04	1.52
P-3	3.0	SM	1.0	2.86	1.43

Based on the field percolation testing, the tested locations are categorized as “Partial Infiltration” conditions. Design of proposed infiltration basins should account for the shallow groundwater table which presents a potential for mounding and an appropriate factor of safety should be applied to the above infiltration rates to account for the vertical separation to the groundwater table. In addition, design of the basins should also consider the proximity of the San Diego River to ensure downstream water rights are not violated.

It is important to note that percolation rates are not equal to infiltration rates. As a result, we have made a distinction between percolation rates where water movement is considered laterally and vertically versus infiltration rates where only the vertical direction is considered. It should also be noted that the above percolation test results are representative of the tested locations and depths where they were performed, and that percolation test field measurements are accurate to 0.01 feet. Varying subsurface

conditions may exist outside of the test locations, which could alter the calculated percolation rate indicated below.

It is also possible that the long-term rate of transmissivity of permeable soil strata may be lower than the values obtained by testing. Infiltration may be influenced by a combination of factors including but not limited to a highly variable vertical permeability and limited lateral extent of permeable soil strata, a reduction of permeability rates over time due to silting of the soil pore spaces, and other unknown factors. Accordingly, the possibility of future surface ponding of water, as well as shallow groundwater impacts on subterranean structures such as basements and underground utilities should be anticipated as possible future conditions in all design aspects of the site.

Project: 11832.002	Eng/Geol: NJT/RNB
Scale: 1 " = 2,000 '	Date: April 2023

Reference: © 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus

Author: (mmurphy)

SITE LOCATION MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 1

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F01_SLM_2022-04-20.mxd on 4/20/2023 11:23:16 AM

Legend

CPT-13 — Approximate Location of Cone Penetrometer (CPT) (Leighton, This Study)

P-3 — Approximate Location of Percolation Test (Leighton, This Study)

CPT-7 — Approximate Location of Cone Penetrometer (CPT) (Leighton, 2017)

4-2 — Approximate Location of Boring (Law Crandall, 1999)

Approximate Site Boundary

Geologic Units

Qya — Quaternary-aged Young Allulvium

Park Center Dr

Cottonwood Ave

Chubb Ln

Qya

CPT-1 CPT-2 CPT-3 CPT-4 CPT-5 CPT-6 CPT-7 CPT-8 CPT-9 CPT-10 CPT-11 CPT-12 CPT-13

4-2 5-1

P-1 P-2 P-3

N

0 150 300

Feet

Project: 11832.002	Eng/Geol: NJT/TCS
Scale: 1 " = 150 '	Date: May 2023
Base Map: Google Earth, 2023.	
Author: (mmurphy)	

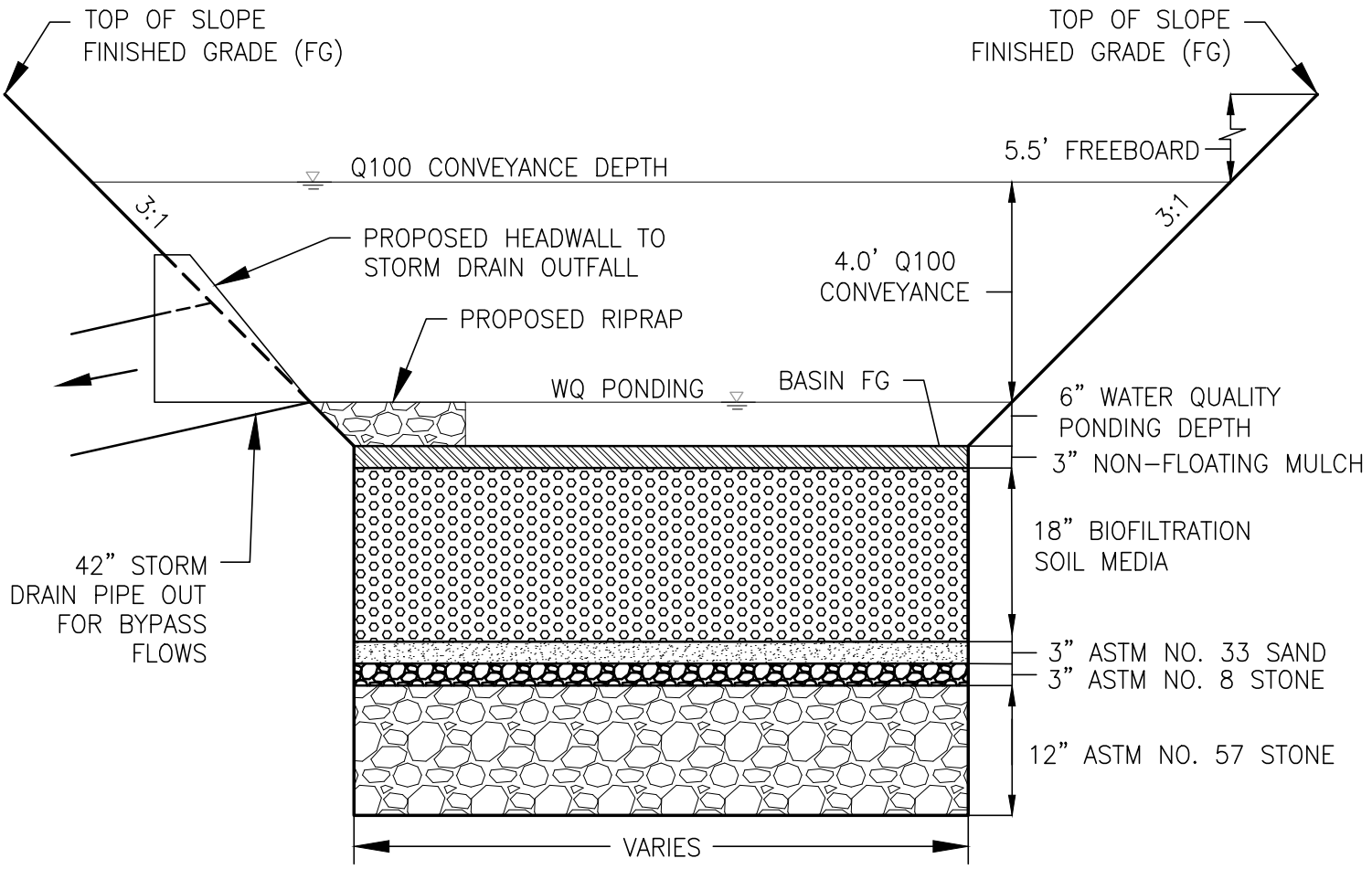
GEOTECHNICAL MAP

Santee 3 Multi-Family Development
Santee, California

FIGURE 2

Leighton

Map Saved as V:\Drafting\11832\002\Maps\11832-002_F02_GM_2022-04-20.mxd on 5/5/2023 9:19:10 AM



BIORETENTION BASIN CROSS-SECTION WITH 3:1 SIDE SLOPES

NTS

RICK

619-291-0707
rickengineering.com

5620 FRIARS ROAD
SAN DIEGO, CA 92110

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

SANTEE 3 MULTIFAMILY HOUSING

BIORETENTION BASIN (BMP-1) CROSS SECTION

PROJECT NO:	19969
DRAWN BY:	EJS
CHECKED BY:	EGH
SCALE:	NTS
DATE:	4/15/2025

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ATTACHMENT 2
BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

☒ Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	**Contents**	**Checklist**
Attachment 2a	Hydromodification Management Exhibit (Required)	☐ Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2b	Management of Critical Coarse Sediment Yield Areas (WMAA Exhibit is required, additional analyses are optional) See Section 6.2 of the BMP Design Manual.	☒ Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map (Required) Optional analyses for Critical Coarse Sediment Yield Area Determination ☐ 6.2.1 Verification of Geomorphic Landscape Units Onsite ☐ 6.2.2 Downstream Systems Sensitivity to Coarse Sediment ☐ 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite
Attachment 2c	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	☒ Not performed ☐ Included ☐ Submitted as separate stand-alone document
Attachment 2d	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the BMP Design Manual	☐ Included ☐ Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	☐ Included ☒ Not required because BMPs will drain in less than 96 hours

Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

The Hydromodification Management Exhibit must identify:

- ☐ Underlying hydrologic soil group
- ☐ Approximate depth to groundwater
- ☐ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- ☐ Critical coarse sediment yield areas to be protected
- ☐ Existing topography
- ☐ Existing and proposed site drainage network and connections to drainage offsite
- ☐ Proposed grading
- ☐ Proposed impervious features
- ☐ Proposed design features and surface treatments used to minimize imperviousness
- ☐ Point(s) of Compliance (POC) for Hydromodification Management
- ☐ Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- ☐ Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

Note: Please Reference Attachment 1A to find specified information.

NOT APPLICABLE. THIS PROJECT IS EXEMPT FROM HYDROMODIFICATION.

Attachment 2A

Reference Attachment 1A for HMP Specifications

Attachment 2B

C:\RICK\Projects\C19500\19969_CityVenturesSanteeMultiFamily\WaterRes\GIS\19969_CCSYA_Exhibit_portrait.mxd

RICK ENGINEERING COMPANY

Scale in Feet
0 300 600

North

Critical Coarse Sediment Yield Areas Exhibit

Santee 3 Multifamily Housing

Date of Exhibit: 1/18/2024
DigitalGlobe Aerial Image: See Lower Right of Image

Jn - 19969

Attachment 2D

ATTACHMENT 3
Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 3a	Structural BMP Maintenance Thresholds and Actions (Required)	☒ Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Draft Maintenance Agreement (when applicable)	☐ Included ☒ Not Applicable

Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

☒ **Preliminary Design / Planning / CEQA level submittal:**

Attachment 3a must identify:

- ☒ Typical maintenance indicators and actions for proposed structural BMP(s) based on Section 7.7 of the BMP Design Manual

Attachment 3b is not required for preliminary design / planning / CEQA level submittal.

☐ **Final Design level submittal:**

Attachment 3a must identify:

- ☐ Specific maintenance indicators and actions for proposed structural BMP(s). This shall be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
- ☐ How to access the structural BMP(s) to inspect and perform maintenance
- ☐ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- ☐ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- ☐ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- ☐ Recommended equipment to perform maintenance
- ☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

Attachment 3b: For private entity operation and maintenance, Attachment 3b shall include a draft maintenance agreement in the local jurisdiction's standard format (PDP applicant to contact the [City Engineer] to obtain the current maintenance agreement forms).

Attachment 3A

SITE DESIGN, SOURCE CONTROL AND POLLUTANT CONTROL BMP OPERATION & MAINTENANCE PROCEDURE DETAILS						
STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT APPROVAL NO.:						
O&M RESPONSIBLE PARTY DESIGNEE:						
BMP DESCRIPTION		**INSPECTION FREQUENCY**	**MAINTENANCE FREQUENCY**	**MAINTENANCE METHOD**	**INCLUDED IN O&M MANUAL**	**SHEET NUMBER(S)**
SITE DESIGN	LANDSCAPED AREAS	MONTHLY (NOTE: INSPECTOR SHALL CHECK FOR THE FOLLOWING MAINTENANCE INDICATORS: EROSION IN THE FORM OF RILLS OR GULLIES, PONDING WATER, BARE AREAS, BURROWS, MOUNDS, AND TRASH.)	1. AS DETERMINED BY INSPECTION; AND 2. ON OR BEFORE SEPTEMBER 30TH.	1. FILL AND COMPACT AREAS OF RUTS, RILLS, OR GULLIES; 2. RE-SEED AND/OR PLANT SLOPES AND AREAS OF EXPOSED SOILS; AND 3. ROUTINE MOWING AND TRIMMING AND TRASH REMOVAL.	YES	
	OUTLET PROTECTION	1. MONTHLY; 2. WITHIN 24 HOURS AFTER EACH "SIGNIFICANT RAIN EVENT" AND 3. WITHIN 24 HOURS FOLLOWING CONSTRUCTION IN IMMEDIATE AREA OF OUTLET PROTECTION	1. AS DETERMINED BY INSPECTION; 2. WHEN DISTURBED OR MISSING ROCKS (RIP RAP), OR SOIL EROSION BELOW AND/OR ADJACENT TO OUTLET PROTECTION ARE OBSERVED.	1. REMOVE TRASH, DEBRIS AND LEAVES. REPAIR ANY DAMAGE TO ROOF DRAINS; 2. IMMEDIATELY REPOSITION ALL DISPLACED ENERGY DISSIPATER; AND 3. IF SOIL EROSION IS FOUND, EXTEND ENERGY DISSIPATER (I.E. LANDSCAPE ROCKS AND/OR SPLASH PADS); REPOSITION OR INCREASE LIMITS OF ENERGY DISSIPATER TO COVER ERODED AREA.	YES	
	INTEGRATED PEST MANAGEMENT	MONTHLY (NOTE: INSPECTOR SHALL CHECK FOR INDICATIONS OF THE PRESENCE OF PESTS ON-SITE)	WHEN THE PEST OR PESTS, OBSERVED IN GREATEST ABUNDANCE OR CAUSE THE MOST OBSERVED SYMPTOMS, ARE IDENTIFIED.	CHECK FREQUENTLY FOR PESTS, AND TREAT WITH A PESTICIDE ONLY WHEN A PEST IS PRESENT, ETC.	YES	
	EFFECTIVE IRRIGATION SYSTEM	MONTHLY	WHEN BROKEN SPRINKLER HEADS, RAIN SHUTOFF DEVICES, AND FLOW REDUCERS ARE OBSERVED; OR RUNNING SPRINKLERS IN RAIN ARE OBSERVED	REPAIR OR REPLACE THE BROKEN AND/OR MALFUNCTIONING PARTS OF IRRIGATION SYSTEM.	YES	
SOURCE CONTROL	TRASH STORAGE AREAS	WEEKLY	1. AS DETERMINED BY INSPECTION; 2. STANDING WATER IN TRASH STORAGE AREA. 3. LOOSE TRASH OR DEBRIS. 4. LEAKED OR SPILLED MATERIALS. 5. COMPROMISED FENCE, SCREEN, GATE, WALL, BIN. LID OR ROOF AWNING (WHERE APPLICABLE). 6. CRACKED OR OTHERWISE COMPROMISED PAVING OR OTHER FLAWED FLOOR SURFACE (AS APPLICABLE).	1. IF STANDING WATER IS OBSERVED IN THE AREA, DETERMINE THE WATER SOURCE AND REMOVE THE SOURCE. ALLOW STANDING WATER TO EVAPORATE. IF WATER DOES NOT EVAPORATE IN 48 HOURS, REDISTRIBUTE THE WATER TO LANDSCAPED AREA(S). DO NOT DRAIN WATER TO STORM DRAIN SYSTEM; 2. REMOVE AND PROPERLY DISPOSE LOOSE TRASH, DEBRIS, AND LEAKED OR SPILLED MATERIALS. USE APPROPRIATE SPILL CLEANUP MATERIAL AS NECESSARY TO REMOVE ALL LEAKED AND SPILLED MATERIALS INCLUDING MATERIALS ADHERED TO PAVEMENT. IDENTIFY AND REMOVE OR REPAIR THE SOURCE OF ANY LEAKED OR SPILLED MATERIALS; AND 3. REPAIR THE FOLLOWING AS APPLICABLE: COMPROMISED FENCE, SCREEN, GATE, WALL, BIN, LID OR ROOF AWNING, CRACKED OR COMPROMISED PAVING OR OTHER FLOOR SURFACE.	YES	
	PREVENTIVE STENCILING AND SIGNAGE	ANNUALLY	WHEN FULLY OR PARTIALLY ERASED SIGNS ARE OBSERVED; WHEN DUMPING OF TRASH ARE OBSERVED AT PUBLIC ACCESS POINTS, BUILDING ENTRANCES, PUBLIC PARKS, ETC.	1. REPLACE OR REPAINT THE STENCILS AND SIGNAGE SO THAT THEY ARE LEGIBLE; AND 2. MAKE SURE THAT THEY ARE PLACED AT ALL REQUIRED LOCATIONS (I.E.- ALL INLETS).	YES	
STRUCTURAL BMP	BIORETENTION BASIN (BMP-1)	1. TWICE A YEAR (ON OR BEFORE SEPTEMBER 15TH AND FOLLOWING THE RAINY SEASON AFTER MAY 1ST); AND 2. AFTER EACH "SIGNIFICANT RAIN EVENT" (NOTE: INSPECTOR SHALL CHECK FOR THE FOLLOWING MAINTENANCE INIDICATORS: EROSION IN THE FORM OF RILLS OR GULLIES, PONDING WATER, BARE AREAS, DEAD VEGETATION, ANIMAL BURROWS, HOLES, MOUNDS, AND TRASH)	1. AS DETERMINED BY INSPECTION; AND 2. ON OR BEFORE SEPTEMBER 30TH AND FOLLOWING THE RAINY SEASON AFTER MAY 1ST; AND 3. AFTER EACH "SIGNIFICANT RAIN EVENT"[2]	1. REPLACE MULCH IN AREAS OF RUTS, RILLS, OR GULLIES; 2. RE-SEED AND/OR PLANT SLOPES AND AREAS OF EXPOSED SOILS; 3. ROUTINE MAINTENANCE TO REMOVE ACCUMULATED MATERIALS SUCH AS TRASH AND DEBRIS; 4. THE RISER STRUCTURE SHOULD BE MAINTAINED TO AVOID CLOGGING AND ANY LEAKAGE THROUGH BOLTHOLES.	YES	
	MODULAR WETLAND SYSTEM (BMP-2)	1. MINIMUM TWICE A YEAR (ON OR BEFORE SEPTEMBER 15TH AND FOLLOWING THE RAINY SEASON AFTER MAY 1ST); AND 2. AFTER EACH "SIGNIFICANT RAIN EVENT"	AS NEEDED BASED ON INSPECTION FINDINGS	1. ROUTINE MAINTENANCE TO REMOVE THE ACCUMULATED MATERIALS IN THE SCREENING FILTER, SEPARATION CHAMBER, AND PERIMETER FILTER (BIOMEDIA GREEN) AND REPLACE FILTER MEDIA PERFORMED BY A QUALIFIED SERVICE PROVIDER PER MANUFACTUER'S GUIDELINES AND CONDITIONS DEFINED IN THE WASHINGTON ECOLOGY T.A.P.E. CERTIFICATION. 2. IF INSPECTION INDICATES INTERNAL COMPONENTS ARE DAMAGED, ADDITIONAL NON-ROUTINE MAINTENANCE WILL BE REQUIRED TO REPAIR OR REPLACE DAMAGED PARTS AS APPLICABLE.	YES	
	CURB INLET TRASH INSERT (TRASH CAPTURE DEVICE)	1. IMMEADIATELY FOLLOWING CONSTRUCTION 2. INSPECT MONTHLY. IF CATCH BASIN IS MORE THAN 25% FULL OR MORE IN ONE MONTH, INCREASE INSPECTION FREQUENCY TO MONTHLY PLUS AFTER EVERY 0.1-INCH OR LARGER STORM EVENT.	1. AS DETERMINED BY INSPECTION	1. REMOVE TRASH AND DEBRIS BY HAND OR USE A STANDARD VACUUM TRUCK.	YES	

NOTES:

1. REFER TO THE "PRIORITY DEVELOPMENT PROJECT (PDP) STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) SANTEE 3 MULTIFAMILY HOUSING", DATED FEBRUARY 22, 2024 OR ANY REVISIONS THEREOF FOR MORE SPECIFIC INFORMATION.

2. A SIGNIFICANT RAIN EVENT CONSIDERED WHENEVER THE NATIONAL WEATHER SERVICE REPORTS 0.50" OF RAIN IN 48 HOURS FOR THE LOCAL COMMUNITY.

3. DURING THE FIRST YEAR OF NORMAL OPERATION, ALL BMPS SHOULD BE INSPECTED ONCE BEFORE AUGUST 31 AND THEN MONTHLY FROM SEPTEMBER THROUGH MAY. THE MINIMUM INSPECTION AND MAINTENANCE FREQUENCY SHOULD BE DETERMINED BASED ON THE RESULTS OF THE FIRST YEAR INSPECTIONS.

INF-2
Bioretention

BMP MAINTENANCE FACT SHEET
FOR
STRUCTURAL BMP INF-2 BIORETENTION

Bioretention (bioretention without underdrain) facilities are vegetated surface water systems that filter water through vegetation and soil, or engineered media prior to infiltrating into native soils. Bioretention facilities are designed to infiltrate the full design capture volume (DCV) into native soils. They have no underdrain, and no impermeable liner. Typical bioretention components include:

- Inflow distribution mechanisms (e.g., perimeter flow spreader or filter strips)
- Energy dissipation mechanism for concentrated inflows (e.g., splash blocks or riprap)
- Shallow surface ponding for captured flows
- Side slope and basin bottom vegetation selected based on climate and ponding depth
- Non-floating mulch layer
- Media layer (planting mix or engineered media) capable of supporting vegetation growth
- Filter course layer consisting of aggregate to prevent the migration of fines into uncompacted native soils or the optional aggregate storage layer
- Optional aggregate storage layer for additional infiltration storage
- Uncompacted native soils at the bottom of the facility
- Overflow structure

Normal Expected Maintenance

Bioretention requires routine maintenance to: remove accumulated materials such as sediment, trash or debris; maintain vegetation health; maintain infiltration capacity of the media layer; replenish mulch; and maintain integrity of side slopes, inlets, energy dissipators, and outlets. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

Non-Standard Maintenance or BMP Failure

If any of the following scenarios are observed, the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance, increased inspection and maintenance, BMP replacement, or a different BMP type will be required.

- The BMP is not drained between storm events. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underlying native soils, or outlet structure. The specific cause of the drainage issue must be determined and corrected. If it is determined that the underlying native soils have been compacted or do not have the infiltration capacity expected, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.
- Sediment, trash, or debris accumulation greater than 25% of the surface ponding volume within one month. This means the load from the tributary drainage area is too high, reducing BMP function or clogging the BMP. This would require pretreatment measures within the tributary area draining to the BMP to intercept the materials. Pretreatment components, especially for sediment, will extend the life of components that are more expensive to replace such as media, filter course, and aggregate layers.

- Erosion due to concentrated storm water runoff flow that is not readily corrected by adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.

Other Special Considerations

Bioretention is a vegetated structural BMP. Vegetated structural BMPs that are constructed in the vicinity of, or connected to, an existing jurisdictional water or wetland could inadvertently result in creation of expanded waters or wetlands. As such, vegetated structural BMPs have the potential to come under the jurisdiction of the United States Army Corps of Engineers, SDRWQCB, California Department of Fish and Wildlife, or the United States Fish and Wildlife Service. This could result in the need for specific resource agency permits and costly mitigation to perform maintenance of the structural BMP. Along with proper placement of a structural BMP, **routine maintenance is key to preventing this scenario**.

INF-2
Bioretention

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR INF-2 BIORETENTION		
The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district. Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation or compaction of the media layer.	• Inspect monthly. If the BMP is 25% full* or more in one month, increase inspection frequency to monthly plus after every 0.1-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Obstructed inlet or outlet structure	Clear blockage.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable.	• Inspect annually. • Maintenance when needed.
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Dead or diseased vegetation	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Overgrown vegetation	Mow or trim as appropriate.	• Inspect monthly. • Maintenance when needed.
2/3 of mulch has decomposed, or mulch has been removed	Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches.	• Inspect monthly. • Replenish mulch annually, or more frequently when needed based on inspection.

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR INF-2 BIORETENTION (Continued from previous page)		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.	• Inspect monthly. • Maintenance when needed.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.	• Inspect after every 0.5-inch or larger storm event. If erosion due to storm water flow has been observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.
Standing water in BMP for longer than 24 hours following a storm event Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, or repairing/replacing clogged or compacted soils. If it is determined that the underlying native soils have been compacted or do not have the infiltration capacity expected, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria because the underlying native soils have been compacted or do not have the infiltration capacity expected, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.

References

American Mosquito Control Association.
http://www.mosquito.org/

California Storm Water Quality Association (CASQA). 2003. Municipal BMP Handbook.
https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook

County of San Diego. 2014. Low Impact Development Handbook.
http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html

San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet INF-2.
http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220

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INF-2
Bioretention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:	Responsible Party Name and Phone Number:	
Property Address of BMP:	Responsible Party Address:	

INSPECTION AND MAINTENANCE CHECKLIST FOR INF-2 BIORETENTION PAGE 1 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Accumulation of sediment, litter, or debris Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove and properly dispose of accumulated materials, without damage to the vegetation ☐ If sediment, litter, or debris accumulation exceeds 25% of the surface ponding volume within one month (25% full*), add a forebay or other pre-treatment measures within the tributary area draining to the BMP to intercept the materials. ☐ Other / Comments:		
Poor vegetation establishment Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR INF-2 BIORETENTION PAGE 2 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Dead or diseased vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		
Overgrown vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Mow or trim as appropriate ☐ Other / Comments:		
2/3 of mulch has decomposed, or mulch has been removed Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches ☐ Other / Comments:		

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR INF-2 BIORETENTION PAGE 3 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Erosion due to concentrated irrigation flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas and adjust the irrigation system ☐ Other / Comments:		
Erosion due to concentrated storm water runoff flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan ☐ If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction ☐ Other / Comments:		

INF-2
Bioretention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR INF-2 BIORETENTION PAGE 4 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Obstructed inlet or outlet structure Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Damage to structural components such as weirs, inlet or outlet structures Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair or replace as applicable ☐ Other / Comments:		

INF-2
Bioretention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

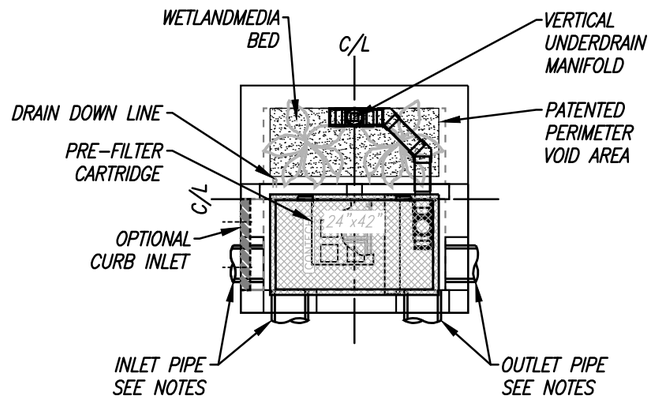
INSPECTION AND MAINTENANCE CHECKLIST FOR INF-2 BIORETENTION PAGE 5 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Standing water in BMP for longer than 24 hours following a storm event* Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, or repairing/replacing clogged or compacted soils. ☐ Other / Comments:		
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Apply corrective measures to remove standing water in BMP when standing water occurs for longer than 24-96 hours following a storm event.** ☐ Other / Comments:		

*Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected. If it is determined that the underlying native soils have been compacted or do not have the infiltration capacity expected, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.

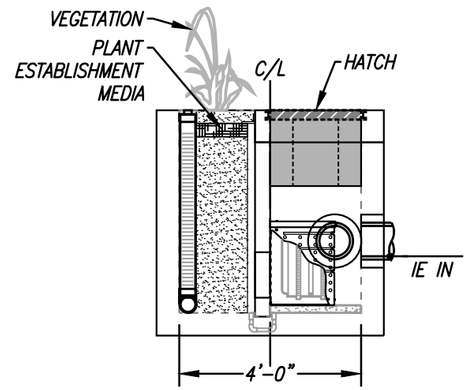
**If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria because the underlying native soils have been compacted or do not have the infiltration capacity expected, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.

SITE SPECIFIC DATA			
PROJECT NUMBER			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
TREATMENT FLOW (CFS)			
PRETREATMENT LOADING RATE (GPM/SF)			2.1 GPM/SF
WETLAND MEDIA LOADING RATE (GPM/SF)			1.0
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			_____ (CFS)
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PEDESTRIAN		
NOTES:			

* PRELIMINARY ONLY - NOT FOR CONSTRUCTION



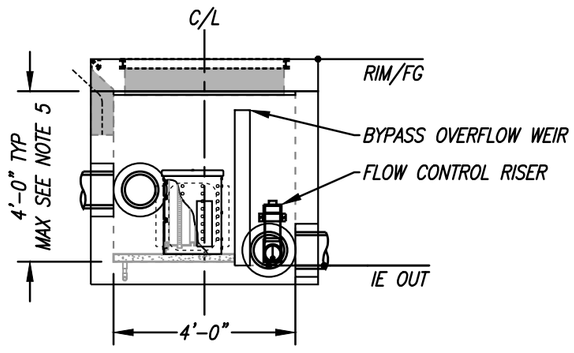
PLAN VIEW



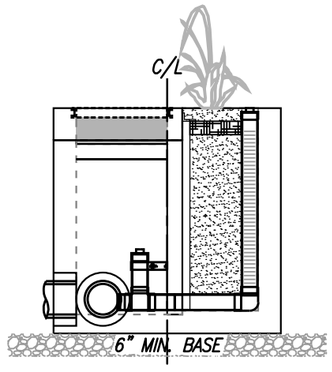
LEFT END VIEW

INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
3. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
4. CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.
5. VERTICAL HEIGHT VARIES BASED ON SITE SPECIFIC REQUIREMENTS.



ELEVATION VIEW



RIGHT END VIEW

MODULAR WETLANDS
FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

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www.ContechES.com

MWS-L-4-4-V
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

ATTACHMENT 4
Copy of Plan Sheets Showing Permanent Storm Water BMPs

This is the cover sheet for Attachment 4.

Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

☒ Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs

☒ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit

☒ Details and specifications for construction of structural BMP(s)

☒ Signage indicating the location and boundary of structural BMP(s) as required by the [City Engineer]

☐ How to access the structural BMP(s) to inspect and perform maintenance

☒ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)

☒ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable

☒ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)

☐ Recommended equipment to perform maintenance

☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

☒ Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)

☒ All BMPs must be fully dimensioned on the plans

☒ When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number shall be provided. Photocopies of general brochures are not acceptable.

Attachment 4

Appendix E-3

Drainage Study for Santee 3 Multifamily Housing
Preliminary Engineering

Drainage Study
For
Santee 3 Multifamily Housing
Preliminary Engineering

RICK Job No.19969

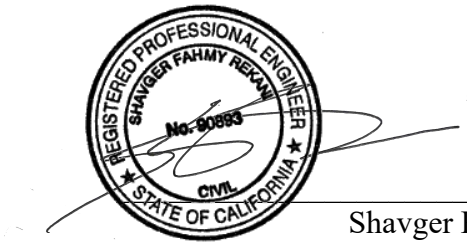
February 2, 2024
Revised January 10, 2025
Revised April 16, 2025

RICK

DRAINAGE STUDY
FOR
SANTEE 3 MULTIFAMILY HOUSING

Preliminary Engineering

Job Number 19969



Shavger Rekani, PE
PE #90893, Exp. 03/26

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February 2, 2024
Revised January 10, 2025
Revised April 16, 2025

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Appendix B: Modified Rational Method Output [Post-project]
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Appendix D: Inlet Sizing & Emergency Overflow Calculations
Appendix E: Storm Drain Sizing Calculations

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Map Pocket 1: Drainage Study Map for Santee 3 Multifamily Housing [Pre-Project]
Map Pocket 2: Drainage Study Map for Santee 3 Multifamily Housing [Post-Project]

DRAINAGE STUDY FOR
SANTEE 3 MULTIFAMILY HOUSING

Revision Page

April 16, 2025

This Drainage Study presents a revision to the January 10, 2025 report pursuant to the City of Santee plan check comments received March 18, 2025. The following text identifies the plan check comments along with the responses in bold.

Engineering Comments – Claire Singh (Dated 1/17/2025)

8. Provide a preliminary drainage study prepared by a registered Civil Engineer, with demonstrated expertise in drainage analysis and experience in fluvial geomorphology and water resources management. Storm drainage shall be designed to adequately convey storm water runoff without damage or flooding of surrounding properties or degradation of water quality.

Noted; drainage study has been included in submittal.

8a. The drainage study shall identify and calculate storm water runoff quantities expected from the site and upstream of the site and verify the adequacy of all on-site or off-site facilities necessary to discharge this runoff. The drainage system design shall be capable of collecting and conveying all surface water originating within the site, and surface water that may flow onto the site from upstream lands, and shall be in accordance with the latest adopted Master Drainage Plan, the requirements of the City of Santee Public Works Standards, including analysis of the 10-year, 50-year and 100-year frequency storms, and be based on full development of upstream areas.

Noted; drainage study has been included in submittal. Analysis of the 10-year, 50-year, and 100-year storm events are included in report.

8b. The drainage study shall identify and calculate storm water runoff quantities expected from the site and upstream of the site and verify the adequacy of all on-site or off-site facilities necessary to discharge this runoff. The drainage system design shall be capable of collecting and conveying all surface water originating within the site, and surface water that may flow onto the site from upstream lands, and shall be in accordance with the latest adopted Master Drainage Plan, the requirements of the City of Santee Public Works Standards, including analysis of the 10-year, 50-year and 100-year frequency storms, and be based on full development of upstream areas.

Noted; drainage study has been included in submittal. Analysis of the 10-year, 50-year, and 100-year storm events are included in report.

8c. Provided detailed information regarding the draw down time of the proposed basin.

Draw down calculations will be provided during final engineering.

City of Santee Stormwater Comments – Claire Singh (Dated 2/24/2025)

1. The grading plans, drainage study, and Storm Water Quality Management Plan (SWQMP) depict a bioretention basin that features a headwall as its overflow structure. Please redesign the basin's overflow structure to match the standard shown on the City of Santee's BMP Design Manual (e.g. swap it for a grated outflow structure).

A headwall structure is used as the overflow structure of the basin to avoid the potential of clogging. The headwall will be designed to meet the City of Santee criterion and follow the San Diego County Regional Standard Drawings.

Drainage Study Redline Comments – Claire Singh (Dated 2/24/2025)

1. (Page 2) Signature required.

Signatures and added to drainage study.

2. (Page 5) Demonstrate how the river outfall pipe will not back up into the development during the 100-year flood rates in the river.

The revised 100-year flood plain will be below the intended building pad elevations. Refer to the provided civil plans.

3. (Page 9) Analyze the river's 100-year peak flow to demonstrate adequate sizing of the river outfall.

The basin storm drain/outfall has been sized adequately to convey the undetained Q100 from the proposed project site. It's not needed to size the storm drain/outfall for the river's 100-year peak flow as it's not intended to convey the river's flow.

4. (Page 53) Is this the correct project?

Table has been updated accordingly to name the correct project name.

Drainage Study Redline Comments – Emily Stein (Dated 2/24/2025)

1. (Basin Cross Section) Please replace with a grated outflow structure to align with the standard depicted in the City of Santee's BMP Design Manual.

A headwall structure is used as the overflow structure of the basin to avoid the potential of clogging. The headwall will be designed to meet the City of Santee criterion and follow the San Diego County Regional Standard Drawings.

2. (Basin Cross Section) Doesn't exactly match what's in the grading plans.

Cross-section has been updated accordingly to match civil plans.

1.0 INTRODUCTION

1.1 Project Description

This drainage study presents the hydrologic and hydraulic analyses for the proposed Santee 3 Multifamily Housing Project (herein referred to as the "project"). The project is located within the City of Santee, adjacent to the intersection of Cottonwood Avenue and Park Center Drive, and neighboring the San Diego River (See Figure 1, Vicinity Map). The proposed project is a new development project that proposes the construction of multifamily dwellings with amenities and park space, and residential streets for access. The site is approximately 18.1 acres and is currently undeveloped open space with a few trees and shrubs that exist onsite.

1.2 Drainage Characteristics

Pre-Project Condition

The pre-project site drains generally southwest to a single point of compliance (POC). The POC is located at the southwestern corner of the property, at the edge of the San Diego River. After leaving the project site, runoff from Basin 100 drains into the San Diego River, which ultimately flows west and discharges to the Pacific Ocean.

Post-Project Condition

Drainage patterns for the proposed condition will remain similar to drainage patterns in the pre-project condition. In the post-project condition, the project area is all contained in one drainage area. An existing 100-foot riparian buffer located along the San Diego River edge provides a 100-foot setback from the riparian limit to the project's proposed improvements. The project's drainage area confluences downstream at the POC, located at the proposed basin at the southwest corner of the site. Onsite flows are conveyed in the southwest direction flowing along the proposed road which are then collected by proposed curb inlets and grate inlets. The proposed inlets convey flows through the conveyance system to the POC located downstream of the proposed basin location. A portion of the proposed driveway and project frontage that isn't treated by the basin is directed to a modular wetland system for treatment, which then discharges to San Diego River and confluences at the POC. Discharge from the POC are joined with flows from the San Diego River which ultimately flows west and discharges to the Pacific Ocean. It is anticipated that peak flows

from a 100-year, 6-hour storm event on the post-project site will be higher than peak flows from the pre-project site, but due to the project discharging directly into the San Diego River, the project is HMP exempt, and detention is not required. A preliminary hydraulic study of the site was conducted to ensure no existing structures or land will become at greater risk of flooding due to the proposed development. Proposed building pad elevations are set higher than the 100-year flood plain elevations to mitigate the risks of flooding. For additional details, reference the *Preliminary Hydraulic Study for Santee 3 Multifamily Housing* prepared by RICK on February 20, 2024, or any date thereafter.

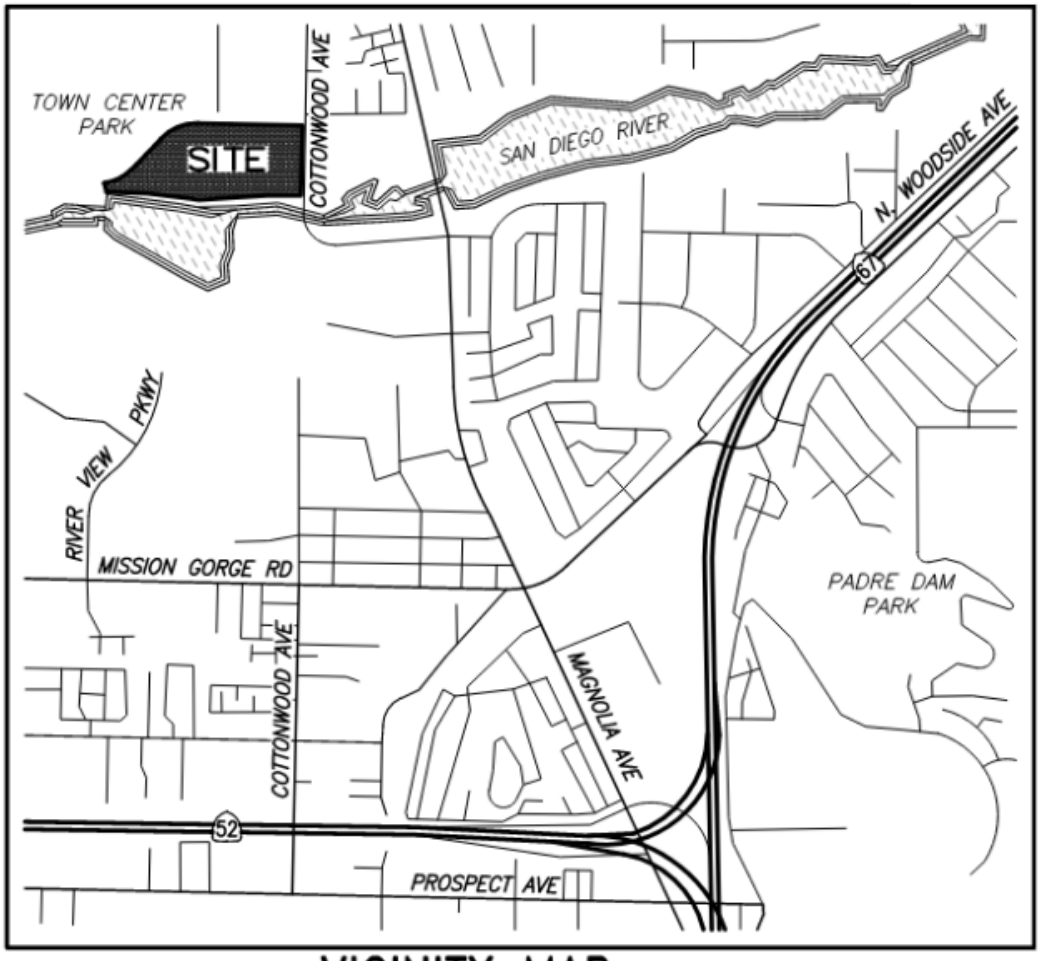
1.3 Hydrology, Hydraulics, and Detention

Hydrology, hydraulics, and detention are discussed in Sections 2.0, 3.0, and 4.0 respectively of this report.

1.4 Water Quality

Post-project storm water runoff will be managed via water quality basin and modular wetland system, designed pursuant to the guidelines from the City of Santee BMP Design Manual, dated February 2016. The PDP SWQMP specific to the Santee 3 Multifamily Housing project is dated February 2, 2024 (or any revision made thereafter) and prepared by RICK Engineering Company.

Figure 1: Vicinity Map



VICINITY MAP

NTS

2.0 HYDROLOGY

The hydrologic conditions were analyzed in accordance with the June 2003 San Diego County *Hydrology Manual*.

2.1 Methodology

To determine the peak flows at the point of compliance (POC) identified on the provided drainage study exhibits, Advance Engineering Software (AES) 2014 Rational Method computer software version 21.0 was used. The hydrologic model was developed by first dividing each major drainage basin into several subareas. The delineation of each subarea was determined so that area within each subarea is comprised of similar hydrologic features, including topography, land use, and storm drain conveyance system (e.g., urban open channel, pipe, natural open channel, etc.). Nodes were identified at the upstream and downstream extents of each subarea, and subarea hydrologic data was determined, such as the land use(s) and drainage facility geometry, elevations, and lengths. Hydrologic backup information is included in Appendix C and AES output is provided in Appendix A and B for pre and post-project conditions respectively.

Next, the hydrologic data describing each subarea were incorporated into the AES software in order to create a node-link model for each watershed. For each subarea the AES software performs calculations for the specific hydrologic process occurring in the subarea. There are 15 different hydrologic processes programmed into the software, and each process is assigned a code number that is presented on the model results. The AES Rational Method computer software hydrologic processes code numbers are described in Table 1.

Table 1: Subarea Hydrologic Processes (Codes)

Code	Subarea Type
Code 1	Confluence analysis at a node
Code 2	Initial subarea analysis
Code 3	Pipe flow travel time (computer-estimated pipe sizes)
Code 4	Pipe flow travel time (user-specified pipe size)
Code 5	Trapezoidal channel travel time
Code 6	Street flow analysis through a subarea
Code 7	User-specified information at a node
Code 8	Addition of the subarea runoff to mainline

Table 1: Subarea Hydrologic Processes (Codes)

Code	Subarea Type
Code 9	V-Gutter flow through subarea
Code 10	Copy mainstream data onto a memory bank
Code 11	Confluence a memory bank with the mainstream memory
Code 12	Clear a memory bank
Code 13	Clear the mainstream memory
Code 14	Copy a memory bank onto the mainstream memory
Code 15	Hydrologic data bank storage functions

The hydrologic conditions were analyzed in accordance with the County of San Diego's design criteria as follows:

San Diego County Hydrology Manual, June 2003:

Design Storm:	100-year. 6-hour (for storm drain systems)
Runoff Coefficients:	Weighted Runoff Coefficients [(1)]
0% Impervious Areas	C=0.20 for Type-D soils
	C=0.35 for Compacted Fill soils
100% Impervious Areas	C=0.9
Soil Type	"A"
Design Storm Precipitation[2]	100-year, 6-hour, P=2.4 inches
Rainfall Intensity:	Based on time-intensity criteria per Section 3.0 of the County Hydrology Manual (San Diego County, 2003)

[(1)] Utilized to calculate composite 'C' values based on percent impervious.

[(2)] Isopluvial map provided in Appendix C.

2.2 Hydrologic Results

Rational Method Results

Table 2.1 below summarizes the 100-, 50-, and 10-year peak flow rates for the Pre- and Post-Project conditions.

Table 2.1: Summary of Hydrologic Conditions

Drainage Basin ID	POC	Return Period (years)	Project Condition	Tributary Area (ac)	Time Of Concentration (minutes)	Q (cfs)
100	1	100	Pre-Project	18.1	40.6	6.6
			Post-Project		10.9	58.9
		50	Pre-Project	18.1	40.9	6.3
			Post-Project		11.0	56.2
		10	Pre-Project	18.1	44.1	4.4
			Post-Project		11.5	40.2

Based on the Rational Method result and a comparison of the pre-and post-project POC, it can be observed that the peak discharge rate to POC 1 has increased. The increase in peak discharge rate is due to the increase in impervious areas to this POC. Although there's an increase in peak flows, detention will not be provided as it's not required due to the project discharging directly to the San Diego River. It is anticipated that the increase of peak flows will not have adverse effects to the downstream drainage characteristics/systems. Refer to Appendix A and Appendix B of this report for pre- and post-project Rational Method calculations respectively and Appendix C for backup documentation. The location of the POC, drainage boundaries, flow patterns, and pervious/impervious areas can be found on the work maps titled, "Pre-project Drainage Study Map for Santee 3 Multifamily Housing" located in Map Pocket 1 and "Post-project Drainage Study Map for Santee 3 Multifamily Housing," located in Map Pocket 2.

3.0 HYDRAULICS

3.1 Hydraulic Methodology and Criteria

The 100-year post-project peak flow rates determined using the Modified Rational Method was used to size the on-site storm drain system. In addition, hydraulic analyses regarding inlet sizing calculations are included in Appendix D.

3.1.1 Storm Drain Sizing

Storm drain pipe sizes were determined based on a normal depth calculation to verify storm drain capacity based on Manning's equation.

$$Q = (1.486/n)\, A\, R^{2/3}\, S^{1/2}$$

Where:

Q = Discharge (cfs)

n = Manning's roughness coefficient

A = Cross-sectional Area of flow (sq. ft.)

R = Hydraulic radius (ft.) (where hydraulic radius is defined as the cross-section area of flow divided by the wetted perimeter, R= A/P)

S = Slope of pipe (ft./ft.)

The Manning's roughness coefficient "n" of 0.013 was used for the hydraulic calculations. This value is typically used for reinforced concrete pipe (RCP), polyvinyl chloride (PVC), and high-density polyethylene pipe (HDPE). The pipe sizes were evaluated based on the Rational Method flow rates with a 30% "bump up" sizing factor to account for hydraulic losses within the system.

Please refer to Appendix E for the storm drain sizes. The AES rational method results for the post-project condition are located in Appendix B of this report may be referenced for further information concerning pipe flow.

3.1.2 Inlet Design

Inlet design calculations were completed using a computer program based on the following equations for inlets on a grade and inlets in a sump:

Type B Inlets on a Grade

$$Q = 0.7\ L\ (a + y)^{3/2}$$

Where:
- y = depth of flow approaching the curb inlet, in feet (ft)
- a = depth of depression of curb at inlet, in feet (ft)
- L = length of clear opening of inlet for total interception, in feet (ft)
- Q = interception capacity of the curb inlet, in cubic feet per second (cfs)

Type B Inlets in a Sump at Shallow Flow Depths (Weir)

$$Q = C_w\ L_w\ d^{3/2}$$

Where:
- Q = inlet capacity, in cubic feet per second (cfs)
- C_w = weir discharge coefficient (see Table 2-1 of County of San Diego Hydraulic Design Manual)
- L_w = weir length, in feet (ft)
- d = flow depth, in feet (ft)

Type B Inlets in a Sump at Higher Flow Depths (Orifice)

$$Q = 0.67\ h\ L\ (2\ g\ d_o)^{1/2}$$

Where:
- Q = inlet capacity, in cubic feet per second (cfs)
- h = curb opening height, in feet (ft)
- L = curb opening length, in feet (ft)
- g = gravitational acceleration, in feet squared per second (ft^2 / sec)
- d_o = effective depth of flow at curb face, in feet (ft)

Inlet Results

Inlet locations have been identified for this project. Inlets will be sized for the 100-year, 6-hour storm event. Each inlet will be sized to provide 100% capture of the flow draining to the inlet. The inlet design calculations along with back up information will be presented in Appendix D during final engineering. Refer to the drainage study map provided in Map Pocket 2 for the location of each inlet.

4.0 DETENTION ANALYSES

No detention analysis was conducted for this project. The project directly discharges to an adjacent segment of the San Diego River, which is considered hydromodification exempt, therefore detention is not required.

5.0 CONCLUSION

This drainage study presents the hydrologic and hydraulic analyses for the Santee 3 Multifamily Housing project. The project is a new development project located in the City of Santee. The post-project condition peak discharge rates were determined using the Rational Method based on the hydrologic methodology and criteria described in the County of San Diego Hydrology Manual, dated June 2003.

Post-project flows will be treated per the City of Santee's BMP Design Manual, dated February 2016. For more information on water quality sizing, please refer to the separate report titled, "Priority Development Project Storm Water Quality Management Plan (PDP SWQMP) for Santee 3 Multifamily Housing," dated February 2, 2024, or any revisions thereafter, and prepared by Rick Engineering Company.

Based on the Rational Method result and a comparison of the pre- and post-project POC, it can be observed that the post-project peak discharge rate and tributary area to POC 1 has increased. Although there's an increase in peak flows, it is anticipated that the increase of peak flows will not have adverse effects to the downstream drainage characteristics/system. Additionally, detention will not be provided as its not required due to the project discharging directly to a segment of the San Diego River which is considered hydromodification exempt.

APPENDIX A

Modified Rational Method Output
[Pre-project]

```
**************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
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              Ver. 21.0 Release Date: 06/01/2014  License ID 1261

                              Analysis prepared by:

                            RICK ENGINEERING COMPANY
                                5620 Friars Road
                             San Diego, California 92110
                           619-291-0707   Fax 619-291-4165

 ************************* DESCRIPTION OF STUDY *************************
* SANTEE 3 MULTIFAMILY HOUSING                                           *
* EXISTING CONDITIONS 10-YEAR EVENT                                      *
* JN-19969                                                               *
 **************************************************************************

  FILE NAME: S310EX.RAT
  TIME/DATE OF STUDY: 14:32 01/09/2025
--------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
--------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) =  10.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   1.700
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150
  2   20.0     15.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    102.00 IS CODE =  21
--------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
================================================================================
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .2000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   143.00
  UPSTREAM ELEVATION(FEET) =    345.00
  DOWNSTREAM ELEVATION(FEET) =    344.00
  ELEVATION DIFFERENCE(FEET) =      1.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =   13.896
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    57.97
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.317
  SUBAREA RUNOFF(CFS) =      0.14
  TOTAL AREA(ACRES) =      0.30   TOTAL RUNOFF(CFS) =      0.14

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    199.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    344.00  DOWNSTREAM(FEET) =    339.50
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1610.00   CHANNEL SLOPE =  0.0028
  CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =  12.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =  10.00
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.100
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .2000
  S.C.S. CURVE NUMBER (AMC II) =   0
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.13
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   0.89
  AVERAGE FLOW DEPTH(FEET) =   0.29   TRAVEL TIME(MIN.) =  30.20
  Tc(MIN.) =   44.10
  SUBAREA AREA(ACRES) =    16.70       SUBAREA RUNOFF(CFS) =    3.67
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.200
  TOTAL AREA(ACRES) =       17.0         PEAK FLOW RATE(CFS) =       3.74

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.38   FLOW VELOCITY(FEET/SEC.) =   1.04
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    199.00 =    1753.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    199.00 TO NODE    199.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.100
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .5500
  S.C.S. CURVE NUMBER (AMC II) =   0
```

```
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.2213
  SUBAREA AREA(ACRES) =    1.10   SUBAREA RUNOFF(CFS) =    0.67
  TOTAL AREA(ACRES) =       18.1   TOTAL RUNOFF(CFS) =       4.41
  TC(MIN.) =   44.10
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       18.1  TC(MIN.) =     44.10
  PEAK FLOW RATE(CFS)   =       4.41
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

↟

```
**************************************************************************

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                              Analysis prepared by:

                            RICK ENGINEERING COMPANY
                                5620 Friars Road
                             San Diego, California 92110
                           619-291-0707   Fax 619-291-4165

 ************************* DESCRIPTION OF STUDY *************************
* SANTEE 3 MULTIFAMILY HOUSING                                          *
* EXISTING CONDITIONS 50-YEAR EVENT                                     *
* JN-19969                                                              *
 *************************************************************************

  FILE NAME: S350EX.RAT
  TIME/DATE OF STUDY: 14:25 01/09/2025
-------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
-------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) =  50.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.300
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150
  2   20.0     15.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    102.00 IS CODE =  21
--------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
================================================================================
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .2000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   143.00
  UPSTREAM ELEVATION(FEET) =    345.00
  DOWNSTREAM ELEVATION(FEET) =    344.00
  ELEVATION DIFFERENCE(FEET) =      1.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =   13.896
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    57.97
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.134
  SUBAREA RUNOFF(CFS) =      0.19
  TOTAL AREA(ACRES) =      0.30   TOTAL RUNOFF(CFS) =      0.19

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    199.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    344.00  DOWNSTREAM(FEET) =    339.50
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1610.00   CHANNEL SLOPE =  0.0028
  CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =  12.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =  10.00
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.563
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .2000
  S.C.S. CURVE NUMBER (AMC II) =   0
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.98
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.00
  AVERAGE FLOW DEPTH(FEET) =   0.33   TRAVEL TIME(MIN.) =  26.97
  Tc(MIN.) =   40.86
  SUBAREA AREA(ACRES) =    16.70       SUBAREA RUNOFF(CFS) =    5.22
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.200
  TOTAL AREA(ACRES) =       17.0         PEAK FLOW RATE(CFS) =       5.31

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.45   FLOW VELOCITY(FEET/SEC.) =   1.15
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    199.00 =    1753.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    199.00 TO NODE    199.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.563
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .5500
  S.C.S. CURVE NUMBER (AMC II) =   0
```

```
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.2213
  SUBAREA AREA(ACRES) =    1.10   SUBAREA RUNOFF(CFS) =    0.95
  TOTAL AREA(ACRES) =       18.1   TOTAL RUNOFF(CFS) =       6.26
  TC(MIN.) =   40.86
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       18.1  TC(MIN.) =     40.86
  PEAK FLOW RATE(CFS)   =       6.26
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************

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                          Analysis prepared by:

                        RICK ENGINEERING COMPANY
                            5620 Friars Road
                       San Diego, California 92110
                      619-291-0707   Fax 619-291-4165

 ************************* DESCRIPTION OF STUDY *************************
* SANTEE 3 MULTIFAMILY HOUSING                                          *
* EXISTING CONDITIONS 100-YEAR EVENT                                    *
* JN-19969                                                              *
 ************************************************************************

  FILE NAME: S31HEX.RAT
  TIME/DATE OF STUDY: 14:29 01/09/2025
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) = 100.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.400
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150
  2   20.0     15.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    102.00 IS CODE =  21
------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .2000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   143.00
  UPSTREAM ELEVATION(FEET) =    345.00
  DOWNSTREAM ELEVATION(FEET) =    344.00
  ELEVATION DIFFERENCE(FEET) =      1.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =   13.896
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    57.97
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.271
  SUBAREA RUNOFF(CFS) =      0.20
  TOTAL AREA(ACRES) =      0.30   TOTAL RUNOFF(CFS) =      0.20

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    199.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    344.00  DOWNSTREAM(FEET) =    339.50
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1610.00   CHANNEL SLOPE =  0.0028
  CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =  12.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =  10.00
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.637
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .2000
  S.C.S. CURVE NUMBER (AMC II) =   0
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.11
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.00
  AVERAGE FLOW DEPTH(FEET) =   0.34   TRAVEL TIME(MIN.) =  26.73
  Tc(MIN.) =   40.62
  SUBAREA AREA(ACRES) =    16.70       SUBAREA RUNOFF(CFS) =    5.47
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.200
  TOTAL AREA(ACRES) =       17.0         PEAK FLOW RATE(CFS) =       5.57

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.45   FLOW VELOCITY(FEET/SEC.) =   1.17
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    199.00 =    1753.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    199.00 TO NODE    199.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.637
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (1. DU/AC OR LESS) RUNOFF COEFFICIENT = .5500
  S.C.S. CURVE NUMBER (AMC II) =   0
```

```
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.2213
  SUBAREA AREA(ACRES) =    1.10   SUBAREA RUNOFF(CFS) =    0.99
  TOTAL AREA(ACRES) =       18.1   TOTAL RUNOFF(CFS) =       6.56
  TC(MIN.) =   40.62
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       18.1  TC(MIN.) =     40.62
  PEAK FLOW RATE(CFS)   =       6.56
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

APPENDIX B

Modified Rational Method Output
[Post-project Un-detained]

```
******************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
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                              Analysis prepared by:

                            RICK ENGINEERING COMPANY
                                5620 Friars Road
                             San Diego, California 92110
                           619-291-0707   Fax 619-291-4165

 ************************* DESCRIPTION OF STUDY *************************
* SANTEE 3 MULTIFAMILY HOUSING                                          *
* PROPOSED CONDITIONS 10-YEAR EVENT                                     *
* JN-19969                                                              *
 ************************************************************************

  FILE NAME: S310PR.RAT
  TIME/DATE OF STUDY: 17:15 01/09/2025
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) =  10.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   1.700
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   24.0     19.0    0.020/0.020/0.020   0.50    2.00 0.0313 0.125 0.0180
  2   20.0     15.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    102.00 IS CODE =  21
------------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    61.00
  UPSTREAM ELEVATION(FEET) =    100.00
  DOWNSTREAM ELEVATION(FEET) =     99.70
  ELEVATION DIFFERENCE(FEET) =      0.30
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.009
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    50.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.479
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      0.38
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.38

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    110.00 IS CODE =  62
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STREET TABLE SECTION #  1 USED)<<<<<
==============================================================================
  UPSTREAM ELEVATION(FEET) =  100.00  DOWNSTREAM ELEVATION(FEET) =   98.00
  STREET LENGTH(FEET) =   395.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 24.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  19.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  2
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0180
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.95
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.34
    HALFSTREET FLOOD WIDTH(FEET) =   11.12
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    1.43
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.48
  STREET FLOW TRAVEL TIME(MIN.) =   4.62   Tc(MIN.) =    8.62
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.151
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.850
  SUBAREA AREA(ACRES) =    2.60      SUBAREA RUNOFF(CFS) =    6.96
  TOTAL AREA(ACRES) =        2.7        PEAK FLOW RATE(CFS) =       7.23
```

```
  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.40   HALFSTREET FLOOD WIDTH(FEET) =  14.31
  FLOW VELOCITY(FEET/SEC.) =  1.65   DEPTH*VELOCITY(FT*FT/SEC.) =   0.66
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    110.00 =     456.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    110.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.151
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    1.87
  TOTAL AREA(ACRES) =        3.4   TOTAL RUNOFF(CFS) =       9.11
  TC(MIN.) =    8.62

****************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    120.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.00
  FLOW LENGTH(FEET) =   196.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  14.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.01
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       9.11
  PIPE TRAVEL TIME(MIN.) =   0.65    Tc(MIN.) =    9.28
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    120.00 =     652.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    120.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.006
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.90   SUBAREA RUNOFF(CFS) =    2.30
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =      10.99
  TC(MIN.) =    9.28

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    120.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.006
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.00   SUBAREA RUNOFF(CFS) =    2.56
  TOTAL AREA(ACRES) =        5.3   TOTAL RUNOFF(CFS) =      13.54
  TC(MIN.) =    9.28

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    130.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.40
  FLOW LENGTH(FEET) =   124.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  17.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.38
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      13.54
  PIPE TRAVEL TIME(MIN.) =   0.38    Tc(MIN.) =    9.66
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    130.00 =     776.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    130.00 TO NODE    130.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.929
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.50   SUBAREA RUNOFF(CFS) =    1.24
  TOTAL AREA(ACRES) =        5.8   TOTAL RUNOFF(CFS) =      14.44
  TC(MIN.) =    9.66

****************************************************************************
  FLOW PROCESS FROM NODE    130.00 TO NODE    140.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.80
  FLOW LENGTH(FEET) =    28.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  16.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.41
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      14.44
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    9.73
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    140.00 =     804.00 FEET.
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.915
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.70   SUBAREA RUNOFF(CFS) =    4.21
  TOTAL AREA(ACRES) =        7.5   TOTAL RUNOFF(CFS) =      18.58
  TC(MIN.) =    9.73

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.915
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.40   SUBAREA RUNOFF(CFS) =    3.47
  TOTAL AREA(ACRES) =        8.9   TOTAL RUNOFF(CFS) =      22.05
  TC(MIN.) =    9.73

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    150.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.20
  FLOW LENGTH(FEET) =   160.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  20.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.23
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      22.05
  PIPE TRAVEL TIME(MIN.) =   0.43    Tc(MIN.) =   10.16
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    150.00 =     964.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    150.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.835
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
```

```
  SUBAREA AREA(ACRES) =    0.80   SUBAREA RUNOFF(CFS) =    1.93
  TOTAL AREA(ACRES) =        9.7   TOTAL RUNOFF(CFS) =      23.37
  TC(MIN.) =   10.16

****************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    160.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.40
  FLOW LENGTH(FEET) =   130.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.08
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      23.37
  PIPE TRAVEL TIME(MIN.) =   0.36    Tc(MIN.) =   10.52
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    160.00 =    1094.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    160.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.773
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.60   SUBAREA RUNOFF(CFS) =    1.41
  TOTAL AREA(ACRES) =       10.3   TOTAL RUNOFF(CFS) =      24.27
  TC(MIN.) =   10.52

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    170.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.20
  FLOW LENGTH(FEET) =   155.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.41
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      24.27
  PIPE TRAVEL TIME(MIN.) =   0.40    Tc(MIN.) =   10.92
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    170.00 =    1249.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.706
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.20   SUBAREA RUNOFF(CFS) =    2.76
  TOTAL AREA(ACRES) =       11.5   TOTAL RUNOFF(CFS) =      26.45
  TC(MIN.) =   10.92

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.706
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.50   SUBAREA RUNOFF(CFS) =    1.15
  TOTAL AREA(ACRES) =       12.0   TOTAL RUNOFF(CFS) =      27.60
  TC(MIN.) =   10.92

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.706
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    1.61
  TOTAL AREA(ACRES) =       12.7   TOTAL RUNOFF(CFS) =      29.21
  TC(MIN.) =   10.92

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    180.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.80
  FLOW LENGTH(FEET) =    30.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  22.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.34
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      29.21
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =   10.99
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    180.00 =    1279.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE    180.00 TO NODE    180.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.695
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
 SUBAREA AREA(ACRES) =    3.40   SUBAREA RUNOFF(CFS) =    7.79
 TOTAL AREA(ACRES) =       16.1   TOTAL RUNOFF(CFS) =      36.89
 TC(MIN.) =   10.99

****************************************************************************
 FLOW PROCESS FROM NODE    180.00 TO NODE    185.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    89.00
 FLOW LENGTH(FEET) =   145.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  21.0 INCH PIPE IS  15.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  19.46
 ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      36.89
 PIPE TRAVEL TIME(MIN.) =   0.12    Tc(MIN.) =   11.11
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    185.00 =    1424.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    185.00 TO NODE    199.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.00
 FLOW LENGTH(FEET) =   180.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  26.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.18
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      36.89
 PIPE TRAVEL TIME(MIN.) =   0.42    Tc(MIN.) =   11.53
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    199.00 =    1604.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    199.00 TO NODE    199.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.613
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
```

```
  SUBAREA AREA(ACRES) =    2.00   SUBAREA RUNOFF(CFS) =    4.44
  TOTAL AREA(ACRES) =       18.1   TOTAL RUNOFF(CFS) =      40.20
  TC(MIN.) =   11.53
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       18.1  TC(MIN.) =     11.53
  PEAK FLOW RATE(CFS)   =      40.20
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
          (c) Copyright 1982-2014 Advanced Engineering Software (aes)
              Ver. 21.0 Release Date: 06/01/2014  License ID 1261

                              Analysis prepared by:

                            RICK ENGINEERING COMPANY
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                             San Diego, California 92110
                           619-291-0707   Fax 619-291-4165

 ************************* DESCRIPTION OF STUDY *************************
* SANTEE 3 MULTIFAMILY HOUSING                                          *
* PROPOSED CONDITIONS 50-YEAR EVENT                                     *
* JN-19969                                                              *
 *************************************************************************

  FILE NAME: S350PR.RAT
  TIME/DATE OF STUDY: 17:12 01/09/2025
-------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
-------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) =  50.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.300
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   24.0     19.0    0.020/0.020/0.020   0.50    2.00 0.0313 0.125 0.0180
  2   20.0     15.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    102.00 IS CODE =  21
--------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    61.00
  UPSTREAM ELEVATION(FEET) =    100.00
  DOWNSTREAM ELEVATION(FEET) =     99.70
  ELEVATION DIFFERENCE(FEET) =      0.30
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.009
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    50.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.060
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      0.52
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.52

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    110.00 IS CODE =  62
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STREET TABLE SECTION #  1 USED)<<<<<
==============================================================================
  UPSTREAM ELEVATION(FEET) =  100.00  DOWNSTREAM ELEVATION(FEET) =   98.00
  STREET LENGTH(FEET) =   395.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 24.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  19.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  2
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0180
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       5.45
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.37
    HALFSTREET FLOOD WIDTH(FEET) =   12.76
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    1.54
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.57
  STREET FLOW TRAVEL TIME(MIN.) =   4.29   Tc(MIN.) =    8.29
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.372
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.850
  SUBAREA AREA(ACRES) =    2.60      SUBAREA RUNOFF(CFS) =    9.66
  TOTAL AREA(ACRES) =        2.7        PEAK FLOW RATE(CFS) =      10.03
```

```
  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.44   HALFSTREET FLOOD WIDTH(FEET) =  16.32
  FLOW VELOCITY(FEET/SEC.) =  1.79   DEPTH*VELOCITY(FT*FT/SEC.) =   0.79
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    110.00 =     456.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    110.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.372
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    2.60
  TOTAL AREA(ACRES) =        3.4   TOTAL RUNOFF(CFS) =      12.64
  TC(MIN.) =    8.29

****************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    120.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.00
  FLOW LENGTH(FEET) =   196.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  16.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.45
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      12.64
  PIPE TRAVEL TIME(MIN.) =   0.60    Tc(MIN.) =    8.89
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    120.00 =     652.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    120.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.180
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.90   SUBAREA RUNOFF(CFS) =    3.20
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =      15.28
  TC(MIN.) =    8.89

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    120.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.180
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.00   SUBAREA RUNOFF(CFS) =    3.55
  TOTAL AREA(ACRES) =        5.3   TOTAL RUNOFF(CFS) =      18.83
  TC(MIN.) =    8.89

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    130.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.40
  FLOW LENGTH(FEET) =   124.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.83
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      18.83
  PIPE TRAVEL TIME(MIN.) =   0.35    Tc(MIN.) =    9.25
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    130.00 =     776.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    130.00 TO NODE    130.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.076
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.50   SUBAREA RUNOFF(CFS) =    1.73
  TOTAL AREA(ACRES) =        5.8   TOTAL RUNOFF(CFS) =      20.09
  TC(MIN.) =    9.25

****************************************************************************
  FLOW PROCESS FROM NODE    130.00 TO NODE    140.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.80
  FLOW LENGTH(FEET) =    28.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  18.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.95
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      20.09
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    9.32
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    140.00 =     804.00 FEET.
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.057
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.70   SUBAREA RUNOFF(CFS) =    5.86
  TOTAL AREA(ACRES) =        7.5   TOTAL RUNOFF(CFS) =      25.86
  TC(MIN.) =    9.32

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.057
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.40   SUBAREA RUNOFF(CFS) =    4.83
  TOTAL AREA(ACRES) =        8.9   TOTAL RUNOFF(CFS) =      30.69
  TC(MIN.) =    9.32

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    150.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.20
  FLOW LENGTH(FEET) =   160.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  23.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.72
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      30.69
  PIPE TRAVEL TIME(MIN.) =   0.40    Tc(MIN.) =    9.71
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    150.00 =     964.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    150.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.949
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
```

```
  SUBAREA AREA(ACRES) =    0.80   SUBAREA RUNOFF(CFS) =    2.69
  TOTAL AREA(ACRES) =        9.7   TOTAL RUNOFF(CFS) =      32.56
  TC(MIN.) =    9.71

****************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    160.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.40
  FLOW LENGTH(FEET) =   130.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  25.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.53
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      32.56
  PIPE TRAVEL TIME(MIN.) =   0.33    Tc(MIN.) =   10.04
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    160.00 =    1094.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    160.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.864
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.60   SUBAREA RUNOFF(CFS) =    1.97
  TOTAL AREA(ACRES) =       10.3   TOTAL RUNOFF(CFS) =      33.83
  TC(MIN.) =   10.04

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    170.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.20
  FLOW LENGTH(FEET) =   155.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  25.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.90
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      33.83
  PIPE TRAVEL TIME(MIN.) =   0.37    Tc(MIN.) =   10.42
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    170.00 =    1249.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.774
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.20   SUBAREA RUNOFF(CFS) =    3.85
  TOTAL AREA(ACRES) =       11.5   TOTAL RUNOFF(CFS) =      36.89
  TC(MIN.) =   10.42

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.774
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.50   SUBAREA RUNOFF(CFS) =    1.60
  TOTAL AREA(ACRES) =       12.0   TOTAL RUNOFF(CFS) =      38.50
  TC(MIN.) =   10.42

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.774
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    2.25
  TOTAL AREA(ACRES) =       12.7   TOTAL RUNOFF(CFS) =      40.74
  TC(MIN.) =   10.42

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    180.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.80
  FLOW LENGTH(FEET) =    30.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  26.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.86
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      40.74
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =   10.48
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    180.00 =    1279.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE    180.00 TO NODE    180.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.759
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
 SUBAREA AREA(ACRES) =    3.40   SUBAREA RUNOFF(CFS) =   10.86
 TOTAL AREA(ACRES) =       16.1   TOTAL RUNOFF(CFS) =      51.45
 TC(MIN.) =   10.48

****************************************************************************
 FLOW PROCESS FROM NODE    180.00 TO NODE    185.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    89.00
 FLOW LENGTH(FEET) =   145.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  24.0 INCH PIPE IS  17.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  21.20
 ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      51.45
 PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =   10.60
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    185.00 =    1424.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    185.00 TO NODE    199.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.00
 FLOW LENGTH(FEET) =   180.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  39.0 INCH PIPE IS  28.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.94
 ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      51.45
 PIPE TRAVEL TIME(MIN.) =   0.38    Tc(MIN.) =   10.97
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    199.00 =    1604.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    199.00 TO NODE    199.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   50 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.650
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
```

```
  SUBAREA AREA(ACRES) =    2.00   SUBAREA RUNOFF(CFS) =    6.20
  TOTAL AREA(ACRES) =       18.1   TOTAL RUNOFF(CFS) =      56.15
  TC(MIN.) =   10.97
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       18.1  TC(MIN.) =     10.97
  PEAK FLOW RATE(CFS)   =      56.15
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
          (c) Copyright 1982-2014 Advanced Engineering Software (aes)
              Ver. 21.0 Release Date: 06/01/2014  License ID 1261

                              Analysis prepared by:

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                             San Diego, California 92110
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 ************************* DESCRIPTION OF STUDY *************************
* SANTEE 3 MULTIFAMILY HOUSING                                          *
* PROPOSED CONDITIONS 100-YEAR EVENT                                    *
* JN-19969                                                              *
 ************************************************************************

  FILE NAME: S31HPR.RAT
  TIME/DATE OF STUDY: 17:09 01/09/2025
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) = 100.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.400
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   24.0     19.0    0.020/0.020/0.020   0.50    2.00 0.0313 0.125 0.0180
  2   20.0     15.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    102.00 IS CODE =  21
------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
================================================================================
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    61.00
  UPSTREAM ELEVATION(FEET) =    100.00
  DOWNSTREAM ELEVATION(FEET) =     99.70
  ELEVATION DIFFERENCE(FEET) =      0.30
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.009
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    50.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.323
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      0.54
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.54

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    110.00 IS CODE =  62
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STREET TABLE SECTION #  1 USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  100.00  DOWNSTREAM ELEVATION(FEET) =   98.00
  STREET LENGTH(FEET) =   395.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 24.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  19.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  2
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0180
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       5.71
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.38
    HALFSTREET FLOOD WIDTH(FEET) =   12.98
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    1.56
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.59
  STREET FLOW TRAVEL TIME(MIN.) =   4.22   Tc(MIN.) =    8.23
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.585
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.850
  SUBAREA AREA(ACRES) =    2.60      SUBAREA RUNOFF(CFS) =   10.13
  TOTAL AREA(ACRES) =        2.7        PEAK FLOW RATE(CFS) =      10.52
```

```
  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.45   HALFSTREET FLOOD WIDTH(FEET) =  16.62
  FLOW VELOCITY(FEET/SEC.) =  1.81   DEPTH*VELOCITY(FT*FT/SEC.) =   0.81
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    110.00 =     456.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    110.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.585
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    2.73
  TOTAL AREA(ACRES) =        3.4   TOTAL RUNOFF(CFS) =      13.25
  TC(MIN.) =    8.23

****************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    120.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.00
  FLOW LENGTH(FEET) =   196.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  17.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.49
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      13.25
  PIPE TRAVEL TIME(MIN.) =   0.59    Tc(MIN.) =    8.83
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    120.00 =     652.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    120.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.383
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.90   SUBAREA RUNOFF(CFS) =    3.35
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =      16.02
  TC(MIN.) =    8.83

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    120.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.383
*USER SPECIFIED(SUBAREA):
RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
S.C.S. CURVE NUMBER (AMC II) =   0
AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
SUBAREA AREA(ACRES) =    1.00   SUBAREA RUNOFF(CFS) =    3.73
TOTAL AREA(ACRES) =        5.3   TOTAL RUNOFF(CFS) =      19.74
TC(MIN.) =    8.83

****************************************************************************
FLOW PROCESS FROM NODE    120.00 TO NODE    130.00 IS CODE =  31
----------------------------------------------------------------------------
>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.40
FLOW LENGTH(FEET) =   124.00   MANNING'S N =  0.013
DEPTH OF FLOW IN  27.0 INCH PIPE IS  21.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) =   5.86
ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
PIPE-FLOW(CFS) =      19.74
PIPE TRAVEL TIME(MIN.) =   0.35    Tc(MIN.) =    9.18
LONGEST FLOWPATH FROM NODE    100.00 TO NODE    130.00 =     776.00 FEET.

****************************************************************************
FLOW PROCESS FROM NODE    130.00 TO NODE    130.00 IS CODE =  81
----------------------------------------------------------------------------
>>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.273
*USER SPECIFIED(SUBAREA):
RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
S.C.S. CURVE NUMBER (AMC II) =   0
AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
SUBAREA AREA(ACRES) =    0.50   SUBAREA RUNOFF(CFS) =    1.82
TOTAL AREA(ACRES) =        5.8   TOTAL RUNOFF(CFS) =      21.07
TC(MIN.) =    9.18

****************************************************************************
FLOW PROCESS FROM NODE    130.00 TO NODE    140.00 IS CODE =  31
----------------------------------------------------------------------------
>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.80
FLOW LENGTH(FEET) =    28.00   MANNING'S N =  0.013
DEPTH OF FLOW IN  27.0 INCH PIPE IS  19.1 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) =   7.01
ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
PIPE-FLOW(CFS) =      21.07
PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    9.25
LONGEST FLOWPATH FROM NODE    100.00 TO NODE    140.00 =     804.00 FEET.
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.253
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.70   SUBAREA RUNOFF(CFS) =    6.15
  TOTAL AREA(ACRES) =        7.5   TOTAL RUNOFF(CFS) =      27.12
  TC(MIN.) =    9.25

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.253
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    1.40   SUBAREA RUNOFF(CFS) =    5.06
  TOTAL AREA(ACRES) =        8.9   TOTAL RUNOFF(CFS) =      32.18
  TC(MIN.) =    9.25

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    150.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.20
  FLOW LENGTH(FEET) =   160.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  24.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.77
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      32.18
  PIPE TRAVEL TIME(MIN.) =   0.39    Tc(MIN.) =    9.64
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    150.00 =     964.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    150.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.140
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
```

```
  SUBAREA AREA(ACRES) =    0.80   SUBAREA RUNOFF(CFS) =    2.82
  TOTAL AREA(ACRES) =        9.7   TOTAL RUNOFF(CFS) =      34.14
  TC(MIN.) =    9.64

****************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    160.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.40
  FLOW LENGTH(FEET) =   130.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  24.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.75
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      34.14
  PIPE TRAVEL TIME(MIN.) =   0.32    Tc(MIN.) =    9.96
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    160.00 =    1094.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    160.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.054
  *USER SPECIFIED(SUBAREA):
  RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
  SUBAREA AREA(ACRES) =    0.60   SUBAREA RUNOFF(CFS) =    2.07
  TOTAL AREA(ACRES) =       10.3   TOTAL RUNOFF(CFS) =      35.49
  TC(MIN.) =    9.96

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    170.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.20
  FLOW LENGTH(FEET) =   155.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  26.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.92
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      35.49
  PIPE TRAVEL TIME(MIN.) =   0.37    Tc(MIN.) =   10.33
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    170.00 =    1249.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.959
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
 SUBAREA AREA(ACRES) =    1.20   SUBAREA RUNOFF(CFS) =    4.04
 TOTAL AREA(ACRES) =       11.5   TOTAL RUNOFF(CFS) =      38.70
 TC(MIN.) =   10.33

****************************************************************************
 FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.959
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
 SUBAREA AREA(ACRES) =    0.50   SUBAREA RUNOFF(CFS) =    1.68
 TOTAL AREA(ACRES) =       12.0   TOTAL RUNOFF(CFS) =      40.38
 TC(MIN.) =   10.33

****************************************************************************
 FLOW PROCESS FROM NODE    170.00 TO NODE    170.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.959
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
 SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    2.36
 TOTAL AREA(ACRES) =       12.7   TOTAL RUNOFF(CFS) =      42.74
 TC(MIN.) =   10.33

****************************************************************************
 FLOW PROCESS FROM NODE    170.00 TO NODE    180.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.80
 FLOW LENGTH(FEET) =    30.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  36.0 INCH PIPE IS  25.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   8.17
 ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      42.74
 PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =   10.40
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    180.00 =    1279.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE    180.00 TO NODE    180.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.944
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
 SUBAREA AREA(ACRES) =    3.40   SUBAREA RUNOFF(CFS) =   11.40
 TOTAL AREA(ACRES) =       16.1   TOTAL RUNOFF(CFS) =      53.97
 TC(MIN.) =   10.40

****************************************************************************
 FLOW PROCESS FROM NODE    180.00 TO NODE    185.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    89.00
 FLOW LENGTH(FEET) =   145.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  24.0 INCH PIPE IS  18.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  21.33
 ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      53.97
 PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =   10.51
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    185.00 =    1424.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    185.00 TO NODE    199.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.00  DOWNSTREAM(FEET) =    99.00
 FLOW LENGTH(FEET) =   180.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  39.0 INCH PIPE IS  29.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.99
 ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      53.97
 PIPE TRAVEL TIME(MIN.) =   0.38    Tc(MIN.) =   10.88
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    199.00 =    1604.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    199.00 TO NODE    199.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.829
 *USER SPECIFIED(SUBAREA):
 RESIDENTIAL (43. DU/AC OR LESS) RUNOFF COEFFICIENT = .8500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.8500
```

```
  SUBAREA AREA(ACRES) =    2.00   SUBAREA RUNOFF(CFS) =    6.51
  TOTAL AREA(ACRES) =       18.1   TOTAL RUNOFF(CFS) =      58.90
  TC(MIN.) =   10.88
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       18.1  TC(MIN.) =     10.88
  PEAK FLOW RATE(CFS)   =      58.90
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

APPENDIX C

Backup for Weighted Runoff Coefficients

19969 - SANTEE 3 MULTIFAMILY HOUSING RUNOFF COEFFICENT DETERMINATION (PRE PROJECT)

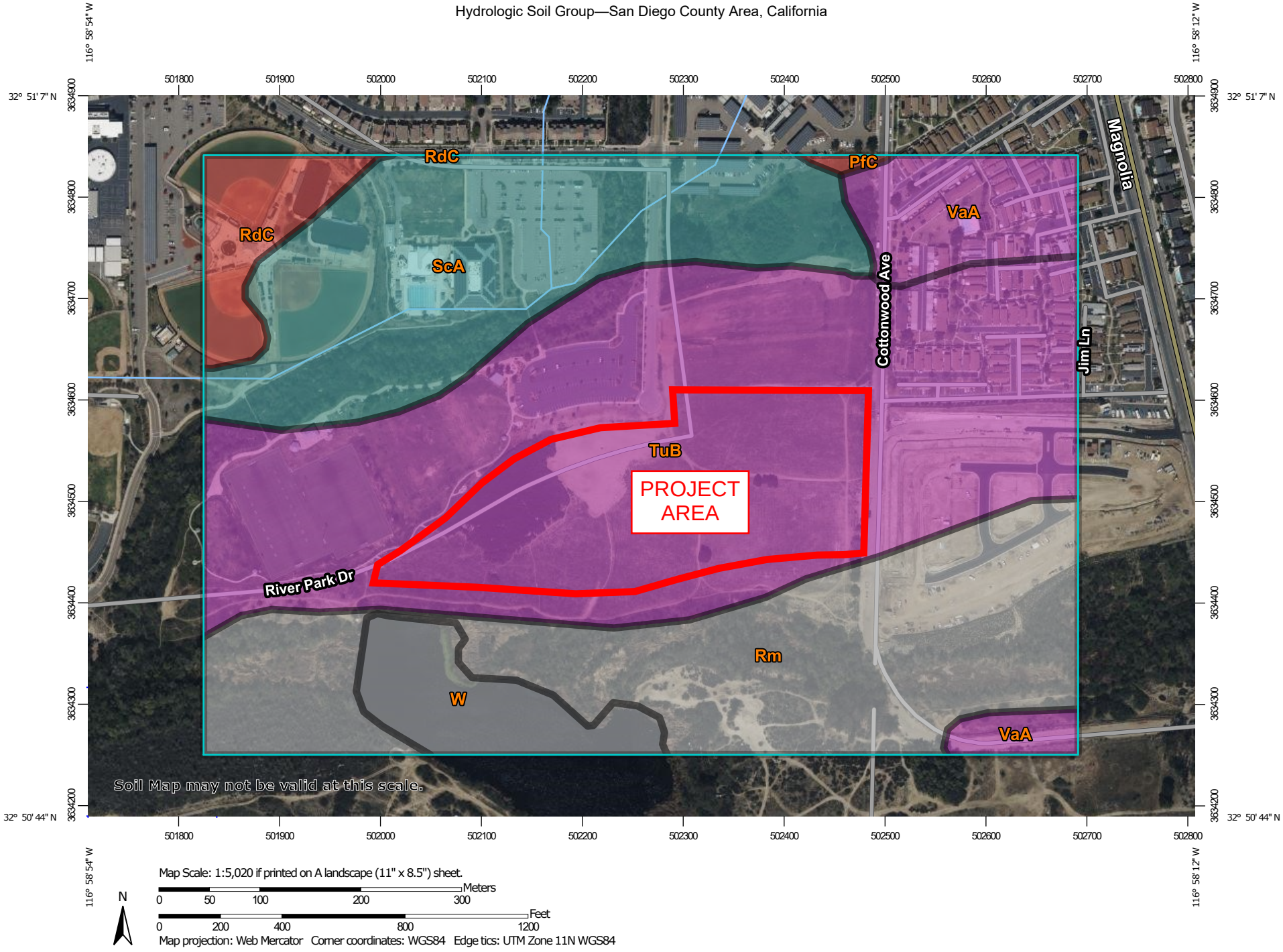
Upstream Node	Downstream Node	TRIBUTARY AREA (SQ FT)	AREA (AC.)	%IMPERVIOUS (ASSUMED)	IMPERVIOUS POST PROJECT (SQFT)	SOIL TYPE	IMPERVIOUS RUNOFF COEFFICENT	PERVIOUS RUNOFF COEFFICENT	WEIGHTED RUNOFF COEFFICENT
BASIN 100/POC 1									
100	102	13068	0.3	0%	-	A	0.9	0.2	0.20
102	199	727452	16.7	0%	-	A	0.9	0.2	0.20
199	199	47916	1.1	50%		A	0.9	0.2	0.55
SUM		**740520**	**18.1**	**0%**	**0**				**0.19**

19969 - SANTEE 3 MULTIFAMILY HOUSING RUNOFF COEFFICENT DETERMINATION (POST PROJECT)

Upstream Node	Downstream Node	TRIBUTARY AREA (SQ FT)	AREA (AC.)	%IMPERVIOUS (ASSUMED)	IMPERVIOUS POST PROJECT (SQFT)	SOIL TYPE	IMPERVIOUS RUNOFF COEFFICENT	PERVIOUS RUNOFF COEFFICENT	WEIGHTED RUNOFF COEFFICENT
BASIN 100/POC 1									
100	102	4356	0.1	90%	3920	Comp. Fill (D) [1]	0.9	0.35	0.85
102	110	113256	2.6	90%	101930	Comp. Fill (D) [1]	0.9	0.35	0.85
110	110	30492	0.7	90%	27443	Comp. Fill (D) [1]	0.9	0.35	0.85
110	120								
120	120	39204	0.9	90%	35284	Comp. Fill (D) [1]	0.9	0.35	0.85
120	120	43560	1.0	90%	39204	Comp. Fill (D) [1]	0.9	0.35	0.85
120	130								
130	130	21780	0.5	90%	19602	Comp. Fill (D) [1]	0.9	0.35	0.85
130	140								
140	140	74052	1.7	90%	66647	Comp. Fill (D) [1]	0.9	0.35	0.85
140	140	60984	1.4	90%	54886	Comp. Fill (D) [1]	0.9	0.35	0.85
140	150								
150	150	34848	0.8	90%	31363	Comp. Fill (D) [1]	0.9	0.35	0.85
150	160								
160	160	26136	0.6	90%	23522	Comp. Fill (D) [1]	0.9	0.35	0.85
160	170								
170	170	52272	1.2	90%	47045	Comp. Fill (D) [1]	0.9	0.35	0.85
170	170	21780	0.5	90%	19602	Comp. Fill (D) [1]	0.9	0.35	0.85
170	170	30492	0.7	90%	27443	Comp. Fill (D) [1]	0.9	0.35	0.85
170	180								
180	180	148104	3.4	90%	133294	Comp. Fill (D) [1]	0.9	0.35	0.85
180	185								
185	185								
199	199	87120	2.0	90%	78408	Comp. Fill (D) [1]	0.9	0.35	0.85
SUM		**788436**	**18.1**	**90%**	**709592**				**0.85**

Notes:

1. For Compacted fill soils,type D soil runoff coefficient is used.



Map Scale: 1:5,020 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 19, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 24, 2022—Apr 29, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
PfC	Placentia sandy loam, thick surface, 2 to 9 percent slo pes	D	0.3	0.2%
RdC	Redding gravelly loam, 2 to 9 percent slopes	D	4.4	3.4%
Rm	Riverwash		28.0	22.0%
ScA	Salinas clay, 0 to 2 percent slopes	C	24.5	19.3%
TuB	Tujunga sand, 0 to 5 percent slopes	A	56.9	44.8%
VaA	Visalia sandy loam, 0 to 2 percent slopes	A	7.3	5.8%
W	Water		5.7	4.5%
Totals for Area of Interest			**127.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS

FOR COMPACTED FILL SOILS, USE SOIL TYPE D RUNOFF COEFFICIENT

Land Use			Runoff Coefficient "C"			
			Soil Type			
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).
DU/A = dwelling units per acre
NRCS = National Resources Conservation Service

County of San Diego Hydrology Manual

Rainfall Isopluvials

10 Year Rainfall Event - 6 Hours

Isopluvial (inches)

1.7 in.

Orange County

Riverside County

Imperial County

Mexico

Pacific Ocean

OCEANSIDE
VISTA
CARLSBAD
ESCONDIDO
ENCINITAS
SOLANA BEACH
DEL MAR
POWAY
S.D. COUNTY
SANTEE
SAN DIEGO
EL CAJON
LA MESA
LEMON GROVE
CORONADO
CHULA VISTA
IMPERIAL BEACH
SD

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'
33°30' 33°15' 33°00' 32°45' 32°30'

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N W E S

3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

10 Year Rainfall Event - 24 Hours

Isopluvial (inches)

2.8 in.

Orange County

Riverside County

Imperial County

Pacific Ocean

Mexico

OCEANSIDE
VISTA
CARLSBAD
ESCONDIDO
ENCINITAS
SOLANA BEACH
DEL MAR
POWAY
S.D. COUNTY
SANTEE
SAN DIEGO
EL CAJON
LA MESA
LEMON GROVE
CORONADO
CHULA VISTA
IMPERIAL BEACH
SD

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'
33°30' 33°15' 33°00' 32°45' 32°30'

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N W E S

3 0 3 Miles

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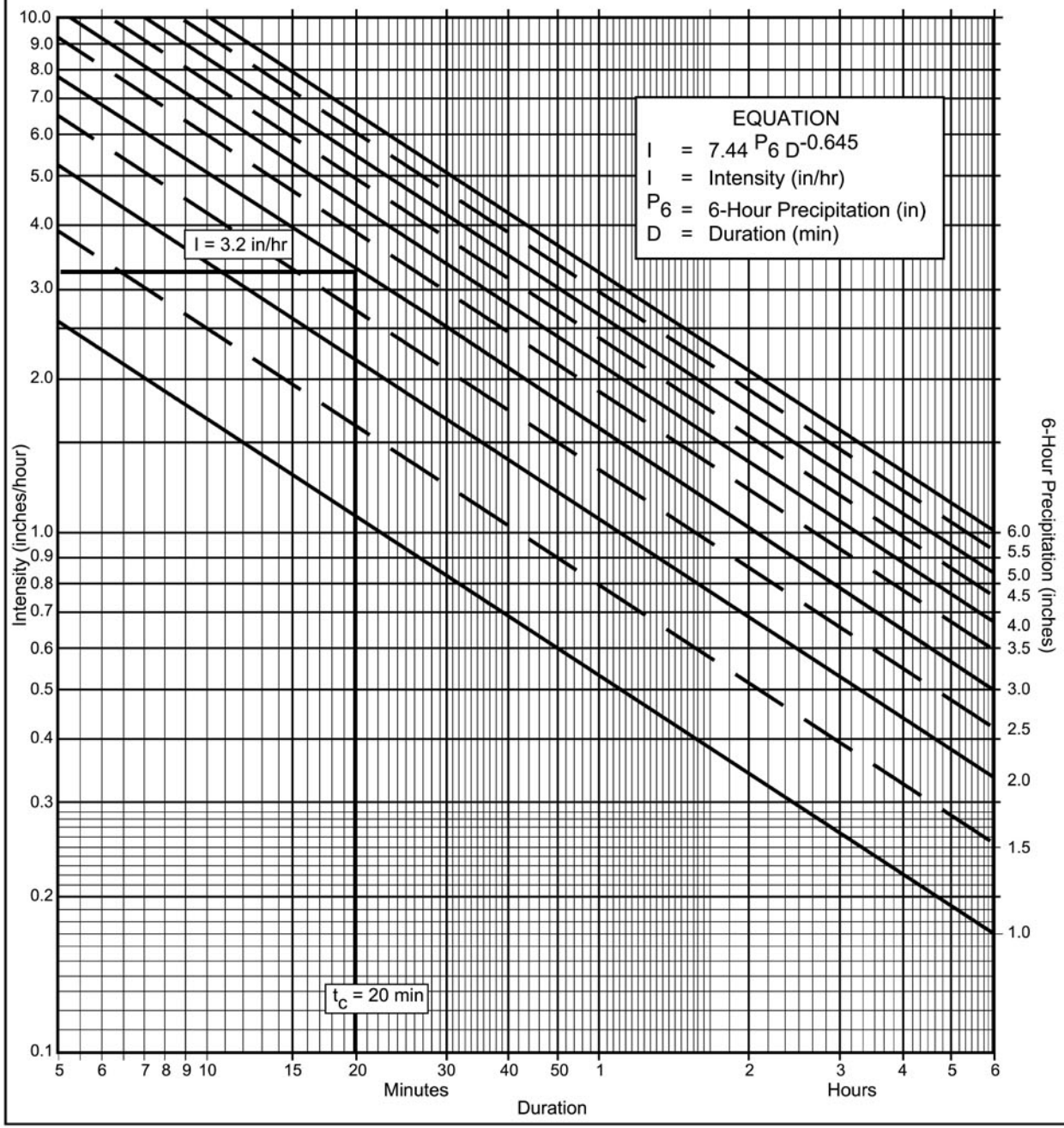

Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 10 year

(b) P_6 = 1.7 in., P_{24} = 2.8, $\frac{P_6}{P_{24}}$ = 60.7 %(2)

(c) Adjusted P_6(2) = n/a in.

(d) t_x = 20 min.

(e) I = 3.2 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
Duration	I	I	I	I	I	I	I	I	I	I	I
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Example

FIGURE 3-2

County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 6 Hours

Isopluvial (inches)

Orange County

Riverside County

Imperial County

Pacific Ocean

Mexico

OCEANSIDE
VISTA
CARLSBAD
ESCONDIDO
ENCINITAS
SOLANA BEACH
DEL MAR
POWAY
S.D. COUNTY
SANTEE
SAN DIEGO
EL CAJON
LA MESA
LEMON GROVE
CORONADO
CHULA VISTA
IMPERIAL BEACH
SD

2.3 in.

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'
33°30' 33°15' 33°00' 32°45' 32°30'

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3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 24 Hours

Isopluvial (inches)

Orange County

Riverside County

Imperial County

Pacific Ocean

Mexico

4.4 in.

OCEANSIDE
VISTA
CARLSBAD
ESCONDIDO
ENCINITAS
SOLANA BEACH
DEL MAR
POWAY
S.D. COUNTY
SANTEE
SAN DIEGO
EL CAJON
LA MESA
LEMON GROVE
CORONADO
SD
CHULA VISTA
IMPERIAL BEACH

33°30' 33°15' 33°00' 32°45' 32°30'

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'

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3 0 3 Miles

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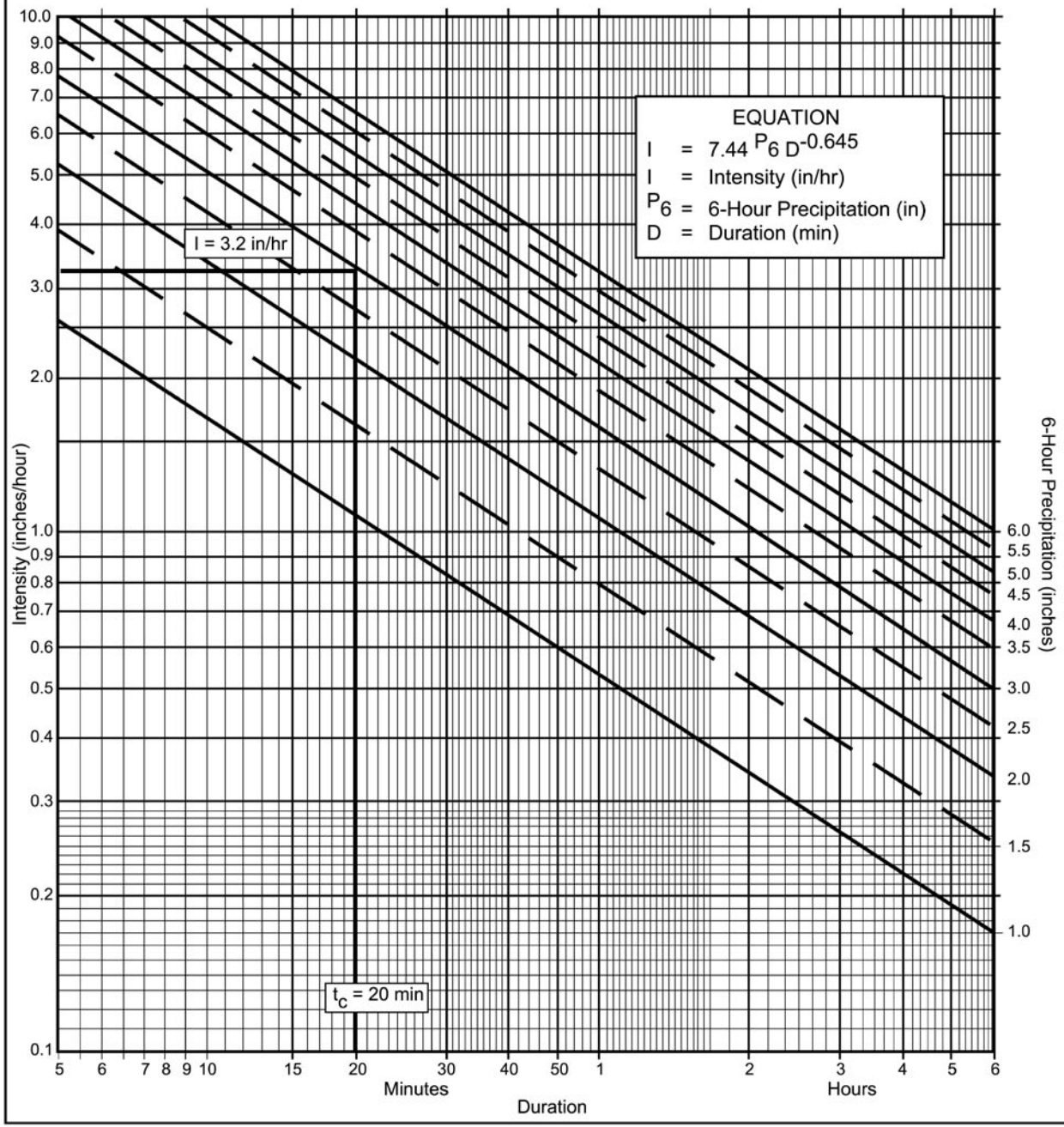

Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 50 year

(b) P_6 = 2.3 in., P_{24} = 4.4, $\frac{P_6}{P_{24}}$ = 52.3 %(2)

(c) Adjusted P_6(2) = n/a in.

(d) t_x = 20 min.

(e) I = 3.2 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
Duration	I	I	I	I	I	I	I	I	I	I	I
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Example

FIGURE 3-2

County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

Isopluvial (inches)

Orange County

Riverside County

Pacific Ocean

Imperial County

Mexico

OCEANSIDE
VISTA
CARLSBAD
ESCONDIDO
ENCINITAS
SOLANA BEACH
DEL MAR
POWAY
S.D. COUNTY
SANTEE
SAN DIEGO
EL CAJON
LA MESA
LEMON GROVE
CORONADO
SD
CHULA VISTA
IMPERIAL BEACH

2.4 in.

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'

33°30' 33°15' 33°00' 32°45' 32°30'

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N W E S

3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 24 Hours

Isopluvial (inches)

4.9 in.

Orange County

Riverside County

Imperial County

Pacific Ocean

Mexico

OCEANSIDE
VISTA
CARLSBAD
ESCONDIDO
ENCINITAS
SOLANA BEACH
POWAY
S.D. COUNTY
DEL MAR
SANTEE
SAN DIEGO
EL CAJON
LA MESA
LEMON GROVE
CORONADO
CHULA VISTA
IMPERIAL BEACH
SD

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'
33°30' 33°15' 33°00' 32°45' 32°30'

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3 0 3 Miles

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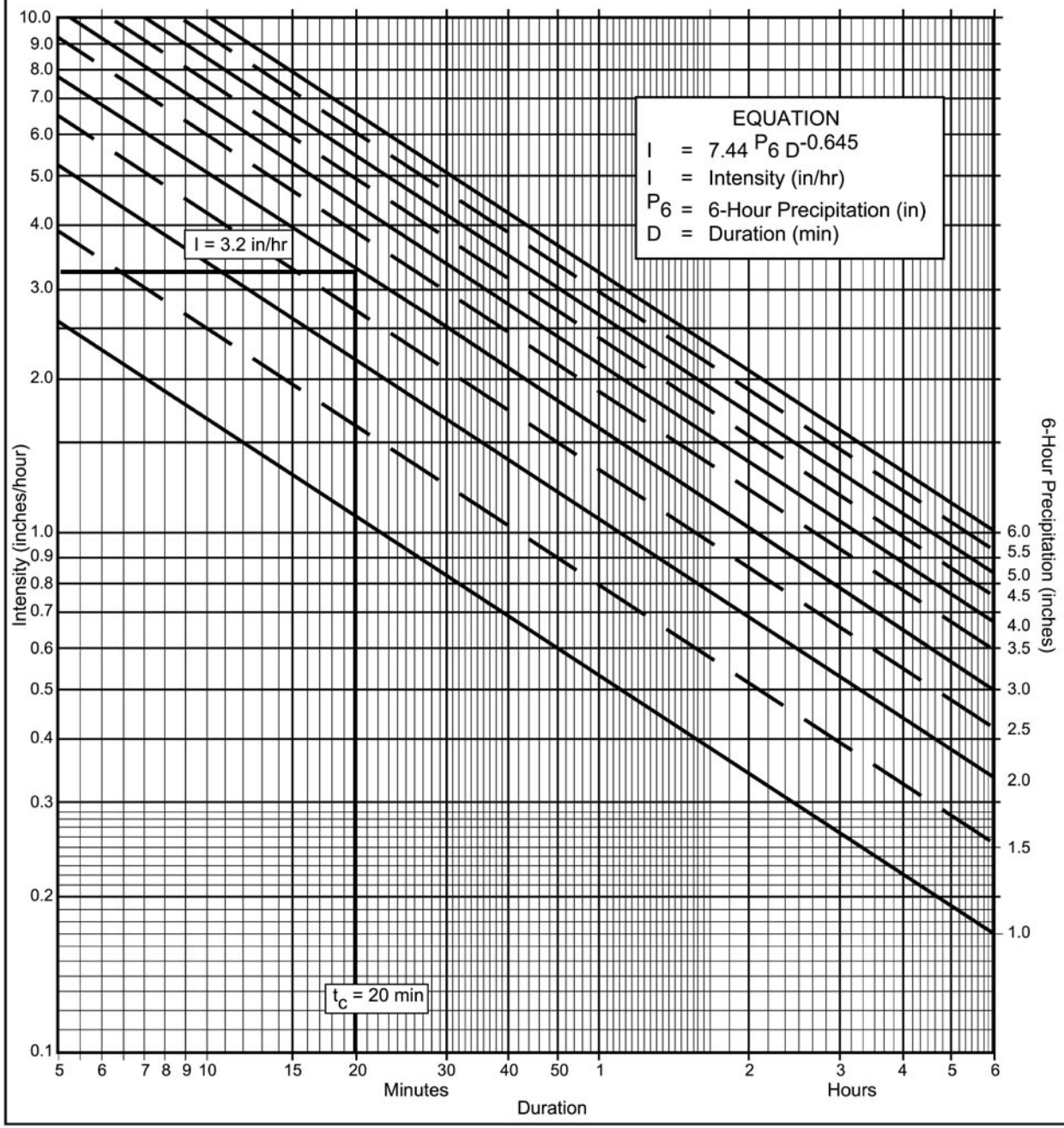


Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 100 year

(b) P_6 = 2.4 in., P_{24} = 4.9, $\frac{P_6}{P_{24}}$ = 48.9 %(2)

(c) Adjusted P_6(2) = n/a in.

(d) t_x = 20 min.

(e) I = 3.2 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
Duration	I	I	I	I	I	I	I	I	I	I	I
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Example

FIGURE 3-2

APPENDIX D

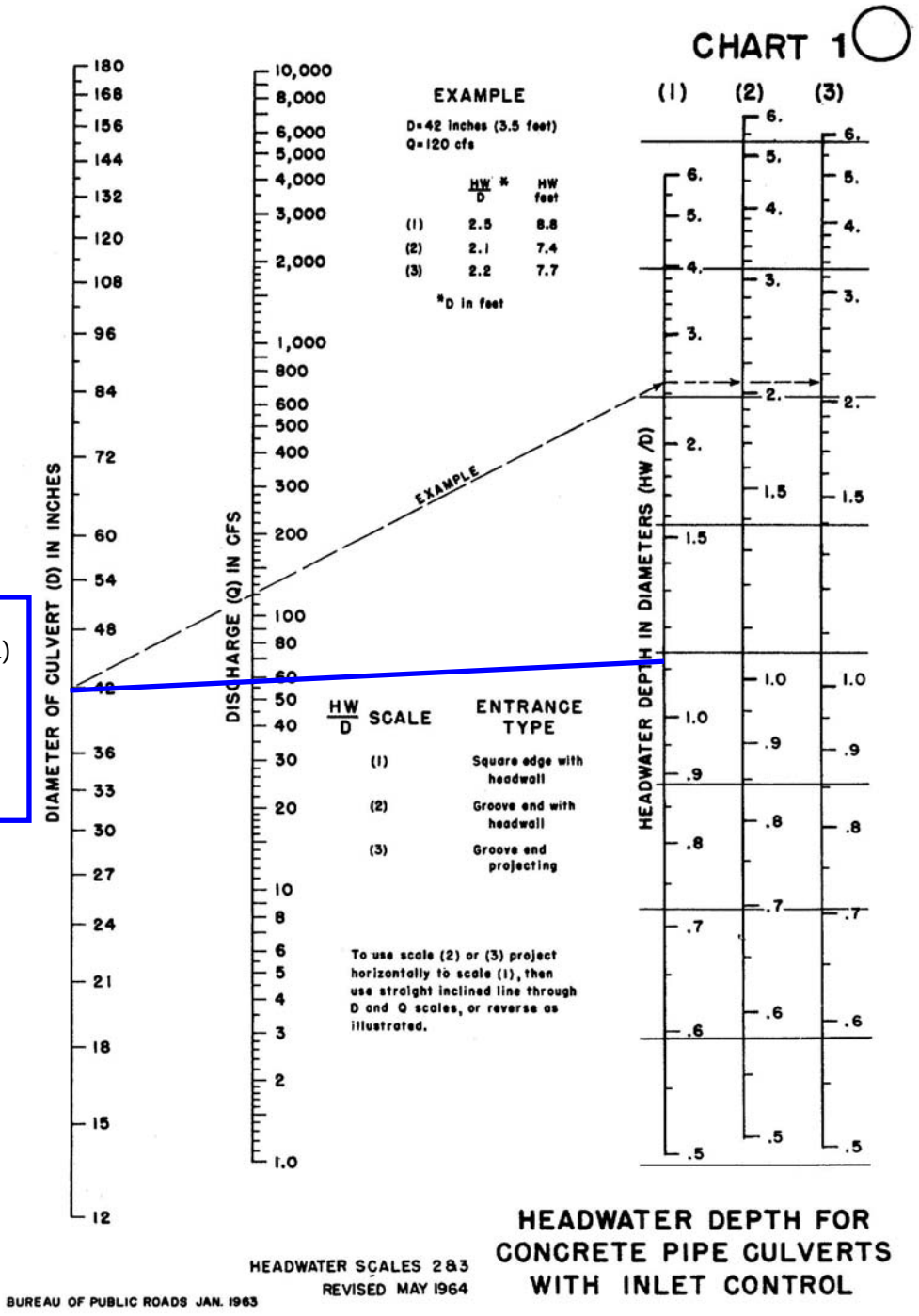
Inlet Sizing & Emergency Overflow Calculations

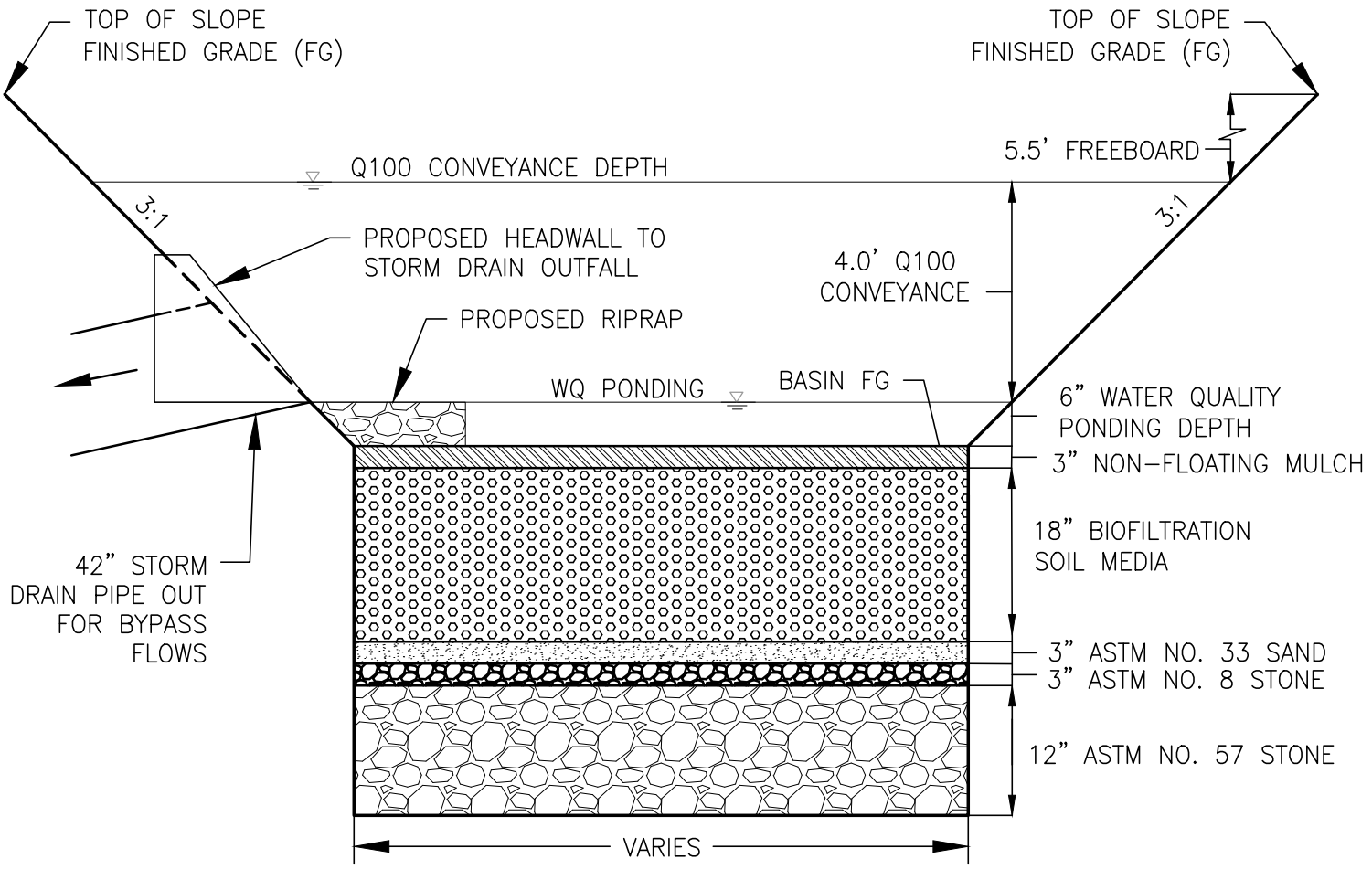
Inlet Sizing will be provided in Final Engineering

42" DIAMETER PIPE AT FULL DEPTH (HW/D=1.1) CAN HANDLE 59 CFS

HW / 42" = 1.1

HW = 3.85 '





BIORETENTION BASIN CROSS-SECTION WITH 3:1 SIDE SLOPES

NTS

RICK

619-291-0707
rickengineering.com

5620 FRIARS ROAD
SAN DIEGO, CA 92110

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

SANTEE 3 MULTIFAMILY HOUSING

BIORETENTION BASIN (BMP-1) CROSS SECTION

PROJECT NO:	19969
DRAWN BY:	EJS
CHECKED BY:	EGH
SCALE:	NTS
DATE:	4/15/2025

C:\RICK\Projects\C19500\19969_CityVenturesSanteeMultiFamily\WaterRes\19969_DMA_EXHIBIT.dwg

APPENDIX E

Storm Drain Sizing Calculations

Santee 3 Multifamily Housing
J-19969
1/10/2025

Preliminary Storm Drain Size

The purpose of this table is to provide an estimated pipe size to convey the 100-year flow rates with a sizing factor.

Manning's n: 0.013

Sizing Factor (%): 30

Slope at: 0.5%

Q_{100} (cfs[1])	Q_{100} with Sizing Factor (cfs[1])	Minimum Pipe Size[2] (feet)	Recommended Pipe Size (inches)
5.0	6.5	1.43	18"
10.0	13.0	1.85	24"
15.0	19.5	2.15	30"
20.0	26.0	2.40	30"
25.0	32.5	2.61	36"
30.0	39.0	2.79	36"
35.0	45.5	2.96	36"
40.0	52.0	3.11	42"
45.0	58.5	3.25	42"
50.0	65.0	3.38	42"
55.0	71.5	3.50	42"
60.0	78.0	3.62	48"
65.0	84.5	3.73	48"
70.0	91.0	3.83	48"

Note:

1. "cfs" = cubic feet per second.
2. Minimum pipe sizes are calculated using the Manning's equation and are based on the flow rates with 30% factor.

*****Enter information in yellow boxes. All other information is self-generated.**
*****To unlock the sheet, the password is the same name as the tab name**

MAP POCKET 1

Drainage Study Map

for

Santee 3 Multifamily Housing

[Pre-Project]

PARK CENTER DRIVE

COTTONWOOD AVENUE

ELEVATED ROADWAY

EXISTING 4' CURB INLET

P/L

LOW POINT

VEGETATED CHANNEL

SOLACE:

DATE:

16.7 AC

0.3 AC

100

102

BASIN 100

18.1 AC

EXISTING NEW DEVELOPMENT

EXISTING EARTHEN BERMED EDGE FRONTING PROJECT SITE LOCATED ALONG CHUBB LANE

BASIN 100 – NODE 199

PRE-PROJECT

A = 18.1 AC

Tc = 40.6 MIN

Q100 = 6.6 CFS

EXISTING DIRT ROAD

1.1 AC

SMALL NATURAL BERM

SAN DIEGO RIVER

LEGEND:

- BASIN BOUNDARY
- FLOW DIRECTION
- BASIN XXX — BASIN ID
- XX.X AC — SUB BASIN AREA
- XXX — NODE NUMBER
- POC

NOTE:

1. FOR THIS DRAINAGE ANALYSIS, ONLY THE PROJECT'S FOOTPRINT HAS BEEN CONSIDERED, NOT THE ENTIRE TRIBUTARY AREA TO THE SAN DIEGO RIVER AT NODE 199.
2. NOT FOR CONSTRUCTION – EXHIBIT FOR DRAINAGE STUDY ONLY.

N

80 40 0 80 160

GRAPHIC SCALE: 1"=80'

RICK

619-291-0707
rickengineering.com

5620 FRIARS ROAD
SAN DIEGO, CA 92110

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

DRAINAGE EXHIBIT
PRE-PROJECT
SANTEE 3 MULTIFAMILY HOUSING

PROJECT NO:	19969	1"=80'
DRAWN BY:	EJS	4/16/2025

C:\RICK\Projects\C19500\19969_CityVenturesSanteeMultiFamily\WaterRes\19969_PRE_DRAINAGE_EXHIBIT.dwg - plotted by: jsantos ON 2025-04-16 @ 09:28 - ctbres_ncs_v2.ctb - © 2024 Rick Engineering Company

MAP POCKET 2

Drainage Study Map

for

Santee 3 Multifamily Housing

[Post-Project]

PARK CENTER DRIVE

COTTONWOOD AVENUE

BASIN 100
18.1 AC

BASIN 100 – NODE 199	
PRE–PROJECT	POST–PROJECT
A = 18.1 AC	A = 18.1 AC
Tc = 40.6 MIN	Tc = 10.9 MIN
Q100 = 6.6 CFS	Q100 = 58.9 CFS

PROPOSED BIORETENTION BASIN LOCATION

SAN DIEGO RIVER

LEGEND:

- BASIN BOUNDARY
- BASIN XXX — BASIN ID
- XX.X AC — SUB BASIN AREA
- XXX — NODE NUMBER
- POC
- PROPOSED STORM DRAIN
- IMPERVIOUS AREA HATCH (504,156 SF)

504,156\788,436 = 63.9% IMPERVIOUS (90% ASSUMED)

NOTE:

1. FOR THIS DRAINAGE ANALYSIS, ONLY THE PROJECT'S FOOTPRINT HAS BEEN CONSIDERED, NOT THE ENTIRE TRIBUTARY AREA TO THE SAN DIEGO RIVER AT NODE 199.
2. NOT FOR CONSTRUCTION – EXHIBIT FOR DRAINAGE STUDY ONLY.

N

80 40 0 80 160

GRAPHIC SCALE: 1"=80'

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SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

DRAINAGE EXHIBIT
POST-PROJECT
SANTEE 3 MULTIFAMILY HOUSING

PROJECT NO:	19969	SCALE:	1"=80'
DRAWN BY:	EJS	DATE:	4/16/2025

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Appendix F

Cottonwood & Park Noise Impact Study

Cottonwood & Park

Noise Impact Study

City of Santee, CA

Prepared for:

Michael You
City Ventures
3121 Michelson Drive, Suite 150
Irvine, CA 92612

Prepared by:

MD Acoustics, LLC
Rachel Edelman, INCE-USA
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1197 Los Angeles Ave, Ste C-256
Simi Valley, CA 93065

Date: 8/20/2025

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1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This noise assessment was prepared to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to the noise standards set forth by the Federal, State and Local agencies. Consistent with the City's Noise Guidelines, the project must demonstrate compliance to the applicable noise criterion as outlined within the City's Noise Element and Municipal Code.

The following is provided in this report:

- A description of the study area and the proposed project
- Information regarding the fundamentals of noise
- A description of the local noise guidelines and standards
- An analysis of traffic noise impacts to and from the project site
- An analysis of construction noise impacts

1.2 Site Location and Study Area

The project site is located near the southwest corner of Cottonwood Avenue and Park Center Drive in the City of Santee, California (APN 381-051-18), as shown in Exhibit A. The site is located within the Town Center Specific Plan. Land uses surrounding the site include residential to the north, northeast, and east, public/open space to the west, and flood/open space to the south. Gillespie Airport is approximately 1.3 miles to the south.

1.3 Proposed Project Description

The project proposes to develop 285 multi-family units on approximately 22.15 acres. There will be 570 garage parking spaces and 75 open parking spaces. The site plan used for this project, provided by City Ventures, is shown in Exhibit B.

This study assesses the traffic noise to and from the project site and compares the results to the applicable City noise standards. In addition, this study reviews noise generated by construction activities.

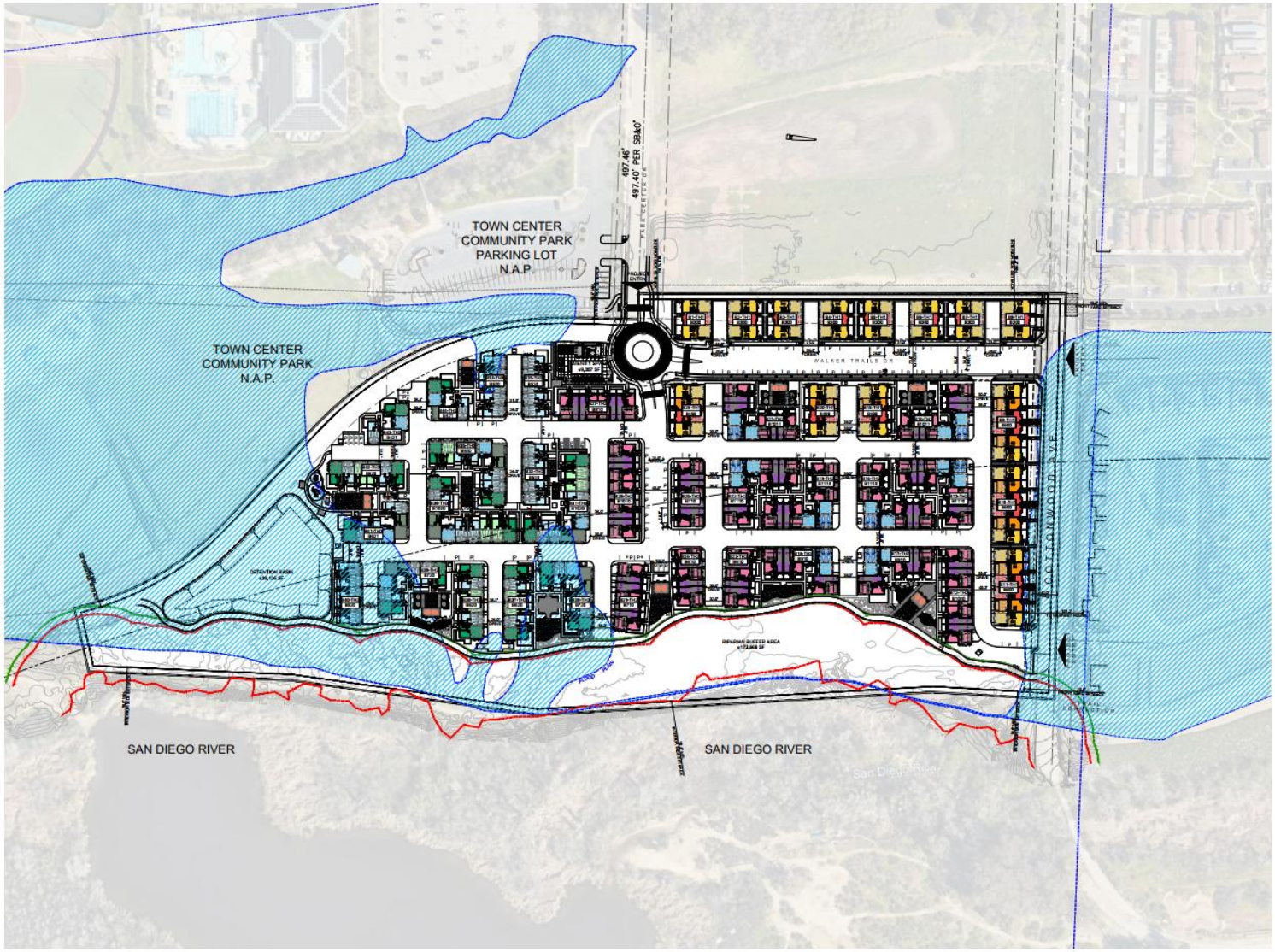
Construction activities within the Project area will consist of site preparation, grading, building, paving, and architectural coating.

Exhibit A

Location Map

Exhibit B

Site Plan



LEGEND

TH #1 - VERANDA AT PARKVUE
2-STORY ROWHOMES

- PLAN 1 - 17 DU
- PLAN 2 - 9 DU
- PLAN 3 - 28 DU

TH #2: LOGGIA AT PARKVUE
3-STORY INTERLOCK TOWNHOMES

- PLAN 1 - 16 DU
- PLAN 2 - 8 DU
- PLAN 3 - 58 DU
- PLAN 4 - 54 DU

TH #3 - TERRACE AT PARKVUE
3-STORY ROWHOMES

- PLAN 1 - 8 DU
- PLAN 2 - 49 DU
- PLAN 3 - 11 DU
- PLAN 4 - 19 DU
- PLAN 5 - 8 DU

- A ACCESSIBLE UNIT
- UNIT ENTRY
- RIPARIAN AREA
- TRAIL EASEMENT
- CURRENT FLOOD PLAIN
- AIRPORT SAFETY ZONE 6

NOTES:

1. INDIVIDUAL TRASH PICK-UP FOR ALL PRODUCT TYPES
2. ALL AC CONDENSERS ARE TO BE ROOF MOUNTED.

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City Ventures
City Ventures
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"PARKVUE" (SANTEE 3)
SANTEE, CA # 2023-0148

Plot Date:	06.12.2025
1st Submittal Date:	2.2.2024
Revised 1st Submittal Date:	5.17.2024
2nd Submittal Date:	01.30.2025
3rd Submittal Date:	04.30.2025
4th Submittal Date:	06.24.2025

Scale: 1" = 80'-0"
0 40 80 160

ARCHITECTURAL SITE PLAN

A0.10

2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

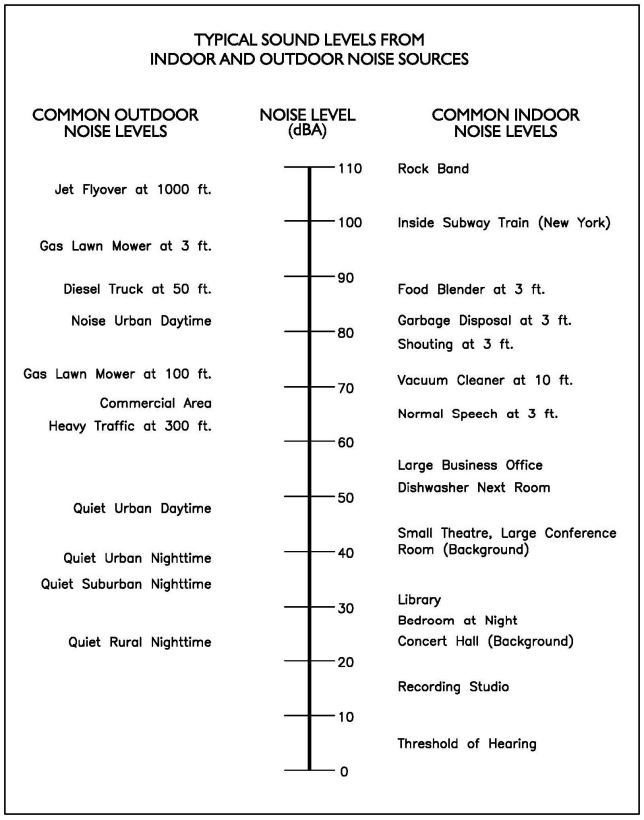
2.1 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as the mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and its *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding), and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting at 20 Hz all the way to the high pitch of 20,000 Hz.

Exhibit C: Typical A-Weighted Noise Levels



2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measured in units of micro-Newton per square inch meter (N/m2), also called micro-Pascal (µPa). One µPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels, abbreviated dB. Exhibit C illustrates reference sound levels for different noise sources.

2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds or equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

2.5 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Changes in Intensity Level, dBA	Changes in Apparent Loudness
1	Not perceptible
3	Just perceptible
5	Clearly noticeable
10	Twice (or half) as loud

https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90 and L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

2.7 Traffic Noise Prediction

Noise levels associated with traffic depend on a variety of factors: (1) volume of traffic, (2) speed of traffic, (3) auto, medium truck (2–3 axle) and heavy truck (4 axle and greater) percentages, and (4) sound propagation. Larger volumes of traffic, higher speeds and larger truck percentages equate to a louder volume in noise. A doubling of the Average Daily Traffic (ADT) along a roadway will increase noise levels by approximately 3 dB; reasons for this are discussed in the sections above.

2.8 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

3.0 Ground-Borne Vibration Fundamentals

3.1 Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude.

PPV – Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.

RMS – Known as root mean squared (RMS) can be used to denote vibration amplitude

VdB – A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. To counter the effects of ground-borne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage.

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be

effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 Regulatory Setting

The proposed project is located in the City of Santee and noise regulations are addressed through the efforts of various federal, state and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdiction use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being constructed adjacent to a highway or, or alternatively that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

4.2 State Regulations

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix.” The matrix allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 of the California Building Code (CBC), which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold. The State mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan.

4.3 City of Santee Noise Regulations

The City of Santee outlines its noise regulations and standards within the Noise Element from the General Plan and the Noise Ordinance from the Municipal Code. Construction noise and vibration regulations are outlined within the City of Santee Draft Program Environmental Report (DPEIR).

City of Santee General Plan

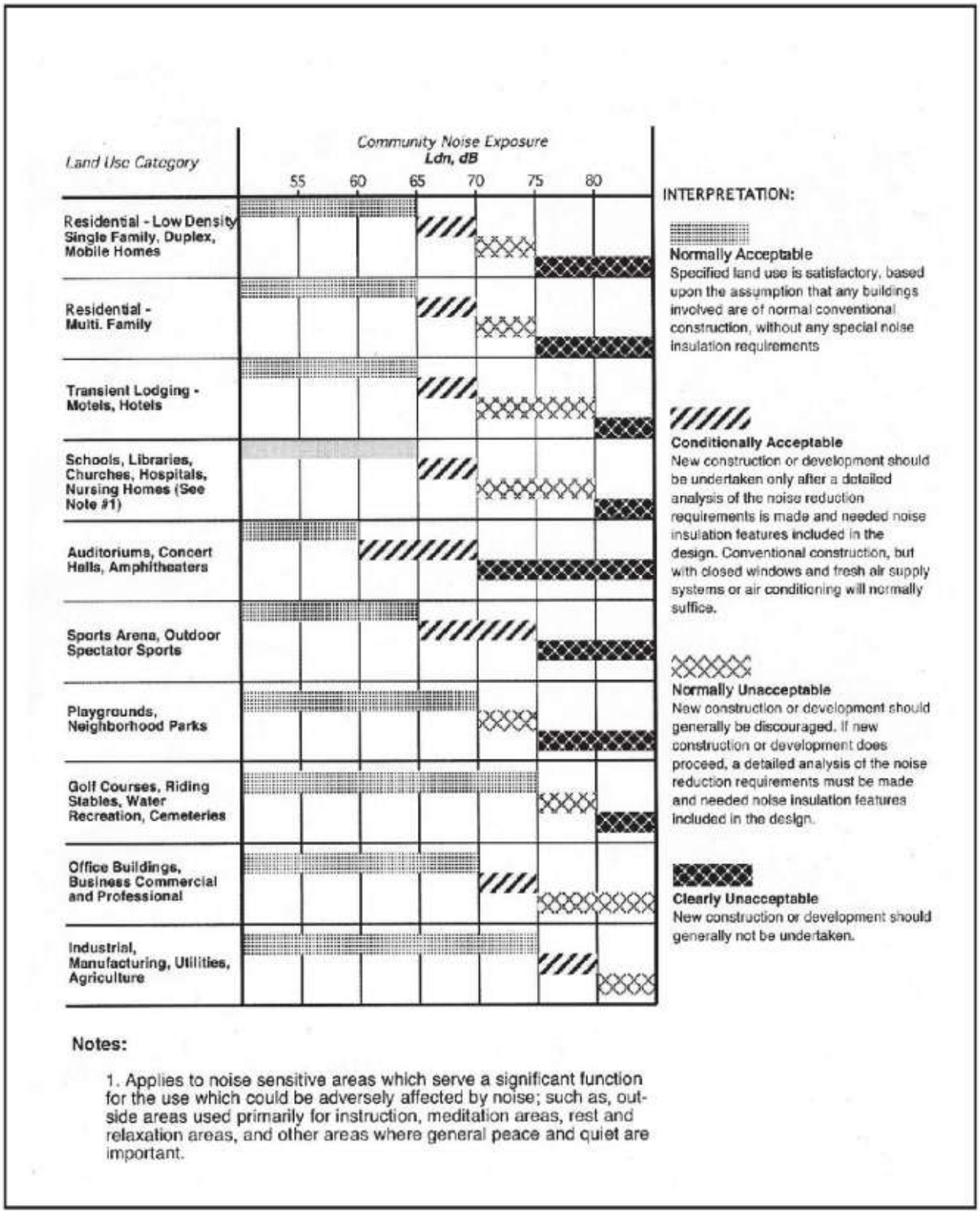
Relevant noise regulations and implementation program measures from the Noise Element that would mitigate potential impacts on noise include the following.

Thresholds of Significance: The California Environmental Quality Act encourages jurisdictions to establish local thresholds for determining whether a particular impact is significant. Impacts exceeding these thresholds would require that measures be identified to avoid or reduce the severity of the impact. Noise impacts shall be considered significant if any of the following occur as a result of the proposed development:

1. If, as a direct result of the proposed development, noise levels for any existing or planned development will exceed the noise levels considered compatible for that use as identified in Figure 7-3, Noise / Land Use Compatibility Guide (Exhibit D).

2. If, as a direct result of the proposed development, noise levels which already exceed the levels considered compatible for that use are increased by 3 or more decibels.

Exhibit D: Land Use Compatibility Guidelines



Development standards should be applied to future projects during the discretionary review process and should include the following:

1. Whenever it appears that new development will result in any existing or future noise sensitive uses being subjected to noise levels of 65 dB(A) Ldn, or greater, an acoustical study will be required.

   For residential uses, noise sensitive areas shall include rear yard areas on single family residences and ground floor common areas and private patio areas for multiple family residences. For other noise sensitive uses such as libraries, schools or hospitals, noise sensitive areas shall be those areas that serve a significant function for the use that could be adversely affected by noise. Examples include resting or patient recovery areas at hospitals, outdoor service areas for churches (excluding areas used for short-term social gatherings) or outdoor teaching or discussion areas at schools (does not include playgrounds or other active outdoor areas).

2. If the acoustical study shows that the noise levels at any noise sensitive area will exceed 65 dB(A) Ldn, the development should not be approved unless the following findings are made:

   a. Modifications to the development have been, or will be made, which will reduce the exterior noise level in noise sensitive areas to 65 dB(A) Ldn or less, or

   b. If, with current noise abatement technology, it is not feasible to reduce the exterior noise level to 65 dB(A) Ldn or less, then modifications to the development will have been, or will be made which reduce the exterior noise level to the maximum extent feasible and the interior noise level to 45 dB(A) Ldn or less. Particular attention shall be given to noise sensitive spaces such as bedrooms.

      For rooms in noise sensitive areas which are occupied only for a part of the day, (schools, libraries or similar), the interior one-hour average sound level during occupation, due to noise outside, should not exceed 45 dB(A) Leq (hour).

The City's noise maps will be used to determine whether a proposed project or land use is compatible with its surrounding land uses. Noise compatible land uses are assessed according to the categories depicted on Figure 7-3, Noise / Land Use Compatibility Guide (Exhibit D). The Noise / Land Use Compatibility Guide should not be misinterpreted as being prohibitive but should be used as a guide and a resource. If doubt exists as to the noise impact, whether it be the existing or future noise on the project or from the project on the surrounding community, an acoustical study will be required. Land use changes should be reviewed for potential noise impacts.

The acoustical study shall include existing and future noise levels on the site, the effect of the project on its surroundings, and mitigating measures, if necessary. The mitigation measures may include, but not be limited to the following:

1. The use of site design techniques such as the provision of buffers to increase distances between the noise source and receiver, siting of buildings and parking areas and the careful siting of noise-sensitive outdoor features to minimize noise impacts;

2. Provision of berms, landscaping and other sound barriers, without the exclusive use of walls; i.e., a combination of a small wall and a berm in concert with the overall streetscape in the area could be appropriate; and
3. Insulation of buildings against noise, including thicker-than-standard glazing and mechanical ventilation.

City of Santee Municipal Code

Section 5.04.020 Definitions.

"Disturbing, excessive or offensive noise" means:

1. Any sound or noise which constitutes a nuisance involving discomfort or annoyance to persons of normal sensitivity residing in the area;
2. Any sound or noise conflicting with criteria standards or levels as set forth in this chapter for permissible noises;
3. Any sound or noise conflicting with criteria standards or levels established by Federal or State Government which are applicable in the City.

Section 5.04.030 Most restrictive limits apply.

If there is any conflict among sections in this chapter or between the sections in this chapter and any other applicable law or regulation, the provision which contains the most restrictive limits applies.

Section 5.04.040 General noise regulations.

General Prohibitions. It is unlawful for any person to make, continue, or cause to be made or continued, within the limits of the City, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area. The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

1. The level of the noise;
2. Whether the nature of the noise is usual or unusual;
3. Whether the origin of the noise is natural or unnatural;
4. The level of the background noise;
5. The proximity of the noise to sleeping facilities;
6. The nature and zoning of the area within which the noise emanates;
7. The density of the inhabitation of the area within which the noise emanates;
8. The time of day or night the noise occurs;

9. The duration of the noise;
10. Whether the noise is recurrent, intermittent, or constant; and
11. Whether the noise is produced by a commercial or noncommercial activity.

Section 5.04.090 Construction equipment.

Prohibitions. Except for emergency work or work that has been expressly approved by the City, it is unlawful for any person to operate any single or combination of powered construction equipment at any construction site, as follows:

1. It is unlawful for any person to operate any single or combination of powered construction equipment at any construction site on Mondays through Saturdays except between the hours of 7:00 a.m. and 7:00 p.m., unless expressly approved by the Director of Development Services.
2. It is unlawful for any person to operate any single or combination of powered construction equipment at any construction site on Sundays or City recognized holidays unless expressly approved by the Director of Development Services.
3. No construction equipment is permitted to be started, idled, moved or operated at any location before 7:00 a.m. or after 7:00 p.m. on Mondays through Saturdays and all times on Sundays and holidays, described in subsection (A)(2) of this section. Specific exemptions may be authorized by the Director of Development Services.
4. Construction equipment with a manufacturer's noise rating of 85 $dBAL_{MAX}$ or greater, may only operate at a specific location for 10 consecutive workdays. If work involving such equipment will involve more than 10 consecutive workdays, a notice must be provided to all property owners and residents within 300 feet of the site no later than 10 days before the start of construction. The notice must be approved by the City and describe the project, the expected duration, and provide a point of contact to resolve noise complaints.

Section 5.04.160 Limitations on noise not otherwise addressed.

For any noise source not specifically addressed in this chapter, except where exempted or excluded by Section 5.04.170, the following general limitations apply:

A. Between 10:00 p.m. and 7:00 a.m., it is unlawful for any person to generate any noise on the public way that is louder than average conversational level at a distance of 50 feet or more, vertically or horizontally, from the source.

B. Between 10:00 p.m. and 7:00 a.m., no person is permitted to generate any noise on any private open space that is louder than average conversational level at a distance of 50 feet or more, measured from the property line of the property from which the noise is being generated.

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The DPEIR outlines the following applicable mitigation measures regarding construction noise and vibration. Only the applicable portion of MM-BIO-1 is provided below.

MM-NOS-2: The City shall review applications for future development to determine applicability of a Construction Noise Best Management Plan. An applicant may provide site-specific noise generation information demonstrating that construction activities will not exceed 75 dB at the nearest sensitive receptor. If this site-specific information is not provided, a construction best management plan shall be required when the construction site is located within 150 feet of a sensitive receptor. The criteria of 150 feet is provided as a screening tool for use by the City, based on an average construction noise level of 83 dB, attenuating to 75 dB at 150 feet.

Construction Noise Best Management Practice Plan

Where applicable based on the criteria provided above, the City shall require preparation and implementation of a best management practice plan that demonstrates how noise levels would be minimized to comply with the time of day restrictions and notification requirements of Santee Municipal Code Section 5.04.090.

Noise reduction measures can include, but are not limited to, the following:

1. Construction equipment with a manufacturer's noise rating of 85 dB(A) Lmax or greater may only operate at a specific location for 10 consecutive workdays. If work involving such equipment would involve more than 10 consecutive workdays, a notice must be provided to all property owners and residents within 300 feet of the site no later than 10 days before the start of construction. The notice must be approved by the City and describe the proposed project and the expected duration of work and provide a point of contact to resolve noise complaints.
2. Idling times for noise-generating equipment used in demolition, construction, site preparation, and related activities shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
3. Demolition, construction, site preparation, and related activities within 100 feet from the edge of properties with existing, occupied noise-sensitive uses shall incorporate all feasible strategies to reduce noise exposure for noise-sensitive uses, including:
    - Provide written notice to applicable noise-sensitive land uses at least two weeks prior to the start of each construction phase of the construction schedule;
    - Ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers' specifications;
    - Re-route construction equipment away from adjacent noise-sensitive uses;

- Use sound aprons or temporary noise enclosures around noise-generating equipment;
- Position storage of waste materials, earth, and other supplies in a manner that will function as a noise barrier for surrounding noise-sensitive uses;
- Use the quietest practical type of equipment;
- Use electric powered equipment instead of diesel or gasoline engine powered equipment;
- Use shrouding or shielding and intake and exhaust silencers/mufflers; and
- Other effective and feasible strategies to reduce construction noise exposure for surrounding noise-sensitive uses.

4. For construction of buildings that require the installation of piles, an alternative to installation of piles by hammering shall be used where sensitive receptors are located within 150 feet. This could include the use of augured holes for cast-in place piles, installation through vibration or hydraulic insertion, or another low-noise technique.

MM-NOS-3: Applications for future development, where the City has determined a potential for vibration impacts in relation to sensitive receptors, shall be required to comply with the following mitigation measure:

Prior to the issuance of a permit to develop at the Rezone Sites, the City shall determine whether the construction process will require equipment or activities that may result in vibration, such as pile driving. For projects requiring pile driving during construction within 135 feet of fragile structures, such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. These distances are based on reference vibration levels generated by pile drivers and vibratory rollers and standard vibration propagation rates as published by the Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (FTA 2018). This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving, and static rollers as opposed to vibratory rollers shall be used. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.

MM-BIO-1: Applications for future development, where the City has determined a potential for impacts to sensitive biological resources, shall be required to comply with the following mitigation measure.

a. Prior to issuance of any construction permit or any earth-moving activities, a site specific general biological resources survey shall be conducted to identify the presence of any sensitive biological resources, including any sensitive plant or wildlife species. A biological resources report shall be submitted to the City to document the results of the biological resources survey. The report shall include:
   1. The methods used to determine the presence of sensitive biological resources;
   2. Vegetation mapping of all vegetation communities and/or land cover types;
   3. The locations of any sensitive plant or wildlife species;
   5. An evaluation of the significance of any potential direct or indirect impacts from the proposed project. If suitable habitat for sensitive species is identified based on the general biological survey, then focused presence/absence surveys shall be conducted in accordance with applicable resource agency survey protocols and incorporated into the biological resources report. If potentially significant impacts to sensitive biological resources are identified, project-level grading and site plans shall incorporate project design features to avoid or minimize direct impacts on sensitive biological resources to the extent feasible, and the report shall also recommend appropriate mitigation to reduce the impacts to below a level of significance, where feasible.

b. Environmentally Sensitive Areas (ESAs) shall be identified in the biological resources report and avoided to the maximum extent practicable. In areas near or adjacent to ESAs (i.e., natural habitats and vegetation, wetlands, wildlife areas, wildlife corridors), the biological resources report will consider the following measures:

   Avoidance of ESAs. In areas near or adjacent to ESAs, construction limits shall be clearly demarcated using highly visible barriers (such as silt fencing), which shall be installed under the supervision of a qualified biologist prior to the commencement of work. Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint, including designated staging areas, and routes of travel. The construction areas shall be limited to the minimal area necessary to complete the proposed project. The fencing shall remain in place until the completion of all construction activities and shall be promptly removed when construction is complete.

MM-BIO-2: Applications for future development, wherein the City has determined a potential for impacts to least Bell's vireo, shall be required to comply with the following mitigation framework.

Prior to issuance of a permit for grading or vegetation removal, USFWS protocol surveys for least Bell's vireo shall be required should project construction occur within 300 feet of riparian habitat during the breeding season (April 10 to July 31). If least Bell's vireo are identified during the protocol surveys, then noise attenuation measures shall be required to ensure that noise levels from construction do not exceed a 60 dB(A) hourly average per hour at the edge of the riparian habitat or to the ambient noise level if it exceeds 60 dB(A) prior to construction. Construction noise monitoring shall be required to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average unless an analysis completed by a qualified acoustician shows that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat.

5.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

5.1 Noise Measurement Procedure and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as the first row of houses
- Locations that are acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance to the County's and Caltrans (TeNS) technical noise specifications. All measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The following gives a brief description of the Caltrans Technical Noise Supplement procedures for sound level measurements:

- Microphones for sound level meters were placed 5-feet above the ground for all measurements
- Sound level meters were calibrated (Larson Davis CAL 200) before and after each measurement
- Following the calibration of equipment, a windscreen was placed over the microphone
- Frequency weighting was set on "A" and slow response
- Results of the long-term noise measurements were recorded on field data sheets
- During any short-term noise measurements, any noise contaminations such as barking dogs, local traffic, lawn mowers, or aircraft fly-overs were noted
- Temperature and sky conditions were observed and documented

5.2 Noise Measurement Locations

Noise monitoring locations were selected to obtain a baseline of the existing noise environment. Two (2) short-term 15-minute noise measurements were conducted at or near the Project site, and long-term data was extrapolated based on traffic patterns. Appendix A includes photos, the field sheet, and measured noise data. Exhibit E illustrates the location of the measurements.

5.3 FHWA Traffic Noise Prediction Model

Traffic noise from vehicular traffic was projected using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) standards. The FHWA model arrives at the predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Roadway volumes and percentages correspond to the project's scoping agreement for traffic impact analysis as prepared by TJW Engineering (TJW Engineering, Cottonwood & Park – Scoping Agreement for Traffic Impact Analysis, March 18, 2024) and the City's 2018 ADTs. The referenced traffic data was applied to the model and is in Appendix B. The following outlines the key adjustments made to the REMEL for the roadway inputs:

- Roadway classification – (e.g., freeway, major arterial, arterial, secondary, collector, etc.),
- Roadway Active Width – (distance between the center of the outer most travel lanes on each side of the roadway)
- Average Daily Traffic Volumes (ADT), Travel Speeds, Percentages of automobiles, medium trucks and heavy trucks
- Roadway grade and angle of view
- Site Conditions (e.g., soft vs. hard)
- Percentage of total ADT which flows each hour through-out a 24-hour period

Table 1 indicates the roadway parameters and vehicle distribution utilized for this study.

Table 1: Roadway Parameters and Vehicle Distribution

Roadway	Segment	Existing ADT[1]	Existing + Project ADT[1]	Speed (MPH)	Site Conditions
Magnolia Ave	East of site	22,400	22,640	45	Hard
Mast Blvd	North of site	18,500	18,740	40	Hard
Vehicle Distribution and Mix[3]					
Motor-Vehicle Type		**Daytime % (7AM to 7 PM)**	**Evening % (7 PM to 10 PM)**	**Night % (10 PM to 7 AM)**	**Total % of Traffic Flow**
Automobiles		77.5	12.9	9.6	97.5
Medium Trucks		84.8	4.9	10.3	1.8
Heavy Trucks		86.5	2.7	10.8	0.7

Notes:
[1] ADTs from City of Santee 2018 Average Daily Traffic Volumes
[2] Project ADT from TJW TIA
[3] Typical California Vehicle Distribution and Mix

To determine the project's noise impact to the surrounding land uses, MD generated noise contours for projected traffic conditions. Noise contours are used to provide a characterization of sound levels experienced at a set distance from the centerline of a subject roadway. They are intended to represent a worst-case scenario and do not take into account structures, sound walls, topography, and/or other sound attenuating features which may further reduce the actual noise level. Noise contours are developed for comparative purposes and are used to demonstrate potential increases/decreases along subject roadways because of a project.

5.4 Interior Noise Modeling

The interior noise level is the difference between the projected exterior noise level at the structure's facade and the noise reduction provided by the structure itself. Typical building construction will provide a conservative 12 dBA noise level reduction with a "windows open" condition and a very conservative 20 dBA noise level reduction with "windows closed". MD estimated the interior noise level by subtracting the building shell design from the predicted exterior noise level.

For a "windows closed" condition, the project will require mechanical fresh air ventilation (e.g., air conditioning) to the habitable dwelling units.

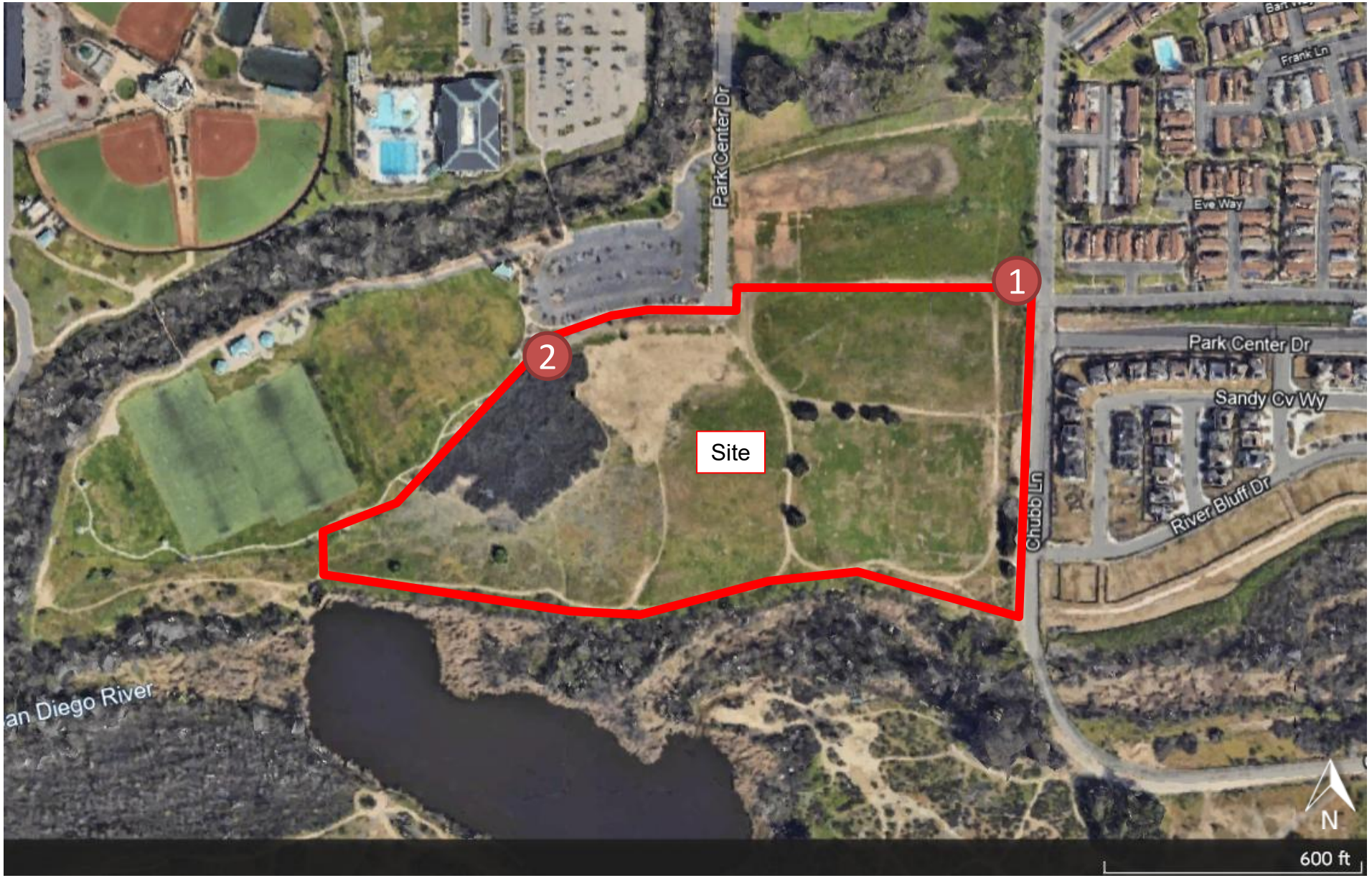
5.5 FHWA Roadway Construction Noise Model

The construction noise analysis utilizes the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RNCM), together with several key construction parameters. Key inputs include distance to the sensitive receiver, equipment usage, % usage factor, and baseline parameters for the project site.

The project was analyzed based on the different construction phases. The construction noise calculation output worksheet is in Appendix C.

Exhibit E

Measurement Locations



6.0 Existing Noise Environment

Two (2) 15-minute noise measurements were conducted at the project site in order to document the existing noise environment. The measurements include the Leq, Lmin, Lmax and other statistical data (e.g. L2, L8). 24-hour noise data was extrapolated from the 15-minute noise measurements using typical traffic patterns. The results of the noise measurements are presented in Table 2. Noise measurement field sheets are provided in Appendix A.

Table 2: Short-Term Noise Measurement Data (dBA)[1]

Location	Start Time	Stop Time	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)	L(90)	Estimated Ldn[2]
NM1	1:20 PM	1:35 PM	58.1	77.7	42.2	65.9	54.1	46.3	44.7	43.3	61.0
NM2	1:42 PM	1:57 PM	52.3	65.1	43.1	62.0	54.9	51.3	47.8	44.9	55.2

Notes:
[1.] Short-term noise monitoring locations are illustrated in Exhibit E.
[2.] Ldn estimated based off typical traffic patterns.

Noise data indicates the ambient noise level ranged from 52 to 58 dBA Leq at the surrounding uses. The exterior ambient noise level is estimated to be 55 to 61 dBA Ldn. Additional field notes are provided in Appendix A.

7.0 Future Noise Environment Impacts and Mitigation

This assessment analyzes future noise impacts to the project and compares the results to the City's Noise Standards. The analysis details the estimated exterior noise levels associated with traffic from adjacent roadway sources.

7.1 Future Off-site Exterior Noise Impact

The exterior noise level off-site of the project will be impacted by transportation-related sources and other stationary sources. The following outlines the impacts associated with exterior noise levels.

7.1.1 Future Off-site Traffic Noise Impact

The potential off-site noise impacts caused by the increase in vehicular traffic as a result of the project were calculated at a distance of 50 feet. The distance to the 55, 60, 65, and 70 dBA Ldn noise contours are also provided for reference. The noise level at 50 feet is representative of approximate distances to existing multi-family homes close to the subject roadway impacted by the project. The noise contours were calculated for the following scenarios and conditions:

- Existing Condition (2018 ADT): This scenario refers to the existing traffic noise condition and is demonstrated in Table 3.
- Existing + Project Condition: This scenario refers to the existing plus project traffic noise condition and is demonstrated in Table 3.

<Table 3, next page>

Table 3: Existing/Existing + Project Scenario – Noise Levels Along Roadways (dBA Ldn)

Existing Exterior Noise Levels

Roadway	Segment	Ldn at 50 Ft (dBA)	Distance to Contour (Ft)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Magnolia Ave	East of site	71.4	69	220	695	2,197
Mast Blvd	North of site	69.2	42	132	418	1,322

Existing + Project Exterior Noise Levels

Roadway	Segment	Ldn at 50 Ft (dBA)	Distance to Contour (Ft)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Magnolia Ave	East of site	71.5	70	222	702	2,221
Mast Blvd	North of site	69.3	42	134	423	1,339

Change in Noise Levels as a Result of Projects

Roadway[1]	Segment	Ldn at 50 Feet dBA[2]			
		Existing Without Project	Existing With Project	Change in Noise Level	Potential Significant Impact
Magnolia Ave	East of site	71.4	71.5	0.1	No
Mast Blvd	North of site	69.2	69.3	0.1	No

Notes:
[1] Exterior noise levels calculated at 5 feet above ground level.
[2] Noise levels calculated from centerline of subject roadway.

Table 3 provides the Existing and Existing + Project noise conditions and shows the change in noise level because of the proposed project. As shown in Table 3, there will be a small increase in traffic noise of 0.1 dBA at 50 feet from the centerline of the subject roadway.

7.1.2 Future Off-Site Stationary Noise Impact

Off-site operational noise includes transformers and HVAC units. HVAC equipment is assumed to be located on the rooftops. Equipment will be at least 100 feet away from the nearest residential uses to the east. The maximum sound power level from a single unit is 72 dBA. At 100 feet away, the sound pressure level is estimated to be 31 dBA. Assuming half of all 285 units are located 100 feet away from the eastern receptor and running simultaneously, the sound level is 54 dBA Leq. If the units ran simultaneously for 24 hours, the noise level would be 60 dBA Ldn. According to the City's Land Use Compatibility (Exhibit D of this report), the noise at residential properties must not exceed 65 dBA Ldn. The worst-case noise due to the HVAC units operating simultaneously will be 60 dBA Ldn, and thus meets the City's noise level limit for residential properties.

Per ANSI and NEPA requirements for transformer noise, transformers must be no louder than 65 dBA at 6 feet. Transformers should be placed at least 20 feet from the adjacent residential receptors or should be shielded to stay below the nighttime ambient level.

Operational noise complies with Section 5.04 of the Santee Municipal Code. The impact is, therefore, less than significant.

7.2 Future On-site Exterior Noise Levels

The exterior noise level at the project site will be impacted by transportation-related sources. The following outlines the impacts associated with exterior noise levels.

7.2.1 Noise Impacts to On-Site Receptors Due to Traffic

Traffic noise from Magnolia Avenue was evaluated and compared to the City's guidelines. Using cumulative traffic, the edge of the Project site will be up to 58 dBA Ldn. According to the Noise Element of the General Plan, residential uses are acceptable up to 65 dBA Ldn. Thus, the project meets the 65 dBA Ldn limit for residential uses and falls within the normally acceptable level from the Noise Compatibility Matrix.

7.2.2 Noise Impacts to On-Site Receptors Due to Aircrafts

The project site is located approximately 1.3 miles away from Gillespie Field Airport. The site is outside of the 60 dBA CNEL noise contour. Therefore, the impact due to aircraft noise is less than significant.

7.3 Interior Noise Levels

The future interior noise level was calculated for the sensitive receptor locations using a typical "windows open" and "windows closed" condition. A "windows open" condition assumes 12 dBA of noise attenuation from the exterior noise level. A "windows closed" condition" assumes 20 dBA of noise attenuation from the exterior noise level. Table 4 indicates the first and second-floor interior noise levels for the project site.

Table 4: Future Interior Noise Levels (dBA Ldn)

Location	Roadway Noise Source	Exterior Facade Study Location	Noise Level at Building Facade[1]	Interior Noise Reduction Required to Meet Interior Noise Standard of 45 dBA Ldn	Interior Noise Level w/ Typical Residential Windows (STC≥ 25)		STC Rating for Windows Facing Subject Roadway[4]
					Window Open[2]	Windows Closed[3]	
1st Row Units Along Eastern Property Line	Magnolia Ave	1st Floor	58	13	46	38	25
		2nd Floor	58	13	46	38	25

Notes:
1. Noise level from Section 7.1 and from worksheets Appendix B.
2. A minimum of 12 dBA noise reduction is assumed with a "windows open" condition.
3. A minimum of 20 dBA noise reduction is assumed with a "windows closed" condition.
4. Indicates the required STC rating to meet the interior noise standard.

As shown in Table 4, the interior noise level will be 46 dBA Ldn with the windows open and 38 dBA Ldn with the windows closed.

To meet the City's interior 45 dBA Ldn standard a "windows closed" condition is required. The windows and sliding glass doors will require a minimum STC rating of 25. A "windows closed" condition simply means that in order to achieve a 45 dBA Ldn interior noise level, the windows must be closed and does not mean the windows must be fixed.

8.0 Construction Noise Impact

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction. The construction noise and vibration level projections are provided in the sections below.

8.1 Construction Noise

The Environmental Protection Agency (EPA) has compiled data regarding the noise generated characteristics of typical construction activities. The data is presented in Table 5.

Table 5: Typical Construction Noise Levels[1]

Equipment Powered by Internal Combustion Engines

Type	Noise Levels (dBA) at 50 Feet
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86

Impact Equipment

Type	Noise Levels (dBA) at 50 Feet
Saws	71 - 82
Vibrators	68 - 82

Notes:
[1] Referenced Noise Levels from the Environmental Protection Agency (EPA)

Construction is anticipated to occur during the permissible hours from 7:00 a.m. to 7:00 p.m. according to the City's Municipal Code Section 5.04.090. The City's Municipal Code also requires that construction equipment with a noise rating of 85 dBA Lmax or more can only operate for 10 consecutive workdays. MM-NOS-2 of the City's DPEIR states that the construction noise level at the nearest sensitive receptor must not exceed 75 dBA Leq.

Construction noise is considered a short-term impact and would be considered significant if construction activities are taken outside the allowable times as described in the City's Municipal Code, or if construction exceeds the DPEIR noise standards. Construction noise will have a temporary or periodic increase in the ambient noise level above the existing within the project vicinity. Construction noise level projections are provided below.

Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels are in Table 6. A likely worst-case construction noise scenario assumes equipment operating as close as 80 feet and an average of 690 feet from the nearest sensitive receptor (residences to the east). The Lmax levels represent maximum levels when construction occurs adjacent to the residential receptors. Leq levels represent the average construction noise level during each phase.

Table 6: Construction Noise Levels at the East Property Line

Phase	dBA Lmax	dBA Leq
Ground Improvement	96.9	74.3
Site Prep	79.9	64.9
Grading	80.9	65.6
Build	79.9	63.4
Paving	85.9	64.1
Arch Coating	73.9	51.2
Notes: Const Equip from CalEEMod		

As shown in Table 6, construction noise levels are anticipated to get up to 74 dBA Leq, and thus meet the standards defined in MM-NOS-2. The column setups during ground improvement, the grader during grading, and the pavement scarifier during paving are anticipated to exceed 85 dBA Lmax and must comply with Section 5.04.090(4) of the Municipal Code, which states that construction equipment with a maximum noise level of 85 dBA Lmax or greater may only operate for 10 consecutive workdays, or a notice must be provided to all property owners and residents within 300 feet of the site.

Per MM-BIO-2 of the City's DPEIR, construction noise could be significant if occurring within 300 feet of riparian habitat during the breeding season (April 10 to July 31). If least Bell's vireo are identified during protocol surveys, the construction noise levels must be reduced to 60 dBA. The project then must implement a construction noise mitigation and monitoring plan to reduce the levels to 60 dBA hourly average per hour at the edge of the riparian habitat.

The construction noise impact is less than significant with the implementation of the construction noise reduction measures listed in Chapter 8.3.

8.2 Construction Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed project does not intend to use equipment such as impact pile drivers, which are known to

generate substantial construction vibration levels. The primary vibration source during construction may be from a sonic pile driver. A sonic pile driver has a vibration impact of up to 0.734 inches per second peak particle velocity (PPV) at 25 feet.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^n$$

Where: PPV_{ref} = reference PPV at 25 ft.
D_{rec} = distance from equipment to receiver in ft.
n = 1.1 (the value related to the attenuation rate through ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in Table 7 (below) provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

Table 7: Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Sept. 2013.
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 8 gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

Table 8: Vibration Source Levels for Construction Equipment[1]

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (dVB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

[1] Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.

The sonic pile driver is anticipated to be as close as 116 feet away from the nearest residential façade to the east. At a distance of 116 feet, a sonic pile driver would yield a worst-case 0.136 PPV (in/sec) which will be perceptible but below any risk of damage (0.3 in/sec PPV is the threshold of old residential structures). The construction vibration complies with MM-NOS-3 of the DPEIR, and the impact is less than significant. No mitigation is required.

8.3 Construction Noise Reduction Measures

Construction operations must follow the City's Noise Ordinance, which states that construction, repair or excavation work performed must occur within the permissible hours. To further ensure that construction activities do not disrupt the adjacent land uses, the following measures should be taken:

1. Construction shall occur during the hours of 7AM to 7PM on Monday through Saturday.

2. The contractor should locate equipment staging areas as far as possible, away from the sensitive receptors.

3. Idling equipment should be turned off when not in use.

4. Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

5. If construction equipment with a manufacturer's noise rating of 85 dBA Lmax or greater (such as column setups and pavement scarifiers) will operate more than 10 consecutive workdays, then a notice must be provided to all property owners and residents within 300 feet of the site no later

than 10 days before the start of construction. The notice must be approved by the City and describe the project, the expected duration, and provide a point of contact to resolve noise complaints.

5. Between April 10th to July 31st: If least Bell's vireo are found within 300 feet the site and construction, the project must implement a construction noise mitigation and monitoring plan to reduce the levels to 60 dB(A) hourly average per hour at the edge of the riparian habitat.

9.0 References

State of California General Plan Guidelines: 1998. Governor's Office of Planning and Research

City of Santee: General Plan Noise Element.

City of Santee: Municipal Code Section 5.04.

City of Santee: Draft Program Environmental Impact Report.

Caltrans Noise Technical Manual. 2013

Konan Vibration Criteria

TJW Engineering, Inc.: Scoping Agreement for Traffic Impact Analysis – Cottonwood & Park, March 2024.

Federal Highway Administration. Noise Barrier Design Handbook. June 2017.

Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. September 2018

Appendix A:

Photographs and Field Measurement Data

15-Minute Continuous Noise Measurement Datasheet

Project Name:	Cottonwood and Park Center Noise
Project: #/Name:	0163-2024-009
Site Address/Location:	Cottonwood Ave & Park Center
Date:	03/12/2024
Field Tech/Engineer:	Jason Schuyler / Drew Gibson

Site Observations:

Primary noise sources are pedestrians and road noise. 56F winds 5-12MPH NM1 helicopter fly over at 2:22 E-bike rider 2:21ish Winds 7 MPH from S.W. Walker/ jogger at 2:24 Walker talking 2:26 Dog bark 2:32 NM2 Walker talking 2:48 kids into van talking crying until 2:54 Osprey airplane 2:53 Primary noise sources are residential and airplane noise. Rotars jet engines Single-engine plane 2:57 2:58 plane

Sound Meter:	XL2, NTI	**SN:**	A2A-08562-E0
Settings:	A-weighted, slow, 1-sec, 15-minute interval		
Site Id:	NM1, NM2		

MD ACOUSTICS

15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: Cottonwood and Park Center Noise

Site Address/Location: Cottonwood Ave & Park Center

Site Id: NM1, NM2

Figure 1: NM1

Figure 2: NM1

Figure 3: NM2

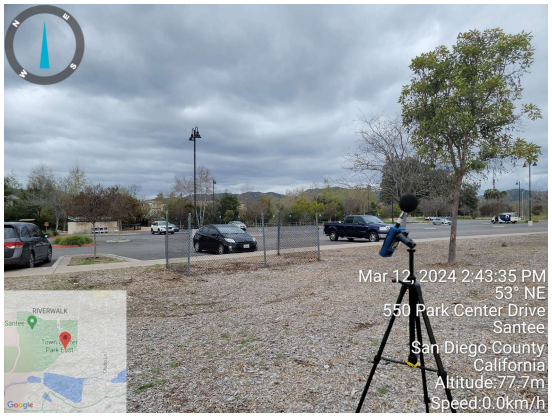
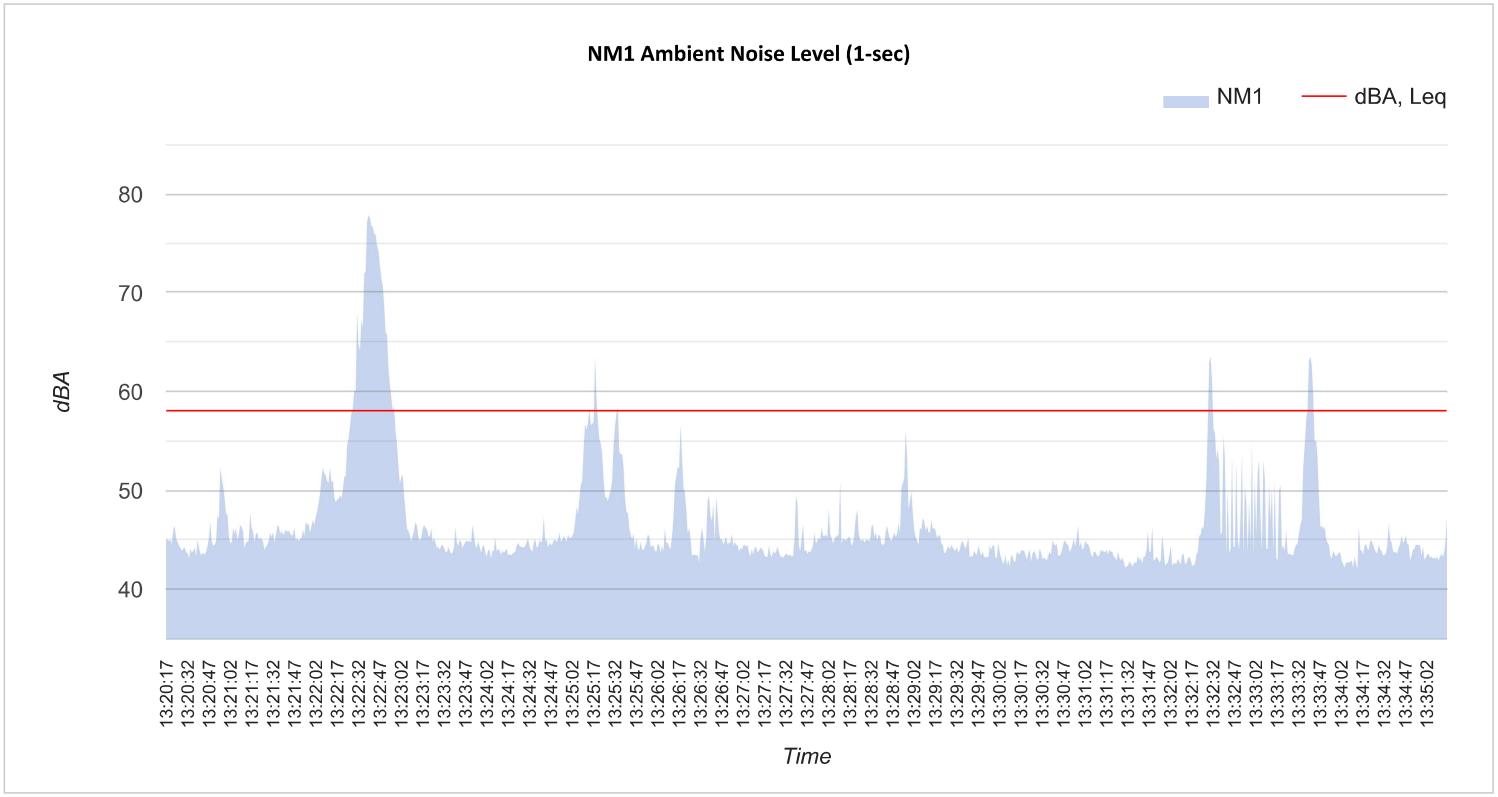


Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
NM1	1:20 PM	1:35 PM	58.1	77.7	42.2	65.9	54.1	46.3	44.7	43.3
NM2	1:42 PM	1:57 PM	52.3	65.1	43.1	62	54.9	51.3	47.8	44.9

15-Minute Continuous Noise Measurement Datasheet - Cont.

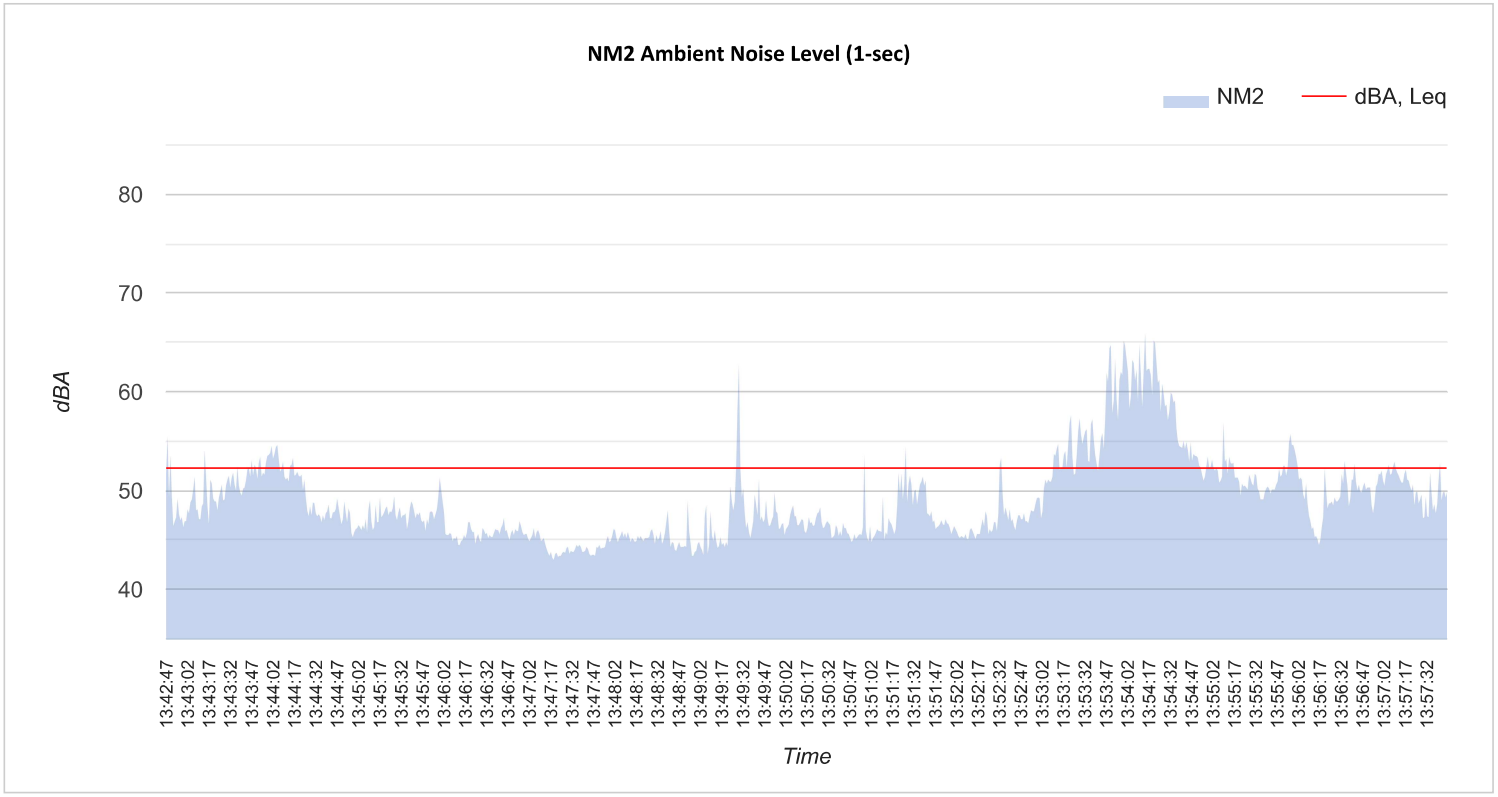
Project Name:	Cottonwood and Park Center Noise	**Site Topo:**	Open park with residential homes	**Noise Source(s) w/ Distance:**
Site Address/Location:	Cottonwood Ave & Park Center	**Meteorological Cond.:**	56F cloudy winds 5-10MPH	road noise and residential noise
Site Id:	NM1	**Ground Type:**	Open Park	



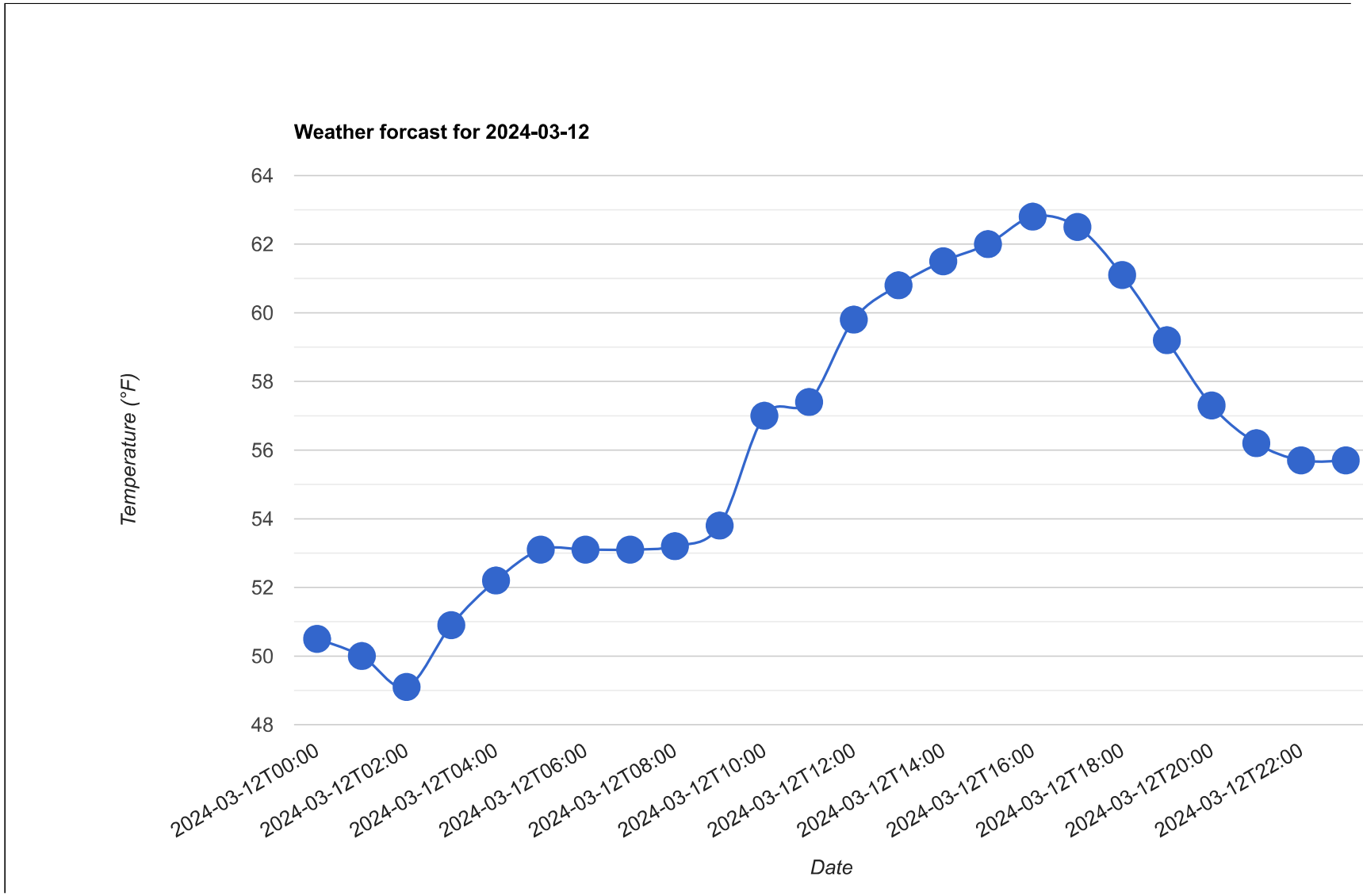
MD ACOUSTICS

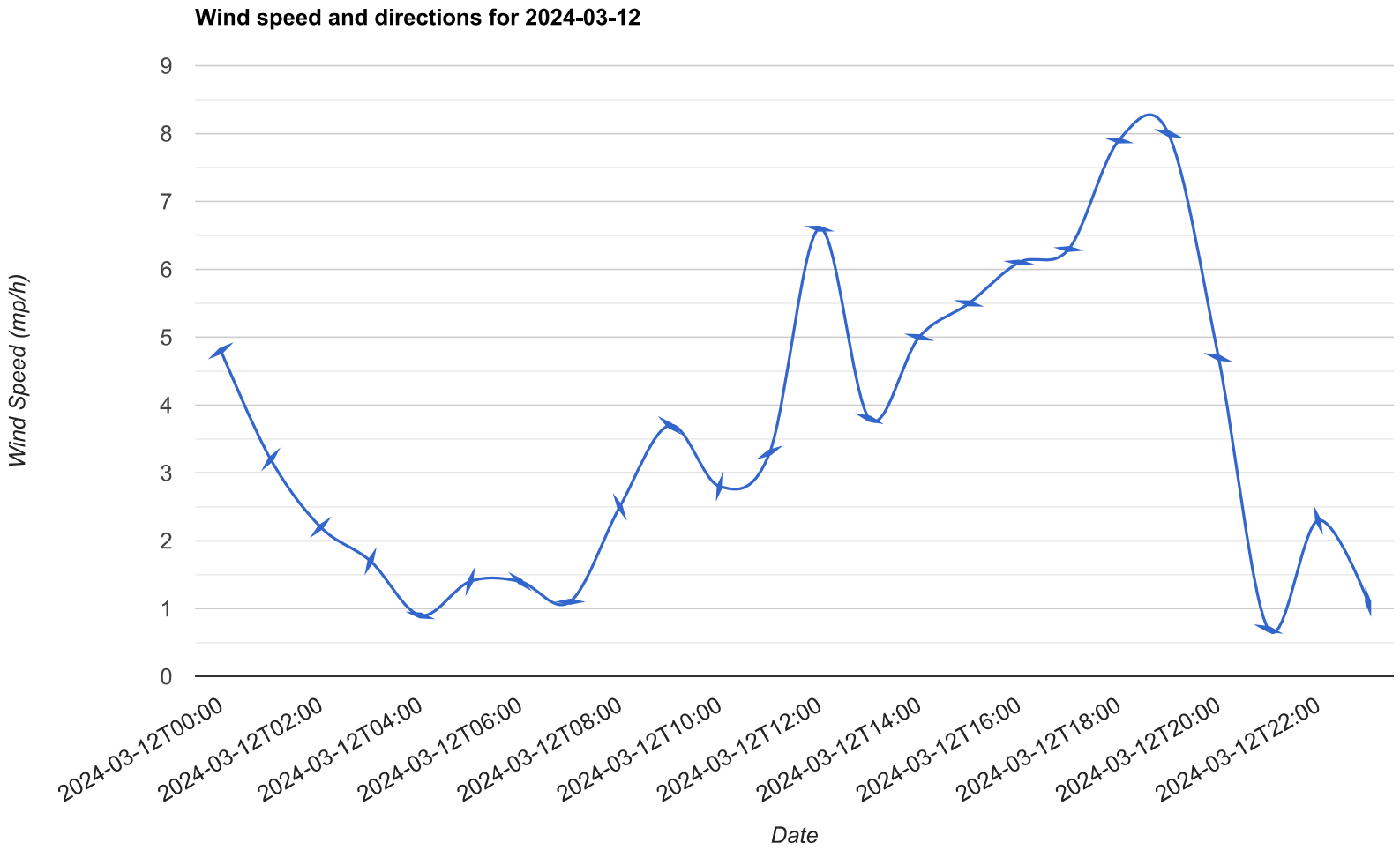
15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name:	Cottonwood and Park Center Noise	**Site Topo:**	Open park with homes in the surr	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Cottonwood Ave & Park Center	**Meteorological Cond.:**	56F cloudy winds 5-10MPH	road noise and residential noise	
Site Id:	NM2	**Ground Type:**	Marsh, park equipment / open lot		



MD ACOUSTICS


Weather forcast for 2024-03-12
64
62
60
58
56
54
52
50
48
Temperature (°F)
2024-03-12T00:00
2024-03-12T02:00
2024-03-12T04:00
2024-03-12T06:00
2024-03-12T08:00
2024-03-12T10:00
2024-03-12T12:00
2024-03-12T14:00
2024-03-12T16:00
2024-03-12T18:00
2024-03-12T20:00
2024-03-12T22:00
Date



Source: Global Forecast System (GFS) weather forcast model

Appendix B:

Traffic Noise Modeling Output

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: TOWN CENTER & PARK
ROADWAY: MAGNOLIA AVE
LOCATION: EAST OF PROJECT

JOB #: 0163-2024-009
DATE: 4-Aug-25
ENGINEER: R.Edelman

NOISE INPUT DATA - EXISTING

ROADWAY CONDITIONS

ADT =	22,400	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	50	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,240	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		50
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL:	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	43.44	- -
MEDIUM TRUCKS	4.0	43.33	- -
HEAVY TRUCKS	8.0	43.37	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.4	69.5	67.8	61.7	70.3	70.9
MEDIUM TRUCKS	62.5	61.0	54.6	53.1	61.5	61.8
HEAVY TRUCKS	63.0	61.6	52.6	53.8	62.2	62.3
NOISE LEVELS (dBA)	72.5	70.7	68.1	62.9	71.4	71.9

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.4	69.5	67.8	61.7	70.3	70.9
MEDIUM TRUCKS	62.5	61.0	54.6	53.1	61.5	61.8
HEAVY TRUCKS	63.0	61.6	52.6	53.8	62.2	62.3
NOISE LEVELS (dBA)	72.5	70.7	68.1	62.9	71.4	71.9

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	78	247	782	2473
LDN	69	220	695	2197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: TOWN CENTER & PARK
ROADWAY: MAGNOLIA AVE
LOCATION: EAST OF PROJECT

JOB #: 0163-2024-009
DATE: 4-Aug-25
ENGINEER: R.Edelman

NOISE INPUT DATA - EXISTING + PROJECT

ROADWAY CONDITIONS

ADT =	22,640	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	50	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,264	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		50
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL:	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	43.44	- -
MEDIUM TRUCKS	4.0	43.33	- -
HEAVY TRUCKS	8.0	43.37	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.5	69.6	67.8	61.8	70.4	71.0
MEDIUM TRUCKS	62.5	61.0	54.7	53.1	61.6	61.8
HEAVY TRUCKS	63.1	61.7	52.6	53.9	62.2	62.4
NOISE LEVELS (dBA)	72.5	70.7	68.1	62.9	71.5	72.0

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.5	69.6	67.8	61.8	70.4	71.0
MEDIUM TRUCKS	62.5	61.0	54.7	53.1	61.6	61.8
HEAVY TRUCKS	63.1	61.7	52.6	53.9	62.2	62.4
NOISE LEVELS (dBA)	72.5	70.7	68.1	62.9	71.5	72.0

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	79	250	790	2500
LDN	70	222	702	2221

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: TOWN CENTER & PARK
ROADWAY: MAST BLVD
LOCATION: EAST OF PROJECT

JOB #: 0163-2024-009
DATE: 4-Aug-25
ENGINEER: R.Edelman

NOISE INPUT DATA - EXISTING

ROADWAY CONDITIONS

ADT =	18,500	
SPEED =	40	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	46	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	1,850	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		50
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL:	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	44.53	- -
MEDIUM TRUCKS	4.0	44.42	- -
HEAVY TRUCKS	8.0	44.47	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.0	67.1	65.4	59.3	67.9	68.5
MEDIUM TRUCKS	60.8	59.2	52.9	51.3	59.8	60.0
HEAVY TRUCKS	61.6	60.2	51.2	52.4	60.8	60.9
NOISE LEVELS (dBA)	70.3	68.5	65.8	60.7	69.2	69.7

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.0	67.1	65.4	59.3	67.9	68.5
MEDIUM TRUCKS	60.8	59.2	52.9	51.3	59.8	60.0
HEAVY TRUCKS	61.6	60.2	51.2	52.4	60.8	60.9
NOISE LEVELS (dBA)	70.3	68.5	65.8	60.7	69.2	69.7

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	47	148	469	1482
LDN	42	132	418	1322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: TOWN CENTER & PARK
ROADWAY: MAST BLVD
LOCATION: EAST OF PROJECT

JOB #: 0163-2024-009
DATE: 4-Aug-25
ENGINEER: R.Edelman

NOISE INPUT DATA - EXISTING + PROJECT

ROADWAY CONDITIONS

ADT =	18,740	
SPEED =	40	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	46	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	1,874	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		50
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL:	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	44.53	- -
MEDIUM TRUCKS	4.0	44.42	- -
HEAVY TRUCKS	8.0	44.47	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.2	65.4	59.4	68.0	68.6
MEDIUM TRUCKS	60.8	59.3	52.9	51.4	59.9	60.1
HEAVY TRUCKS	61.7	60.3	51.2	52.5	60.8	61.0
NOISE LEVELS (dBA)	70.3	68.5	65.8	60.7	69.3	69.8

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.2	65.4	59.4	68.0	68.6
MEDIUM TRUCKS	60.8	59.3	52.9	51.4	59.9	60.1
HEAVY TRUCKS	61.7	60.3	51.2	52.5	60.8	61.0
NOISE LEVELS (dBA)	70.3	68.5	65.8	60.7	69.3	69.8

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	47	150	475	1502
LDN	42	134	423	1339

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: TOWN CENTER & PARK
ROADWAY: MAGNOLIA AVE
LOCATION: EAST OF PROJECT

JOB #: 0163-2024-009
DATE: 4-Aug-25
ENGINEER: R.Edelman

NOISE INPUT DATA - EXISTING + PROJECT

ROADWAY CONDITIONS

ADT =	22,640	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	50	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,264	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		1,000
DIST C/L TO WALL =		1,000
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		0
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	10	
MEDIUM TRUCKS =	10	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	10	

WALL INFORMATION

HTH WALL:	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	999.69	- -
MEDIUM TRUCKS	4.0	999.69	- -
HEAVY TRUCKS	8.0	999.69	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.9	56.0	54.2	48.1	56.8	57.4
MEDIUM TRUCKS	48.9	47.4	41.0	39.5	48.0	48.2
HEAVY TRUCKS	49.5	48.0	39.0	40.3	48.6	48.7
NOISE LEVELS (dBA)	58.9	57.1	54.5	49.3	57.9	58.4

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.9	56.0	54.2	48.1	56.8	57.4
MEDIUM TRUCKS	48.9	47.4	41.0	39.5	48.0	48.2
HEAVY TRUCKS	49.5	48.0	39.0	40.3	48.6	48.7
NOISE LEVELS (dBA)	58.9	57.1	54.5	49.3	57.9	58.4

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	69	217	687	2172
LDN	61	193	610	1929

Appendix C:

Construction Noise Modeling Output

Receptor - Habitat to the South

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Edge of Site to Receptor, feet	Center of Site to Receptor, feet	Item Usage Percent[1]	Ground Factor[2]	Usage Factor	Receptor Item Lmax, dBA	Recptor. Item Leq, dBA
GROUND IMPROVEMENT									
Vibratory Pile Driver	2	101	20	20	20	0	0.20	109.0	102.0
Front End Loader	2	79	20	20	40	0	0.40	87.0	83.0
Compressor (air)	2	78	20	20	40	0	0.40	86.0	82.0
							Log Sum	109.0	105.1
SITE PREP									
Tractor	4	84	80	690	40	0	0.40	79.9	57.2
Dozer	3	82	20	20	40	0	0.40	90.0	86.0
							Log Sum	90.0	90.8
GRADE									
Excavator	2	81	20	20	40	0	0.40	89.0	85.0
Grader	1	85	20	20	40	0	0.40	93.0	89.0
Tractor	2	84	20	20	40	0	0.40	92.0	88.0
Scraper	2	84	20	20	40	0	0.40	92.0	88.0
Dozer	1	82	20	20	40	0	0.40	90.0	86.0
								93.0	96.4
BUILD									
Crane	1	81	20	20	16	0	0.16	89.0	81.0
Man lift	3	75	20	20	20	0	0.20	83.0	76.0
Generator	1	81	20	20	50	0	0.50	89.0	85.9
Tractor	3	84	20	20	40	0	0.40	92.0	88.0
Welder/Torch	1	74	20	20	40	0	0.40	82.0	78.0
								92.0	94.1
PAVE									
Paver	2	77	20	20	50	0	0.50	85.0	81.9
Pavement Scarifier	2	90	20	20	20	0	0.20	98.0	91.0
Roller	2	80	20	20	20	0	0.20	88.0	81.0
								98.0	94.9

ARCH COAT									
Compressor (air)	1	78	20	20	40	0	0.40	86.0	82.0
								86.0	82.0

[1]FHWA Construction Noise Handbook: Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors

Receptor - Residences to the East

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Edge of Site to Receptor, feet	Center of Site to Receptor, feet	Item Usage Percent[1]	Ground Factor[2]	Usage Factor	Receptor Item Lmax, dBA	Recptor. Item Leq, dBA
GROUND IMPROVEMENT									
Vibratory Pile Driver	2	101	80	690	20	0.66	0.20	95.6	63.7
Front End Loader	2	79	80	690	40	0.66	0.40	73.6	44.7
Compressor (air)	2	78	80	690	40	0.66	0.40	72.6	43.7
							Log Sum	95.6	66.8
SITE PREP									
Tractor	4	84	80	690	40	0.66	0.40	78.6	49.7
Dozer	3	82	80	690	40	0.66	0.40	76.6	47.7
							Log Sum	78.6	57.4
GRADE									
Excavator	2	81	80	690	40	0.66	0.40	75.6	46.7
Grader	1	85	80	690	40	0.66	0.40	79.6	50.7
Tractor	2	84	80	690	40	0.66	0.40	78.6	49.7
Scraper	2	84	80	690	40	0.66	0.40	78.6	49.7
Dozer	1	82	80	690	40	0.66	0.40	76.6	47.7
								79.6	58.1
BUILD									
Crane	1	81	80	690	16	0.66	0.16	75.6	42.7
Man lift	3	75	80	690	20	0.66	0.20	69.6	37.7
Generator	1	81	80	690	50	0.66	0.50	75.6	47.7
Tractor	3	84	80	690	40	0.66	0.40	78.6	49.7
Welder/Torch	1	74	80	690	40	0.66	0.40	68.6	39.7
								78.6	55.8
PAVE									
Paver	2	77	80	690	50	0.66	0.50	71.6	43.7
Pavement Scarifier	2	90	80	690	20	0.66	0.20	84.6	52.7
Roller	2	80	80	690	20	0.66	0.20	74.6	42.7
								84.6	56.6

ARCH COAT									
Compressor (air)	1	78	80	690	40	0.66	0.40	72.6	43.7
								72.6	43.7

[1]FHWA Construction Noise Handbook: Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors

VIBRATION LEVEL IMPACT

Project:	Cottonwood & Park	Date: 8/1/25
Source:	Sonic Pile Driver	
Scenario:	Unmitigated	
Location:	Adjacent residences	
Address:	Santee	

PPV = PPVref(25/D)^n (in/sec)

DATA INPUT

Equipment = Type	1	Sonic Pile Driver	INPUT SECTION IN BLUE
PPVref =	0.734	Reference PPV (in/sec) at 25 ft.	
D =	116.00	Distance from Equipment to Receiver (ft)	
n =	1.10	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

DATA OUT RESULTS

PPV =	**0.136**	IN/SEC	OUTPUT IN RED

VIBRATION LEVEL IMPACT

Project:	Cottonwood & Park	Date: 8/1/25
Source:	Vibratory Roller	
Scenario:	Unmitigated	
Location:	Adjacent residences	
Address:	Santee	

PPV = PPVref(25/D)^n (in/sec)

DATA INPUT

Equipment = Type	1	Vibratory Roller	INPUT SECTION IN BLUE
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	80.00	Distance from Equipment to Receiver (ft)	
n =	1.10	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

DATA OUT RESULTS

PPV =	**0.058**	IN/SEC	OUTPUT IN RED

Appendix G

Cottonwood & Park Local Transportation Analysis

Cottonwood and Park Local Transportation Analysis

City of Santee, California

September 2, 2025

TJW ENGINEERING, INC.
9841 Irvine Center Drive, Suite 200
Irvine, CA 92618
949.878.3509 | www.tjwengineering.com

September 2, 2025

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Mr. Michael You
CITY VENTURES
3121 Michelson Drive, Suite 150
Irvine, CA 92612

Subject: Local Transportation Analysis – Cottonwood and Park, City of Santee

Dear Mr. You:

TJW ENGINEERING, INC. (TJW) is pleased to present you with this local transportation analysis for the proposed project, Cottonwood and Park, located at the intersection of Walker Trails Drive Park Center Drive and Cottonwood Avenue in the City of Santee.

This traffic study has been prepared to meet the traffic study requirements for the City of Santee and assesses the forecast traffic operations associated with the proposed project and its impact on the local street network. This report is being submitted to you for review and forwarding to the City of Santee.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat PE, TE
President
Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

David Chew, PTP
Transportation Planner

Cottonwood and Park
Local Transportation Analysis

City of Santee, California

September 2, 2025

Prepared for:
Mr. Michael You
CITY VENTURES
3121 Michelson Drive, Suite 150
Irvine, CA 92612

Prepared by:
Thomas Wheat, PE, TE
David Chew, PTP

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1.0 EXECUTIVE SUMMARY

This Local Transportation Analysis (LTA) analyzes projected traffic operations associated with the proposed project, Cottonwood and Park, located at the intersection of Park Center Drive and Cottonwood Avenue in the City of Santee. The purpose of this LTA is to evaluate potential circulation system deficiencies that may result from the development of the proposed project, and, if applicable, to recommend improvements to achieve acceptable operations. This analysis was prepared in coordination with the City of Santee via a scoping agreement (See **Appendix A**) and is pursuant to applicable traffic impact analysis guidelines found in the *Guidelines for Transportation Impact Studies in the San Diego Region (Region Guidelines)* (May 2019) and the *City of Santee General Plan Mobility Element (City Mobility Element)* (October 2017).

The proposed project is for the construction of a total of 285 single-family attached dwelling units at 12.9 units per acre (du/ac). For the purpose of this report 300 dwelling units were analyzed as a more conservative approach. The anticipated year of completion is 2025. The project proposes three full access points. The first two will be from the construction of a new roadway through the project site that will connect the two segments of Park Center Drive on the north and east borders of the project site. The new segment on the east border will be changed to Walker Trails Drive. Walker Trails Drive through the project site will connect to Park Center Drive at the project north border via a new roundabout. The new roundabout will add an additional leg to the south. The third access point will be south of Walker Trails Drive at a proposed roadway ending at River Bluff Drive. The current General Plan Land Use and Zoning of the site is Town Center Residential-14, or TCR-14 with no amendments or changes proposed. The project site is currently vacant.

A growth rate of two percent (2%) was used to account for 2025 traffic volumes. Upon completion, the project is projected to generate 2,400 daily trips with 192 AM and 240 PM peak hour trips.

The following ten (10) intersections and seven (7) roadway segments in the vicinity of the project site have been included in the level of service (LOS) analysis.

The intersections are;

1. Cuyamaca Street/Mast Boulevard;
2. Cuyamaca Street/Riverwalk Drive;
3. Park Center Drive/Mast Boulevard;
4. Magnolia Avenue/Mast Boulevard;
5. Magnolia Avenue /Walker Trails Drive;
6. Magnolia Avenue /Mission Gorge Road;
7. Park Center Drive /Riverwalk Drive-Dwy;
8. Park Center Drive/Park Driveway-Project Roundabout;
9. Cottonwood Avenue/Project Driveway #2-Walker Trails Drive;
10. Cottonwood Avenue/Project Driveway #3-River Bluff Drive.

The roadway segments are;

1. Park Center Drive between Park Driveway-Project Roundabout and Mast Boulevard;
2. Mast Boulevard between Cuyamaca Street and Magnolia Avenue;
3. Magnolia Avenue between Mast Boulevard and Mission Gorge Road-Woodside Avenue;
4. Walker Trails Drive between Cottonwood Avenue and Magnolia Avenue.

These study intersections and roadway segments are analyzed for the following study scenarios:

- Existing Traffic Conditions (Existing);
- Existing Plus Project Traffic Conditions (EP);
- Near-Term Plus Proposed Traffic Conditions (NTP).

1.1 SUMMARY OF LEVEL OF SERVICE ANALYSIS RESULTS

Table ES-1 summarizes the results of the intersection level of service analysis based on the *City Mobility Element* thresholds of significance for analyzing transportation deficiencies.

Table ES-1
Summary of Transportation Deficiencies at Study Intersections

Intersection			Existing Conditions	Near-Term Plus Project Conditions
1	Cuyamaca Street	Mast Boulevard	Not Deficient	Not Deficient
2	Cuyamaca Street	Riverwalk Drive	Not Deficient	Not Deficient
3	Park Center Drive	Mast Boulevard	Not Deficient	Not Deficient
4	Magnolia Avenue	Mast Boulevard	Not Deficient	Not Deficient
5	Magnolia Avenue	Walker Trails Drive	Not Deficient	Not Deficient
6	Magnolia Avenue	Mission Gorge Road	Not Deficient	Not Deficient
7	Park Center Drive	Riverwalk Drive	Not Deficient	Not Deficient
8	Park Center Drive	Park Driveway – Project Roundabout	Not Deficient	Not Deficient
9	Cottonwood Avenue	Project Driveway #2 – Walker Trails Drive	Not Deficient	Not Deficient
10	Cottonwood Avenue	Project Driveway #3 – River Bluff Drive	Not Deficient	Not Deficient

Existing Traffic Conditions

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Existing Traffic Conditions.

Existing Plus Project Traffic Conditions (EP)

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Existing Plus Project Traffic Conditions.

Near-Term Plus Project Traffic Conditions (NTP)

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Near-Term Plus Project Traffic Conditions.

1.2 SUMMARY OF IMPROVEMENTS

The Near-Term Plus Project PM peak hour volume at the northbound leg left-turn movement of Intersection 5: Magnolia Avenue/Walker Trails Drive exceeded 300 vehicles, the threshold provided by the City of Santee. A review of the queue storage found the 95th percentile queue length during the PM peak hour exceeded the storage capacity. The addition of a second left-turn pocket was analyzed and found to provide sufficient storage space.

1.3 PROJECT FAIR SHARE

The fair share percentage of the proposed project for the recommended improvement is identified in **Table ES-2** below. The percentage of project fair share at the affected Intersection 5: Magnolia Avenue/Walker Trails Drive was calculated using the total PM left-turn trips generated by the project divided by the total PM left-turn traffic under NTP conditions.

Table ES-2
Fair Share Analysis

Intersection			Movement	Improvement	Peak Hour	Total Volume	Project Volume	Project % of Fair Share
5	Magnolia Avenue	Walker Trails Drive	Northbound Left-Turn	Add Second LT pocket at NB movement	PM	314	126	40%

2.0 INTRODUCTION

This Local Transportation Analysis (LTA) analyzes the projected traffic operations associated with the proposed project, Cottonwood and Park, located at the intersection of Park Center Drive and Cottonwood Avenue, currently under construction, in the City of Santee. The purpose of this LTA is to evaluate potential circulation system deficiencies that may result from the development of the proposed project, and, if applicable, to recommend improvements to achieve acceptable operations. This analysis was prepared in coordination with the City of Santee via a scoping agreement (See **Appendix A**) and is pursuant to applicable traffic impact analysis guidelines found in the *Guidelines for Transportation Impact Studies in the San Diego Region (Region Guidelines)* (May 2019) and the *City of Santee General Plan Mobility Element (City Mobility Element)* (October 2017).

2.1 PROJECT DESCRIPTION

The proposed project is for the construction of a total of 285 single-family attached dwelling units at 12.9 units per acre (du/ac). For the purpose of this report 300 dwelling units were analyzed as a more conservative approach. The anticipated year of completion is 2025. The project proposes three full access points. The first two will be from the construction of a new roadway through the project site that will connect the two segments of Park Center Drive on the north and east borders of the project site. The new segment on the east border will be changed to Walker Trails Drive. Walker Trails Drive through the project site will connect to Park Center Drive at the project north border via a new roundabout. The new roundabout will add an additional leg to the south. The third access point will be south of Walker Trails Drive at a proposed roadway ending at River Bluff Drive. The current General Plan Land Use and Zoning of the site is Town Center Residential-14, or TCR-14 with no amendments or changes proposed. The project site is currently vacant.

A growth rate of two percent (2%) was used to account for 2025 traffic volumes. Upon completion, the project is projected to generate 2,400 daily trips with 192 AM and 240 PM peak hour trips.

Exhibit 1 shows the proposed project site location and study area. **Exhibit 2** shows the proposed project site plan.

2.2 STUDY AREA

The following ten (10) intersections and seven (7) roadway segments in the vicinity of the project site have been included in the level of service (LOS) analysis.

1. Cuyamaca Street/Mast Boulevard;
2. Cuyamaca Street/Riverwalk Drive;
3. Park Center Drive/Mast Boulevard;
4. Magnolia Avenue/Mast Boulevard;

5. Magnolia Avenue /Walker Trails Drive;
6. Magnolia Avenue /Mission Gorge Road;
7. Park Center Drive /Riverwalk Drive-Dwy;
8. Park Center Drive/Park Driveway-Project Roundabout;
9. Cottonwood Avenue/Project Driveway #2-Walker Trails Drive;
10. Cottonwood Avenue/Project Driveway #3-River Bluff Drive.

The roadway segments are;

5. Park Center Drive between Park Driveway-future Project Roundabout and Mast Boulevard;
6. Mast Boulevard between Cuyamaca Street and Magnolia Avenue;
7. Magnolia Avenue between Mast Boulevard and Mission Gorge Road-Woodside Avenue;
8. Walker Trails Drive between Cottonwood Avenue and Magnolia Avenue.

These study intersections and roadway segments are analyzed for the following study scenarios:

- Existing Traffic Conditions (Existing);
- Existing Plus Project Traffic Conditions (EP);
- Near-Term Plus Proposed Project Traffic Conditions (NTP).

Traffic operations are evaluated for the following time periods:

- Weekday AM Peak Hour occurring between 7:00 AM to 9:00 AM;
- Weekday PM Peak Hour occurring between 4:00 PM to 6:00 PM.

2.3 ANALYSIS METHODOLOGY

2.3.1 Intersection Analysis Methodology

Level of Service (LOS) is commonly used to describe the quality of flow at intersections using a range from LOS A, very favorable progression, to LOS F, very poor progression. The LOS definitions for interruption of traffic flow differ depending on the type of traffic control (traffic signal, unsignalized intersection with side street stops, unsignalized intersection with all-way stops). The *Highway Capacity Manual* (*HCM*) *7th Edition* (Transportation Research Board, 2022) methodology expresses the LOS of an intersection in terms of delay time for the intersection approaches. The HCM methodology utilizes different procedures for different types of intersection control.

The *Region Guidelines* requires both signalized and unsignalized intersection operations to be analyzed utilizing the HCM methodology.

Intersection LOS for signalized intersections is based on the intersection's average control delay for all movements at the intersection during the peak hour. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Table 1 identifies each Level of Service category with the corresponding general characteristics of traffic flow plus accompanying delay ranges at signalized intersections.

Table 1

HCM – LOS & Delay Ranges – Signalized Intersections

Level of Service	Description	Delay (in seconds)
A	Very favorable progression; most vehicles arrive during green signal and do not stop. Short cycle lengths.	0 – 10.00
B	Good progression, short cycle lengths. More vehicles stop than for LOS A.	10.01 – 20.00
C	Fair progression; longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, though many vehicles still pass through without stopping.	20.01 – 35.00
D	Progression less favorable, longer cycle length and high flow/capacity ratio. The proportion of vehicles that pass through without stopping diminishes. Individual cycle failures are obvious.	35.01 – 55.00
E	Severe congestion with some long-standing queues on critical approaches. Poor progression, long cycle lengths and high flow/capacity ratio. Individual cycle failures are frequent.	55.01 – 80.00
F	Very poor progression, long cycle lengths and many individual cycle failures. Arrival flow rates exceed capacity of intersection.	> 80.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM 7th Edition (Washington D.C., 2022).

Operation for unsignalized intersections is based on the weighted average control delay expressed in seconds per vehicle. At a two-way or side-street stop-controlled intersection, LOS is calculated for each stop-controlled minor street movement, for the left-turn movement(s) from the major street, and for the intersection as a whole. For approaches consisting of a single lane, the delay is calculated as the average of all movements in that lane. For all-way stop-controlled intersections, LOS is computed for the intersection as a whole.

Table 2 identifies each unsignalized intersection LOS category with their corresponding general characteristics of traffic flow, plus their accompanying delay ranges.

Table 2

HCM – LOS & Delay Ranges – Unsignalized Intersections

Level of Service	Description	Delay (in seconds)
A	Little or no delays.	0 – 10.00
B	Short traffic delays.	10.01 – 15.00
C	Average traffic delays.	15.01 – 25.00
D	Long traffic delays. Multiple vehicles in queue.	25.01 – 35.00
E	Very long delays. Demand approaching capacity of intersection	35.01 – 50.00
F	Very constrained flow with extreme delays and intersection capacity exceeded.	> 50.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM 7th Edition (Washington D.C., 2022).

For both signalized and unsignalized intersections, collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume. PHF = [Hourly Volume]/ [4 * Peak 15-Minute Volume]. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour. Existing PHF's, obtained from the existing traffic counts have been used for all analysis scenarios in this study.

This study utilizes *PTV Vistro 2022* software for all signalized and unsignalized intersections. Vistro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis specified in Chapter 16 of the HCM. The level of service and capacity analysis performed within Vistro takes into consideration the optimization and coordination of signalized and unsignalized intersections within a network.

2.3.2 Roadway Segment Analysis Methodology

Analysis of roadway segment daily levels of service is estimated by comparing the two-way 24-hour traffic volumes on the roadway segment to the daily roadway capacity, based on its functional classification. This comparison results in a volume-to-capacity (v/c) ratio, which represents the percentage of the daily vehicular capacity that is required to accommodate the daily traffic volume. **Table 3** presents, as documented in the *City Mobility Element*, daily roadway segment capacity and corresponding LOS for each roadway classification.

Table 3
Roadway Segment LOS Standards

Roadway Classification	Median Type[1]	# of Lanes	Two-Way Traffic Volume (ADT[2])				
			LOS A	LOS B	LOS C	LOS D	LOS E
Prime Arterial	RM	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	RM	4	15,000	21,000	30,000	35,000	40,000
Parkway	RM	4	15,000	21,000	30,000	35,000	40,000
	TWLTL	2 w/ TWLTL	5,000	7,000	10,000	13,000	15,000
	-	2	2,500	3,500	5,000	6,500	8,000
Collector Residential	TWLTL	2 w/ TWLTL	5,000	7,000	10,000	13,000	15,000
	Industrial Collector	2	2,500	3,500	5,000	6,500	8,000
	NM	2	2,500	3,500	5,000	6,500	8,000

Sources: City of Santee Mobility Element (2017).
1: RM = Raised Median, TWLTL = Two-Way Left Turn Lane, NM = No Median.
2: ADT = Average Daily Traffic

2.4 PERFORMANCE CRITERIA

The *City Mobility Element* has established the LOS "D" or better as acceptable LOS during peak hour traffic for all signalized and unsignalized intersections and roadway segments within the designated street system within the City of Santee.

Exhibit 1: Proposed Project Location and Study area

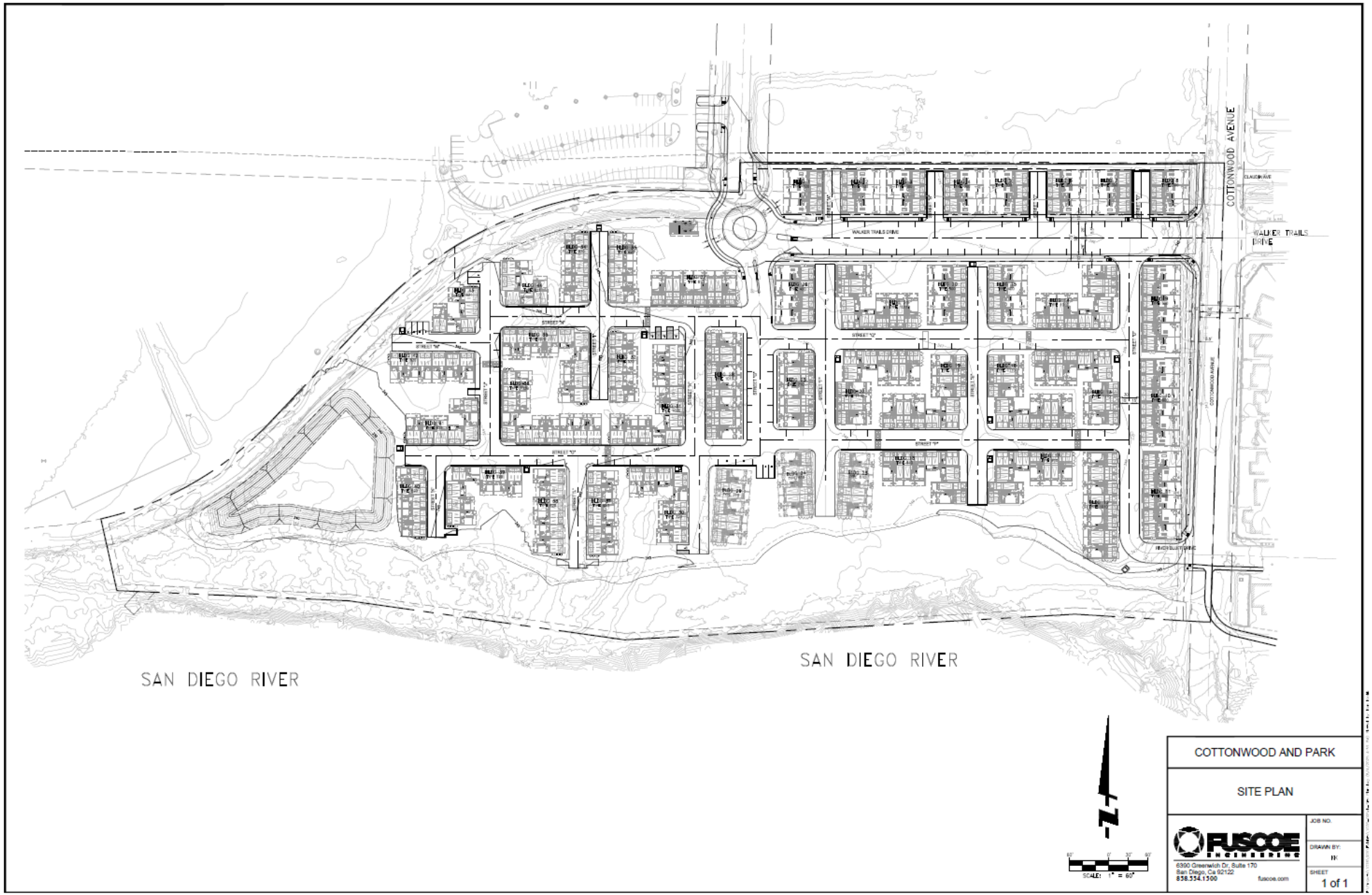


Exhibit 2: Proposed Project Site Plan

3.0 EXISTING CONDITIONS

3.1 EXISTING CIRCULATION NETWORK/STUDY AREA CONDITIONS

The proposed project site is located within the City of Santee. The characteristics of the roadway system within the study area of the proposed project site are described in Table 4.

Table 4
Roadway Characteristics Within Study Area

Roadway	Classification[1]	Jurisdiction	Direction	Existing Lanes	Median Type[3]	Speed Limit (mph)	On-Street Parking
Park Center Drive	Parkway	Santee	North-South	2	TWLTL	25	No
Riverwalk Drive	Collector Residential	Santee	East-West	2	NM	25	Yes
Cuyamaca Street	Major Arterial	Santee	North-South	4	RM	35	No
Mast Boulevard	Major Arterial	Santee	East-West	4	RM	40	Yes
Magnolia Avenue	Major Arterial[2]	Santee	North-South	4	TWLTL	45	No
Mission Gorge Road	Major Arterial	Santee	East-West	4	RM	40	No
Woodside Avenue	Major Arterial[2]	Santee	East-West	4	TWLTL	45	No
Cottonwood Avenue	Collector Residential	Santee	North-South	2	NM	25	Yes
River Bluff Drive	Collector Residential	Santee	East-West	2	NM	25	Yes
Walker Trails Drive	Collector Residential	Santee	East-West	2	NM	25	No/Yes

1: Sources: City of Santee General Plan Mobility Element (October 2017).
2: Although the City of Santee General Plan Mobility Element (October 2017) indicates Major Arterials have Raised Medians, it also lists both Magnolia Avenue and Woodside Avenue, both which have Two-Way Left Turn Lanes, as a Major Arterial.
3: NM = No Median, TWLTL = Two-Way Left-Turn Lane, RM = Raised Median.

Exhibit 3 shows existing intersection controls and roadway geometry of each study area intersection.

3.2 CITY OF SANTEE GENERAL PLAN MOBILITY ELEMENT

The *City Mobility Element* provides a classification system for the roadways within the City of Santee. It includes illustrations of roadway cross-sections for each classification type. See **Appendix A** for the roadway classification system of the *City Mobility Element*.

3.3 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

The *City Mobility Element* provides bicycle facility classifications for the City of Santee. Currently, there are Class II bike lanes on Cuyamaca Street, Mast Boulevard, and Magnolia Avenue. See **Appendix A** for a map of the City of Santee Bicycle Network.

There are pedestrian sidewalks on all roadways in the study area.

3.4 EXISTING PUBLIC TRANSIT SERVICES

The City of Santee is served by the Metropolitan Transit Services (MTS), the transit operator for the San Diego County area, which operates bus routes throughout the County. MTS Bus Route 832 has three stops within one-half of a mile from the proposed project, the first at the northeast corner of Cuyamaca Street and River Park Drive, the second on Cuyamaca Street just south of Riverwalk Drive, and third at Magnolia Avene and Frank Lane. See **Appendix A** for a map of Bus Route 832.

3.5 EXISTING TRAFFIC VOLUMES

To determine the existing operation of the study intersections, AM and PM peak period traffic volumes were estimated based on new traffic counts collected on March 22, 2024. See **Appendix B** for detailed traffic count data. Existing Traffic AM peak hour volumes at the existing study intersections are shown in **Exhibit 4** while Existing PM peak hour volumes are shown in **Exhibit 5**.

3.6 EXISTING TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

Existing traffic intersection analysis of AM and PM peak hour conditions is shown in **Table 5**. Calculations are based on the existing geometrics at the study area intersections as shown in **Exhibit 3.** See **Appendix C** for HCM 7 analysis sheets.

Table 5
Intersection Analysis - Existing Traffic Conditions

Intersection			Control Type[1]	Peak Hour	Existing Conditions	
					Delay[2]	LOS
1	Cuyamaca Street	Mast Boulevard	Signal	AM	31.9	C
				PM	30.2	C
2	Cuyamaca Street	Riverwalk Drive	Signal	AM	17.0	B
				PM	14.0	B
3	Park Center Drive	Mast Boulevard	Signal	AM	6.1	A
				PM	7.9	A
4	Magnolia Avenue	Mast Boulevard	Signal	AM	24.6	C
				PM	21.5	C
5	Magnolia Avenue	Walker Trails Drive	Signal	AM	3.2	A
				PM	2.6	A
6	Magnolia Avenue	Mission Gorge Road	Signal	AM	20.5	C
				PM	23.0	C
7	Park Center Drive	Riverwalk Drive	AWSC	AM	8.4	A
				PM	8.0	A
8	Park Center Drive	Park Driveway	OWSC	AM	-	-
				PM	-	-
9	Cottonwood Avenue	Walker Trails Drive	TWSC	AM	7.2	A
				PM	7.2	A
10	Cottonwood Avenue	River Bluff Drive	TWSC	AM	8.3	A
				PM	8.3	A

1: AWSC = All-Way Stop Control; TWSC = Two-Way Stop Control; OWSC = One Way Stop Control.
2: Delay shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, for intersections with one or two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 5**, the existing study intersections are currently operating at an acceptable LOS during the AM and PM peak hours under Existing traffic conditions**.**

3.7 EXISTING ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

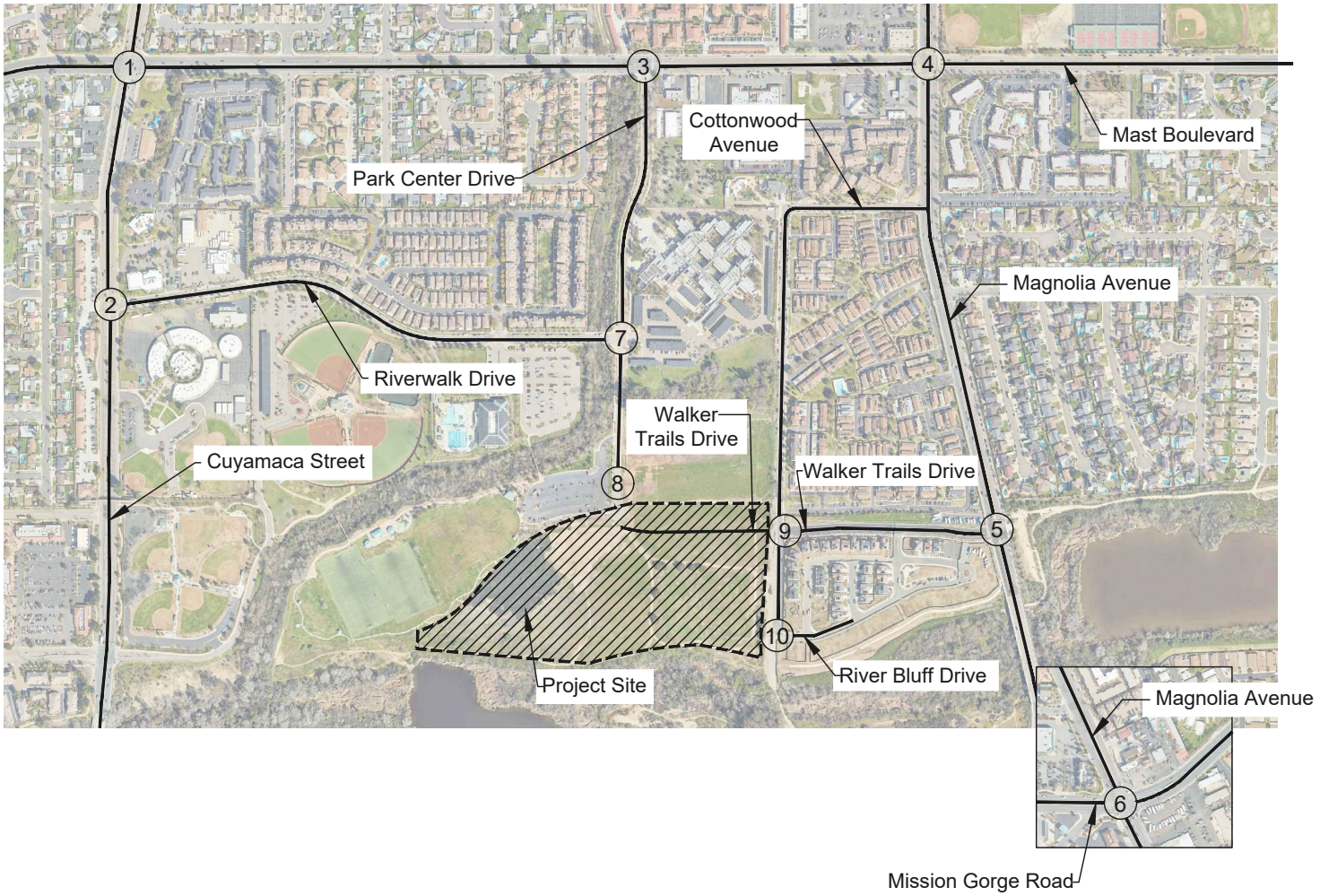
The roadway segment level of service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Existing Conditions are shown on **Table 6**.

Table 6
Roadway Segment Analysis – Existing Conditions

Roadway	Segment	Classification[1]	Lanes	LOS D Capacity	Existing ADT[2]	LOS
Park Center Drive	Mast Boulevard to Park Driveway	Parkway TWLTL	2	13,000	2,843	A
Mast Boulevard	Cuyamaca Street to Magnolia Avenue	Major Arterial	4	35,000	19,450	B
Magnolia Avenue	Mast Boulevard to Mission Gorge Road- Woodside Avenue	Major Arterial	4	35,000	25,110	C
Walker Trails Drive	Cottonwood Avenue to Magnolia Avenue	Collector Residential	2	6,500	537	A

1: TWLTL = Two-Way Left-Turn Lane.
2: ADT = Average Daily Traffic

As shown in **Table 6**, the study roadway segments are currently operating at an acceptable daily LOS under Existing traffic conditions. **Exhibit 6** shows the existing ADT on the study roadway segments.



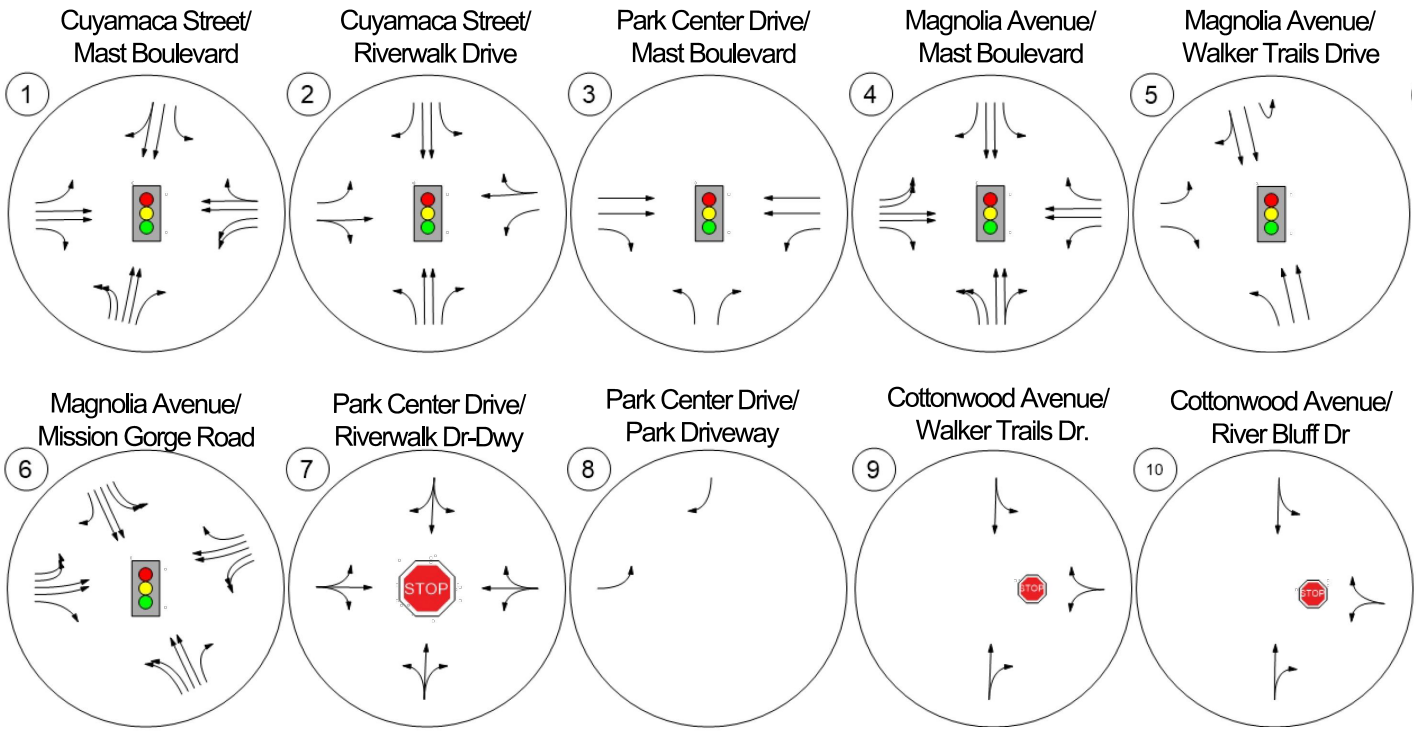
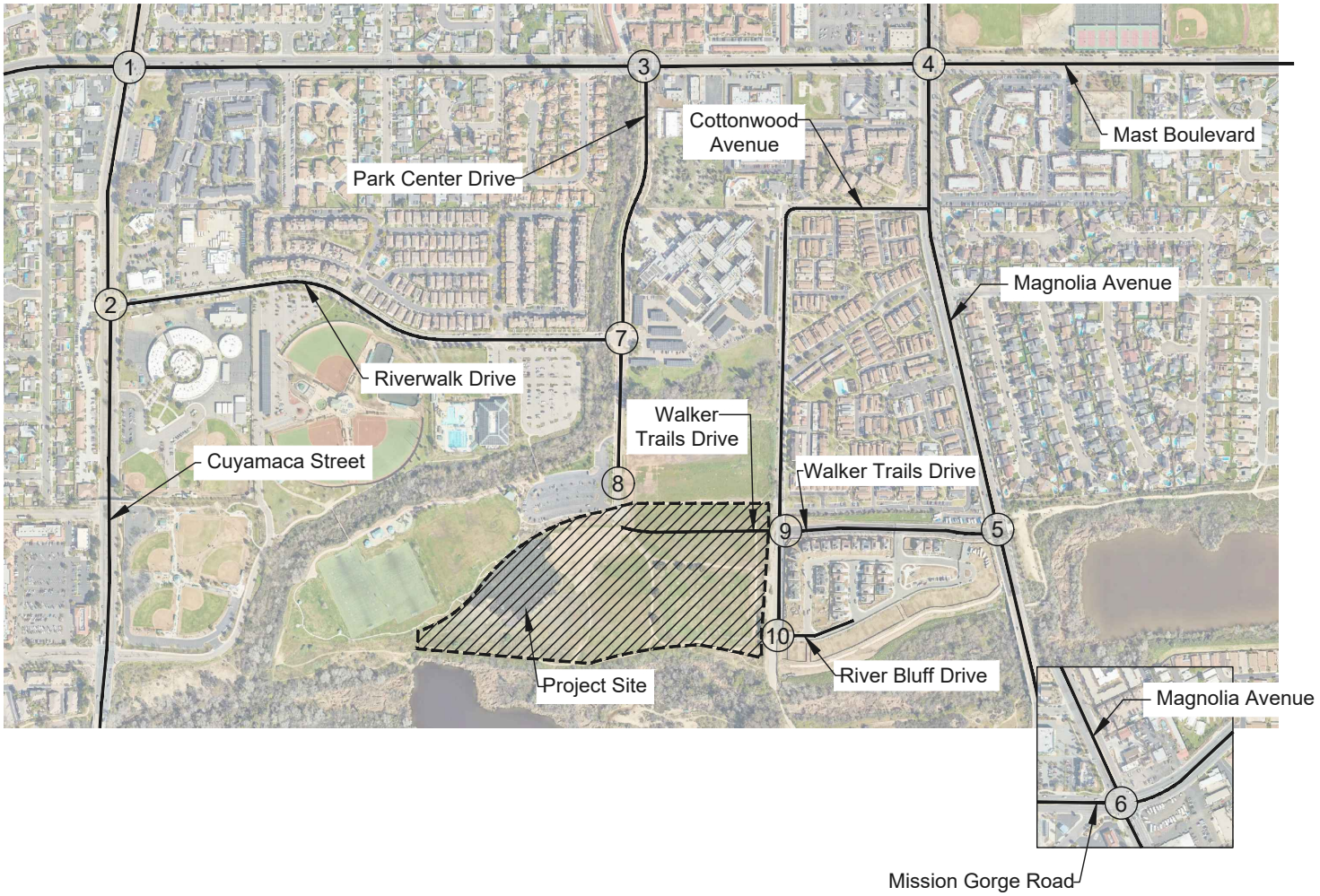


Exhibit 3: Existing Lane Geometry and Intersection Control



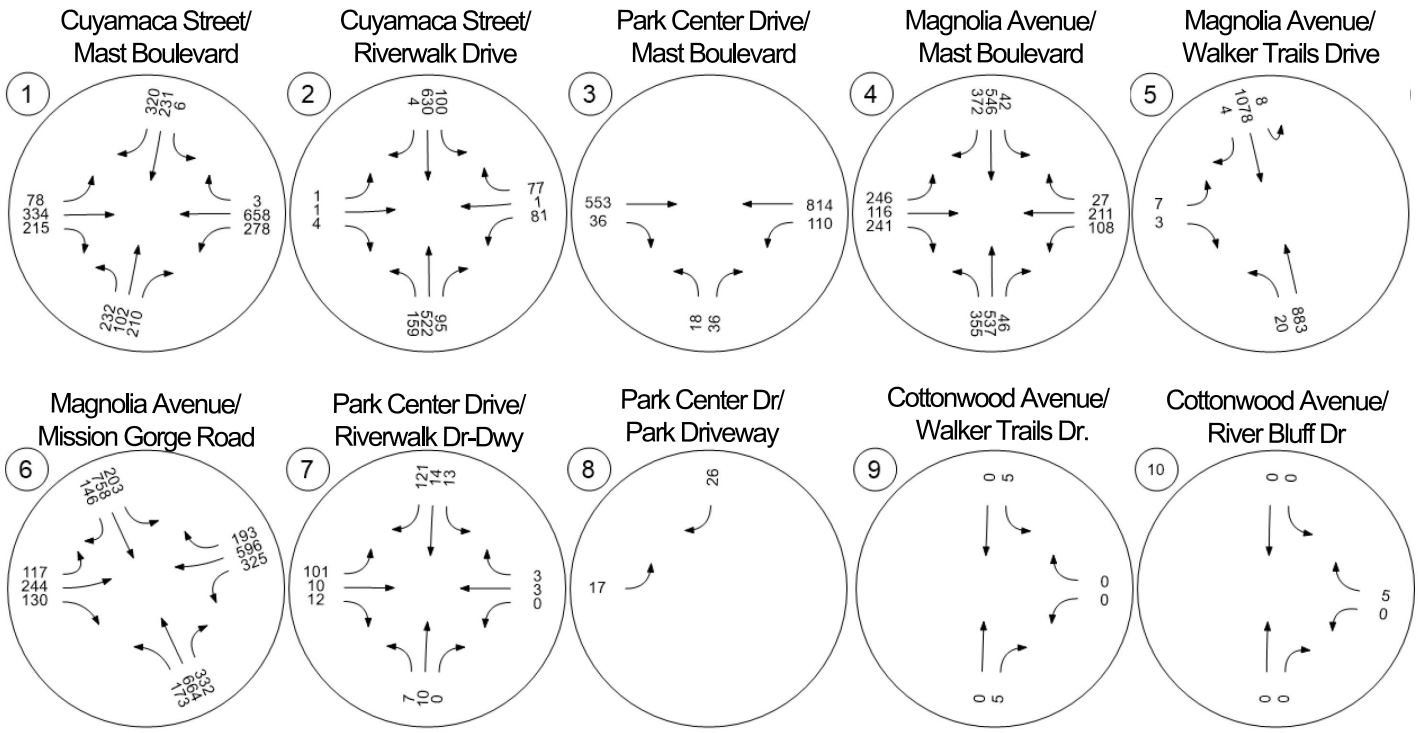
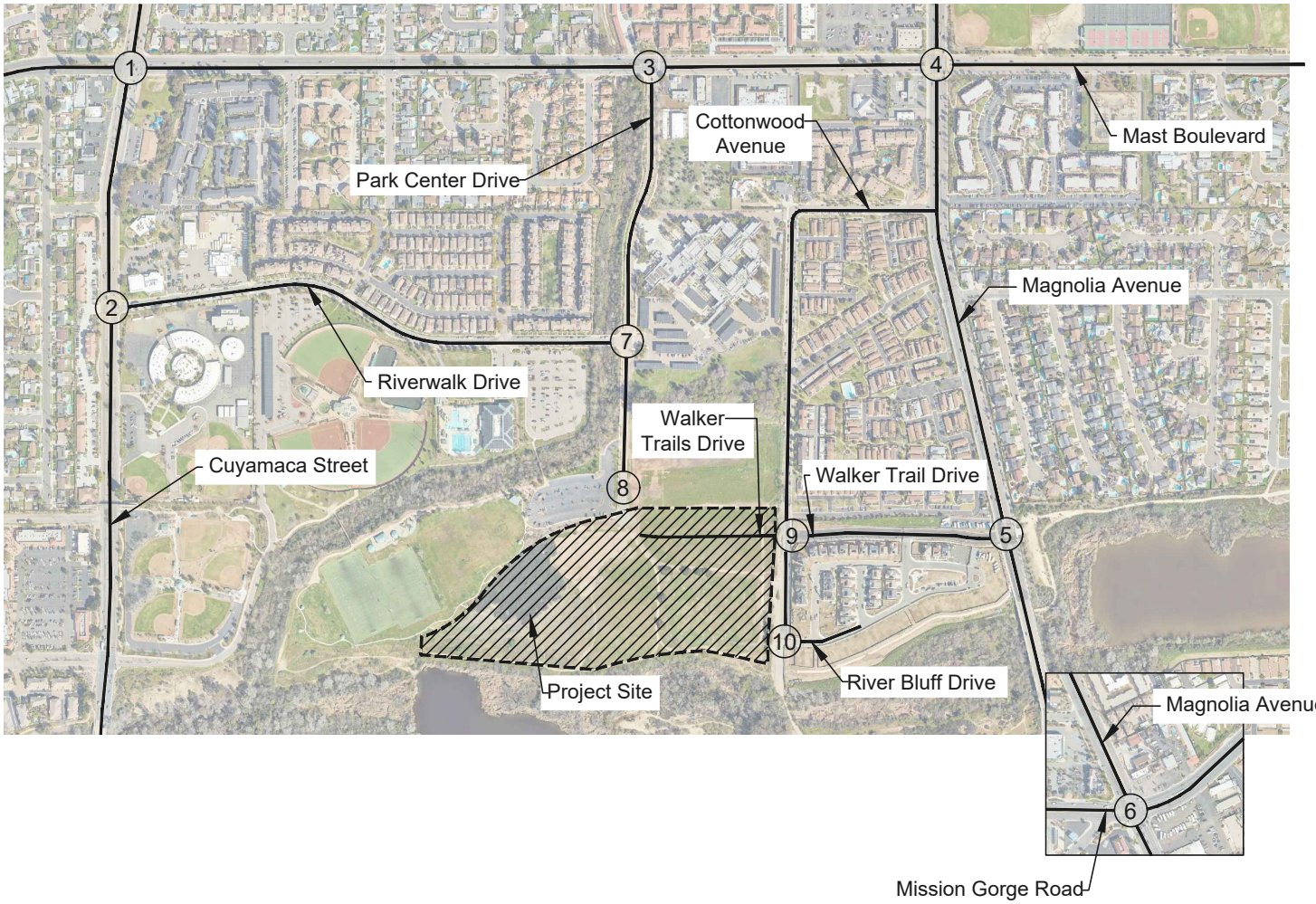


Exhibit 4: Existing AM Peak Hour Volumes



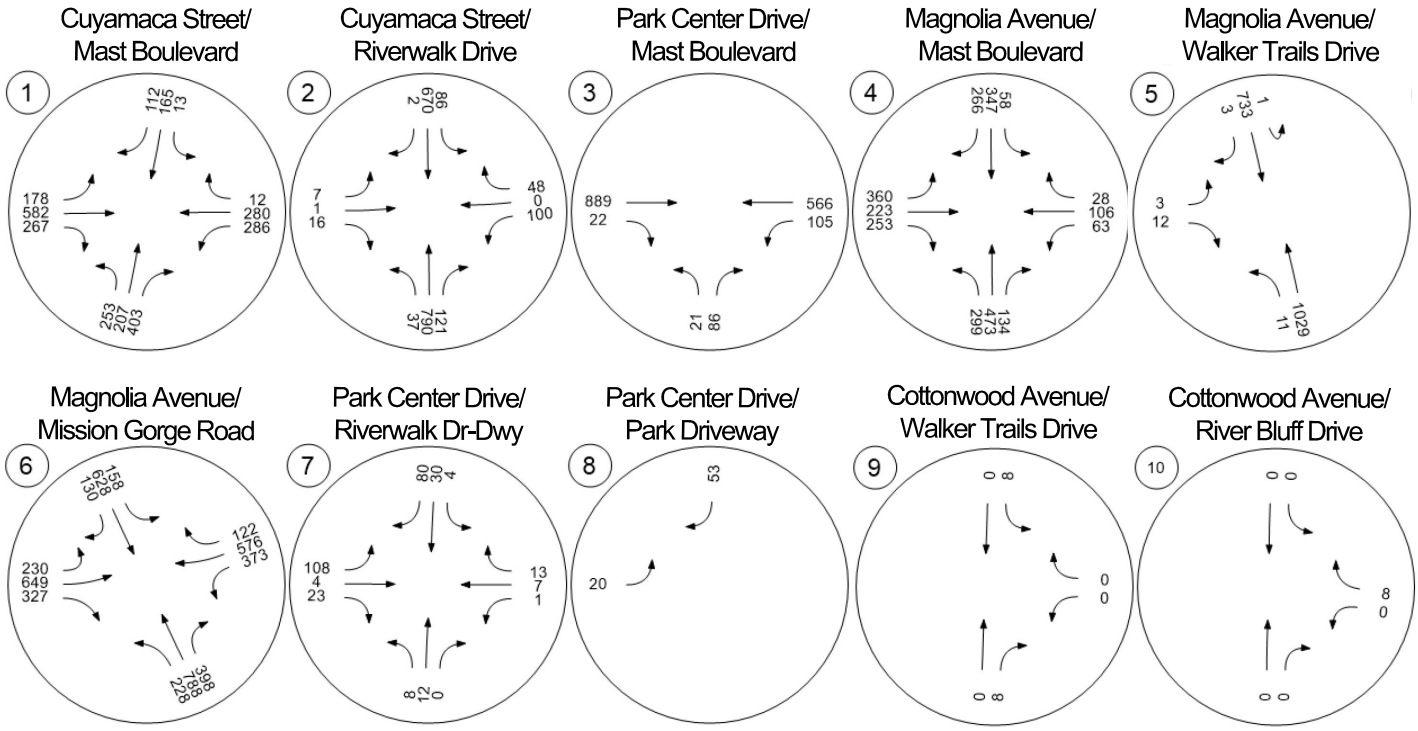


Exhibit 5: Existing PM Peak Hour Volumes

4.0 PROPOSED PROJECT

4.1 PROJECT DESCRIPTION

The proposed project is for the construction of a total of 285 single-family attached dwelling units at 12.9 units per acre (du/ac). For the purpose of this report 300 dwelling units were analyzed as a more conservative approach. The anticipated year of completion is 2025. The project proposes three full access points. The first two will be from the construction of a new roadway through the project site that will connect the two segments of Park Center Drive on the north and east borders of the project site. The new segment on the east border will be changed to Walker Trails Drive. Walker Trails Drive through the project site will connect to Park Center Drive at the project north border via a new roundabout[1]. The new roundabout will add an additional leg to the south. The third access point will be south of Walker Trails Drive at a proposed roadway ending at River Bluff Drive. The current General Plan Land Use and Zoning of the site is Town Center Residential-14, or TCR-14 with no amendments or changes proposed. The project site is currently vacant.

A growth rate of two percent (2%) was used to account for 2025 traffic volumes. Upon completion, the project is projected to generate 2,400 daily trips with 192 AM and 240 PM peak hour trips.

As previously shown, **Exhibit 1** shows the proposed project site location while **Exhibit 2** shows the proposed project site plan.

4.2 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Determining trip generation for a proposed project is based on projecting the amount of traffic that the specific land uses being proposed will produce. Per *Region Guidelines* recommendation, the *San Diego Association of Governments (SANDAG) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Regions* (April 2002) trip generation rates were used to determine trip generation based on the proposed project land uses.

Table 7 summarizes the projected AM peak hour, PM peak hour and daily trip generation of the proposed project. Upon completion in 2025, the project is projected to generate 2,400 daily trips with 192 AM and 240 PM peak hour trips.

[1] The park driveway will be relocated further north on Park Center Drive and will not connect with the Project Roundabout. Therefore, from this point in the LTA, the park driveway will not be included in the analysis and Intersection 8: Park Center Drive/Park Driveway will become Intersection 8: Park Center Drive/Project Roundabout.

Table 7
Proposed Project Trip Generation

Proposed Land Use[1]	# units/ acre	Qty	Unit[2]	Daily		AM Peak Hour					PM Peak Hour				
				Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
								In	Out	Total			In	Out	Total
Cottonwood & Park Neighborhood #1-3	12.9	300	DU	8	2,400	0.08	2:8	38	154	192	0.10	7:3	168	72	240

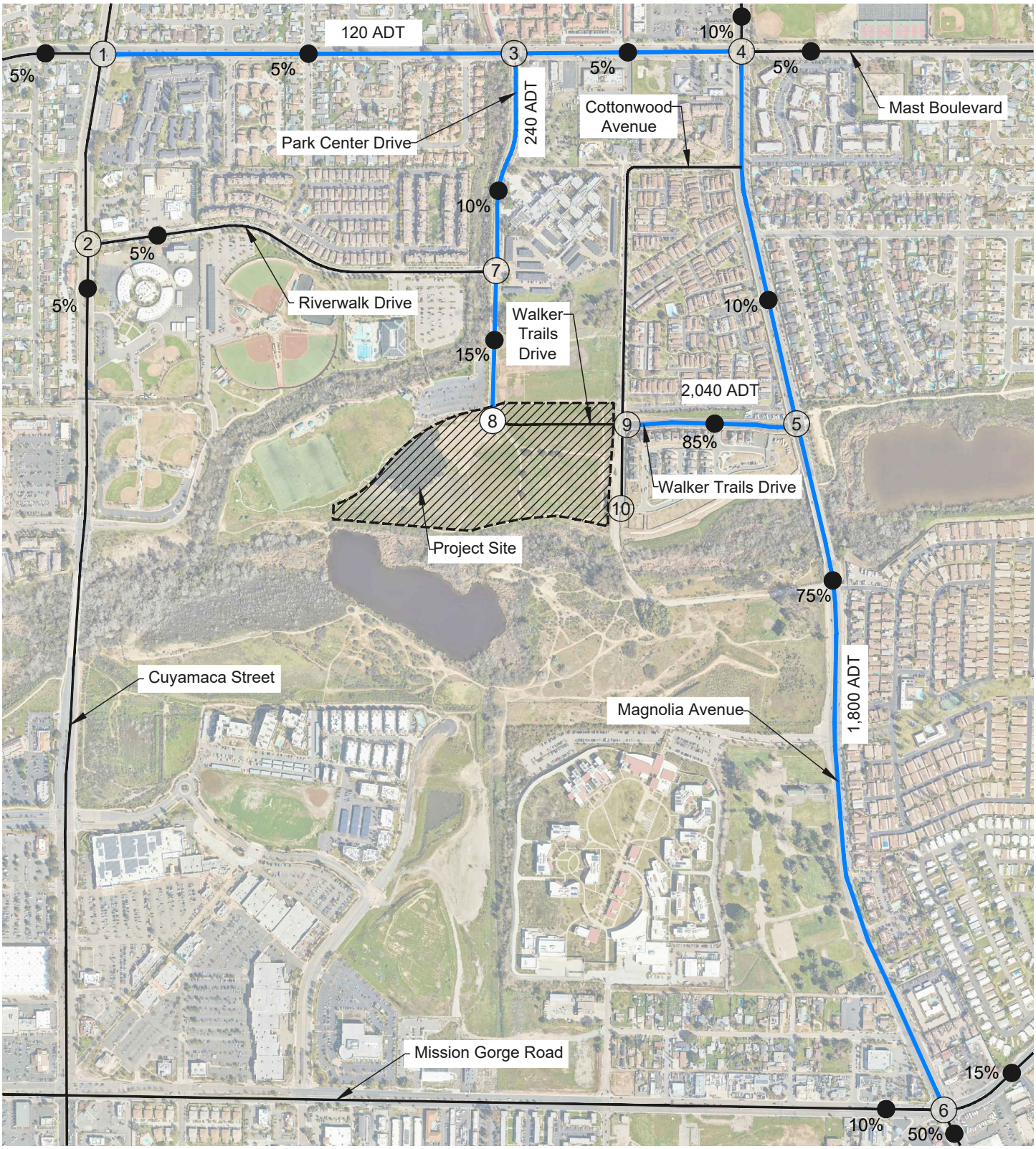
Results	Daily Volume	AM Peak Hour	In	Out	Total	PM Peak Hour	In	Out	Total
Net Total	**2,400**		**38**	**154**	**192**		**168**	**72**	**240**

1: Trip generation rates from SANDAG Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002).
2: DU = Dwelling Unit.

4.3 PROJECT TRIP DISTRIBUTION

The project trip distribution was determined using a select zone analysis using the SANDAG select zone distribution which identified the probable destinations and traffic routes which will be used for the proposed project's traffic. The potential interaction between the proposed land use and surrounding regional access routes are considered to identify the probable routes onto which project traffic would distribute. The projected trip distribution for the proposed project is based on anticipated travel patterns to and from the project site. The select zone model plots can be found in **Appendix B**.

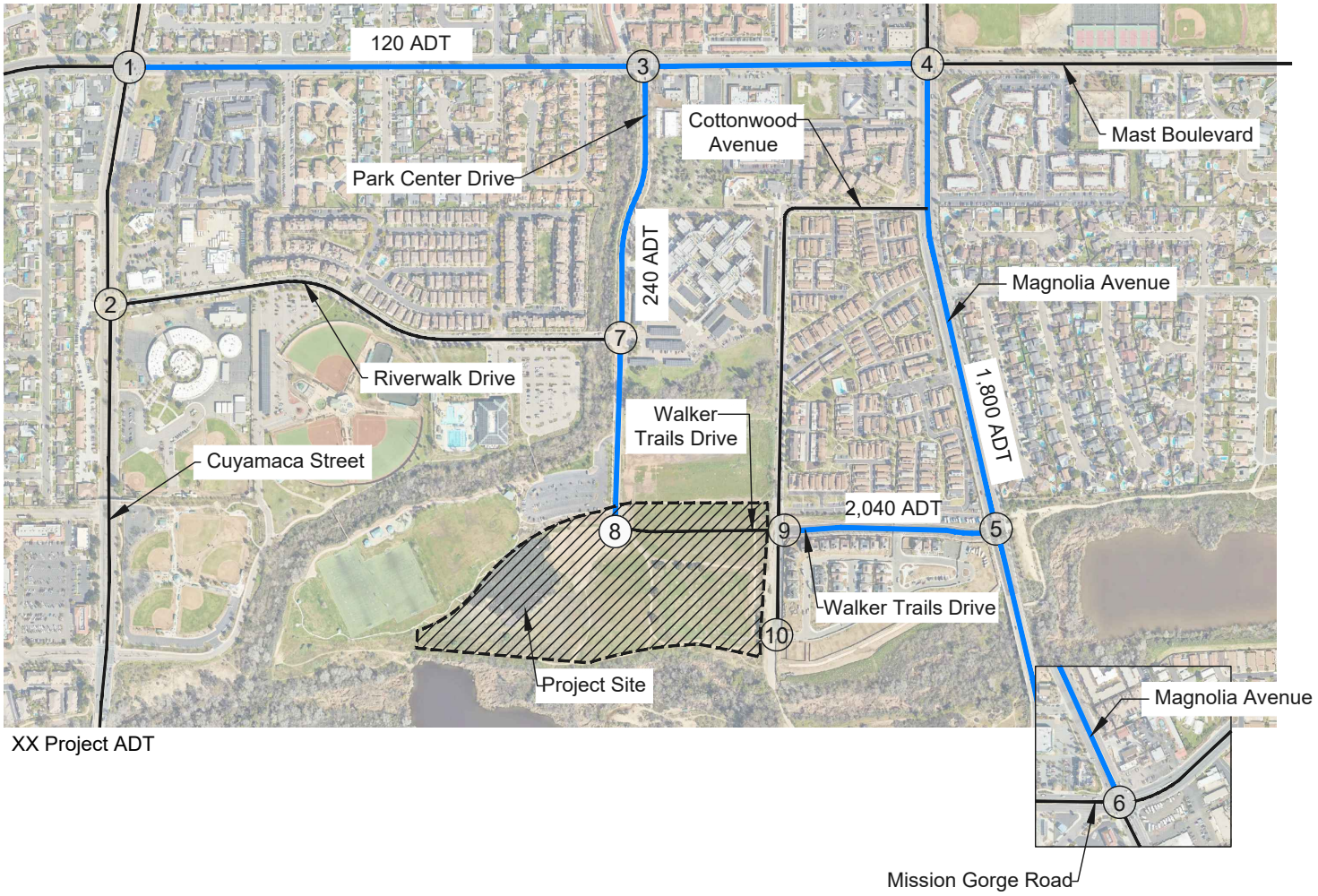
Exhibit 6 shows the projected distribution and assignment of proposed project trips. **Exhibit 7** and **Exhibit 8** show the AM and PM peak hour volumes.



Legend:

- Project Site
- (#) Study Intersection Location
- Study Roadway Segment
- (XX%) Percent Trip Distribution
- XX ADT Existing Roadway ADT

Exhibit 6: Project Trip Distribution



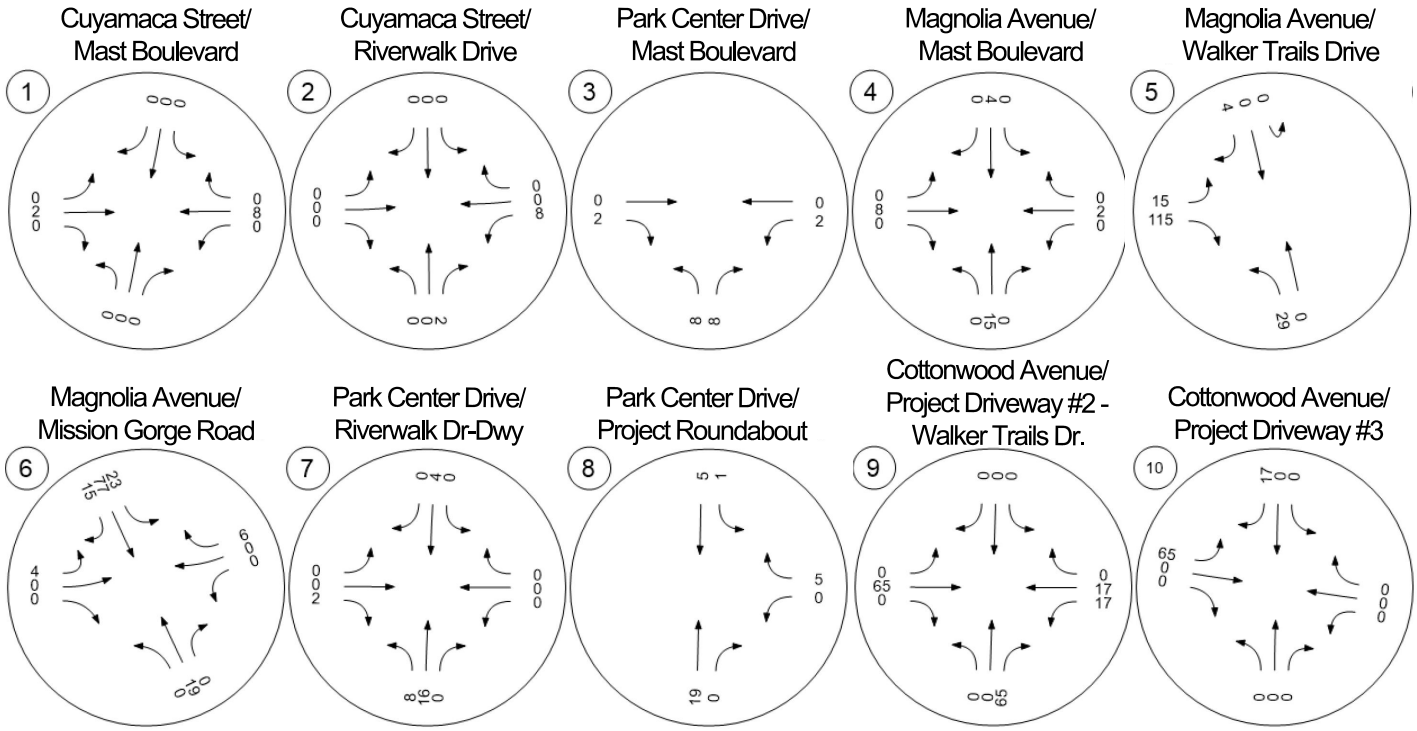
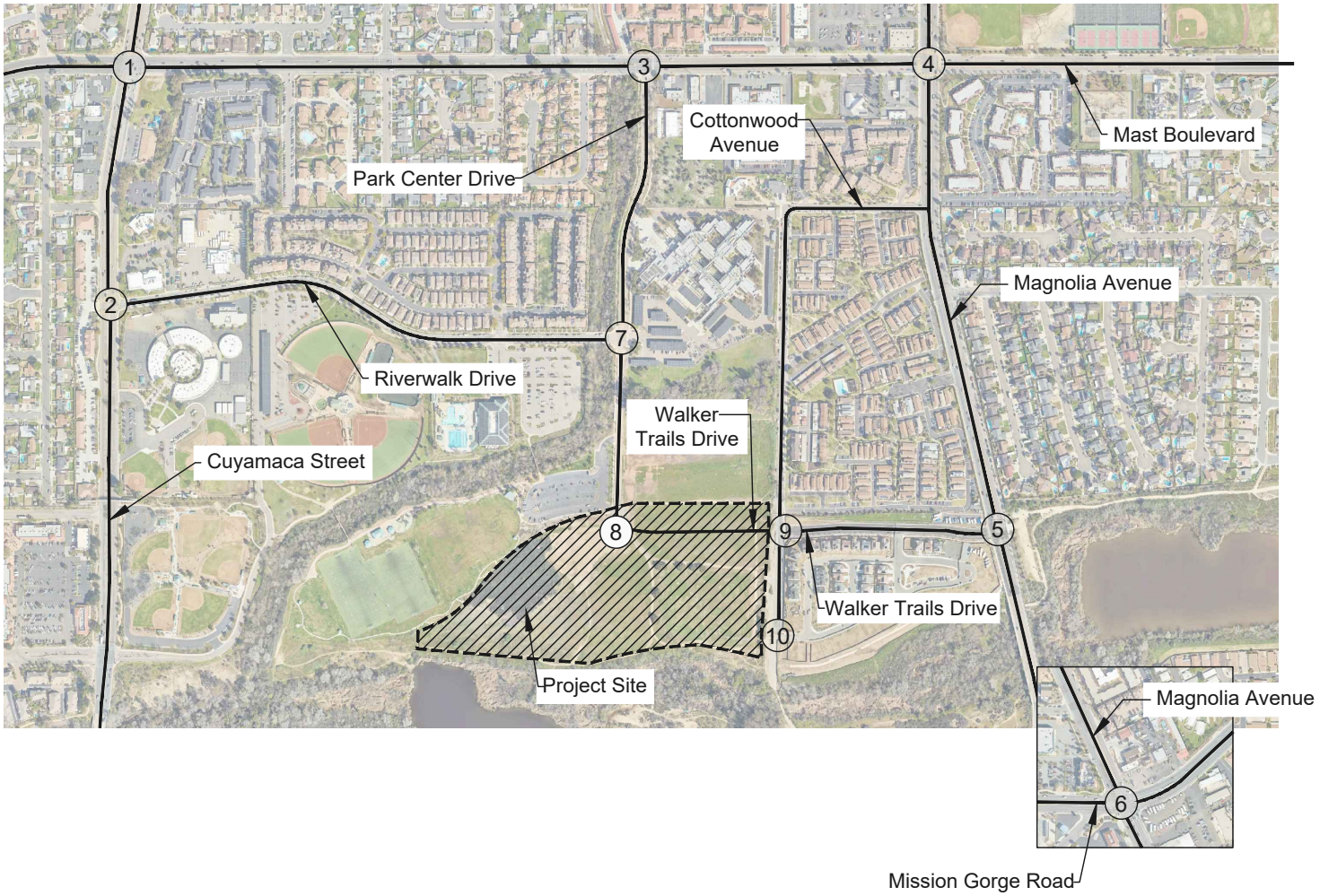


Exhibit 7: Project AM Peak Hour Volumes



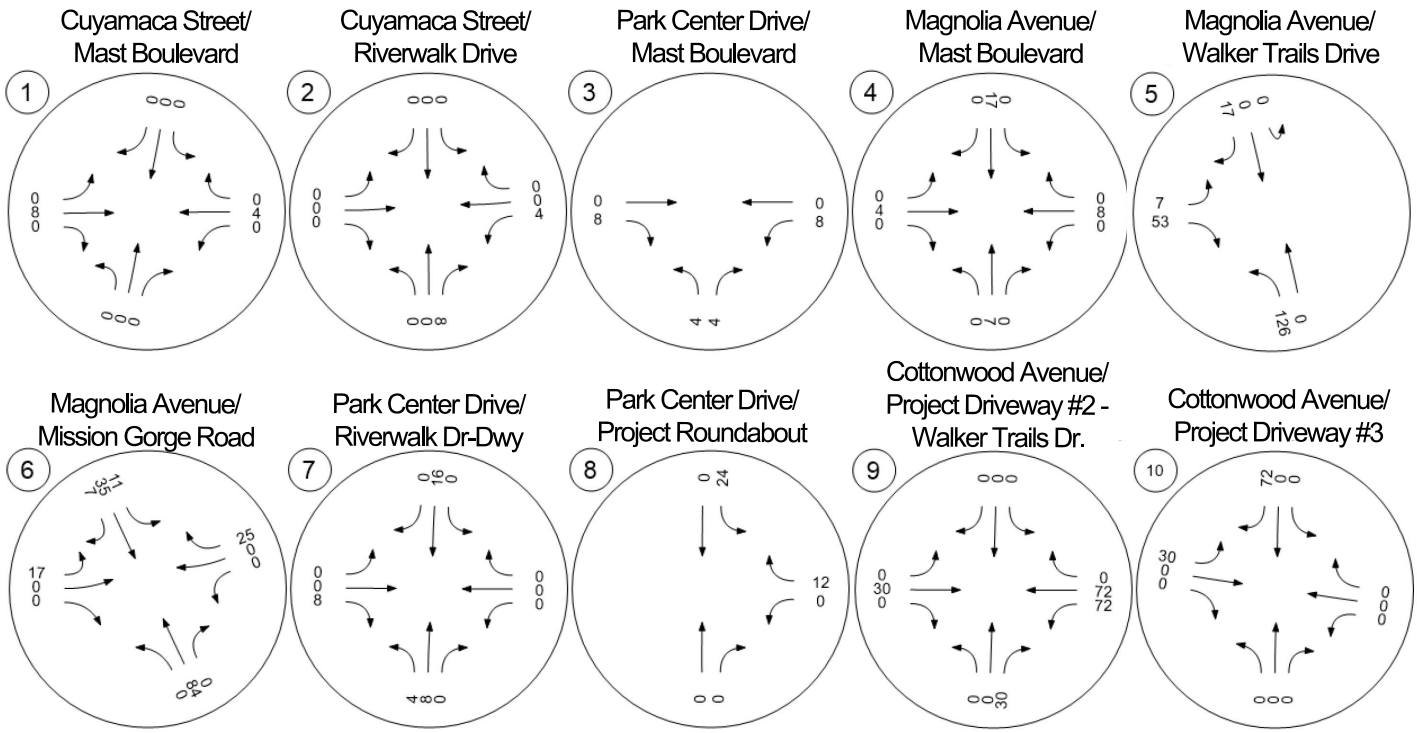


Exhibit 8: Project PM Peak Hour Volumes

5.0 EXISTING PLUS PROJECT TRAFFIC CONDITIONS (EP)

Existing Plus Project (EP) Traffic Conditions analysis is intended to identify the impacts of the proposed project on existing traffic conditions. Per *Region Guidelines*, no other changes in conditions are analyzed.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the EP scenario include the addition of a roadway through the project site connecting the two legs of Park Center Drive on the north and east borders of the project site with a new roundabout connecting the new segment to Park Center Drive on the north. The east leg of Park Center Drive will be renamed Walker Trails Drive. Also included is the addition of a roadway at the southeast corner of the site ending at River Bluff Drive. The new lane geometry is shown in **Exhibit 9**.

To account for any potential shifts in travel patterns due to the connection of Park Center Drive, San Diego Association of Governments (SANDAG) select zone distribution was used for base year, base year with project, future year, and future year with project. Travel volumes were compared across model scenarios to determine adjustments in travel behavior and patterns.

5.2 EXISTING PLUS PROJECT TRAFFIC VOLUMES

Per *Region Guidelines*, EP traffic volumes were estimated based on the existing traffic volumes plus the volumes expected to be generated by the proposed project.

EP Traffic Volumes = Existing Counts + Project

5.3 EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE ANALYSIS

EP traffic AM and PM peak hour intersection analysis is shown in **Table 8**. EP Traffic AM peak hour volumes at the study intersections are shown in **Exhibit 10** and EP PM peak hour volumes are shown in **Exhibit 11**. See **Appendix C** for HCM analysis sheets.

Table 8
Intersection Analysis – Existing Plus Project Traffic Conditions

Intersection			Control Type[1]	Peak Hour	Existing Conditions		EP Conditions	
					Delay[2]	LOS	Delay[2]	LOS
1	Cuyamaca Street	Mast Boulevard	Signal	AM	31.9	C	33.9	C
				PM	30.2	C	30.3	C
2	Cuyamaca Street	Riverwalk Drive	Signal	AM	17.0	B	17.1	B
				PM	14.0	B	14.1	B
3	Park Center Drive	Mast Boulevard	Signal	AM	6.1	A	8.1	A
				PM	7.9	A	10.2	B
4	Magnolia Avenue	Mast Boulevard	Signal	AM	24.6	C	25.3	C
				PM	21.5	C	21.5	C
5	Magnolia Avenue	Walker Trails Drive	Signal	AM	3.2	A	13.1	B
				PM	2.6	A	11.3	B
6	Magnolia Avenue	Mission Gorge Road	Signal	AM	20.5	C	21.0	C
				PM	23.0	C	24.0	C
7	Park Center Drive	Riverwalk Drive	AWSC	AM	8.4	A	11.2	B
				PM	8.0	A	9.4	A
8	Park Center Drive	Project Roundabout	Roundabout	AM	-	-	4.1	A
				PM	-	-	4.3	A
9	Cottonwood Avenue	Project Driveway #2 – Walker Trails Drive	TWSC	AM	7.2	A	11.7	B
				PM	7.2	A	13.0	B
10	Cottonwood Avenue	Project Driveway #3	TWSC	AM	8.3	A	8.8	A
				PM	8.3	A	8.9	A

1: AWSC = All-Way Stop-Control; TWSC = Two-Way Stop-Control; OWSC = One Way Stop Control.
2: Delay shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, for intersections with one or two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 8**, for EP Traffic Conditions, the existing study intersections and the proposed project driveways are expected to operate an acceptable LOS during the AM and PM peak hours.

5.4 EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

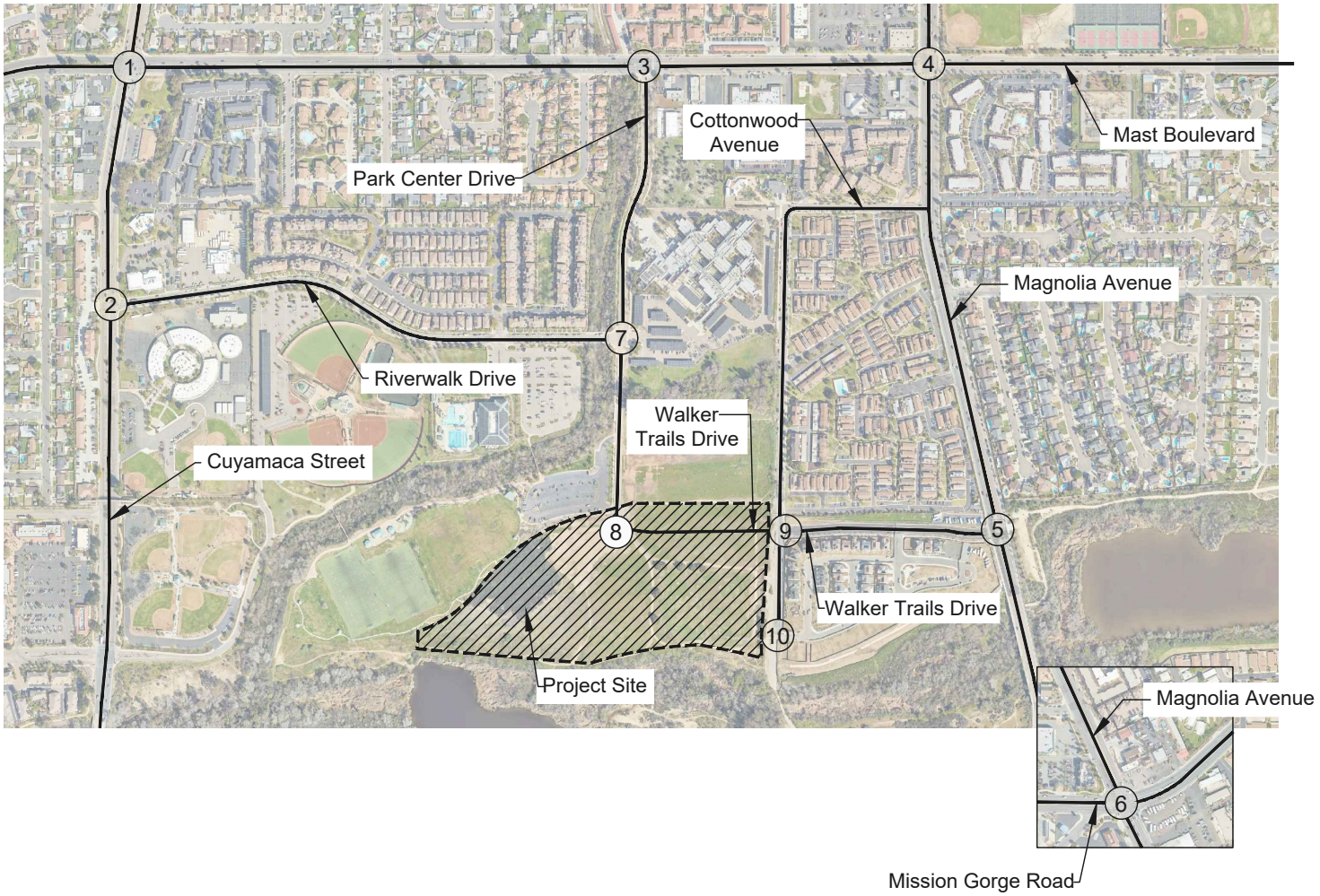
The roadway segment level of service analysis was conducted utilizing the volumes and roadway capacities presented previously in **Table 6**. These existing daily volumes per segment were added to the project trip generation daily volumes for the same segments. The project trip generation daily volumes for each segment were found by taking the correlated trip distribution percentages, shown previously in **Exhibit 6**, from the daily trip generation total. The results of the roadway analysis for EP traffic conditions are shown on **Table 9**.

Table 9
Roadway Segment Analysis – Existing Plus Project Conditions

Roadway	Segment	Classification[1]	Lanes	LOS D Capacity	Existing ADT[2]	LOS	EP ADT[2]	LOS
Park Center Drive	Mast Boulevard to Project Roundabout	Parkway TWLTL	2	13,000	2,843	A	3,083	A
Mast Boulevard	Cuyamaca Street to Magnolia Avenue	Major Arterial	4	35,000	19,450	B	19,690	B
Magnolia Avenue	Mast Boulevard to Mission Gorge Road- Woodside Avenue	Major Arterial	4	35,000	25,110	C	27,150	C
Walker Trail Drive	Cottonwood Avenue to Magnolia Avenue	Collector Residential	2	6,500	537	A	2,577	B

1: TWLTL = Two-Way Left-Turn Lane.
2: ADT = Average Daily Traffic

As shown in **Table 9**, the study roadway segments are currently operating at an acceptable daily LOS under EP traffic conditions. **Exhibit 10** shows the Existing Plus Project ADT on the study roadway segments.



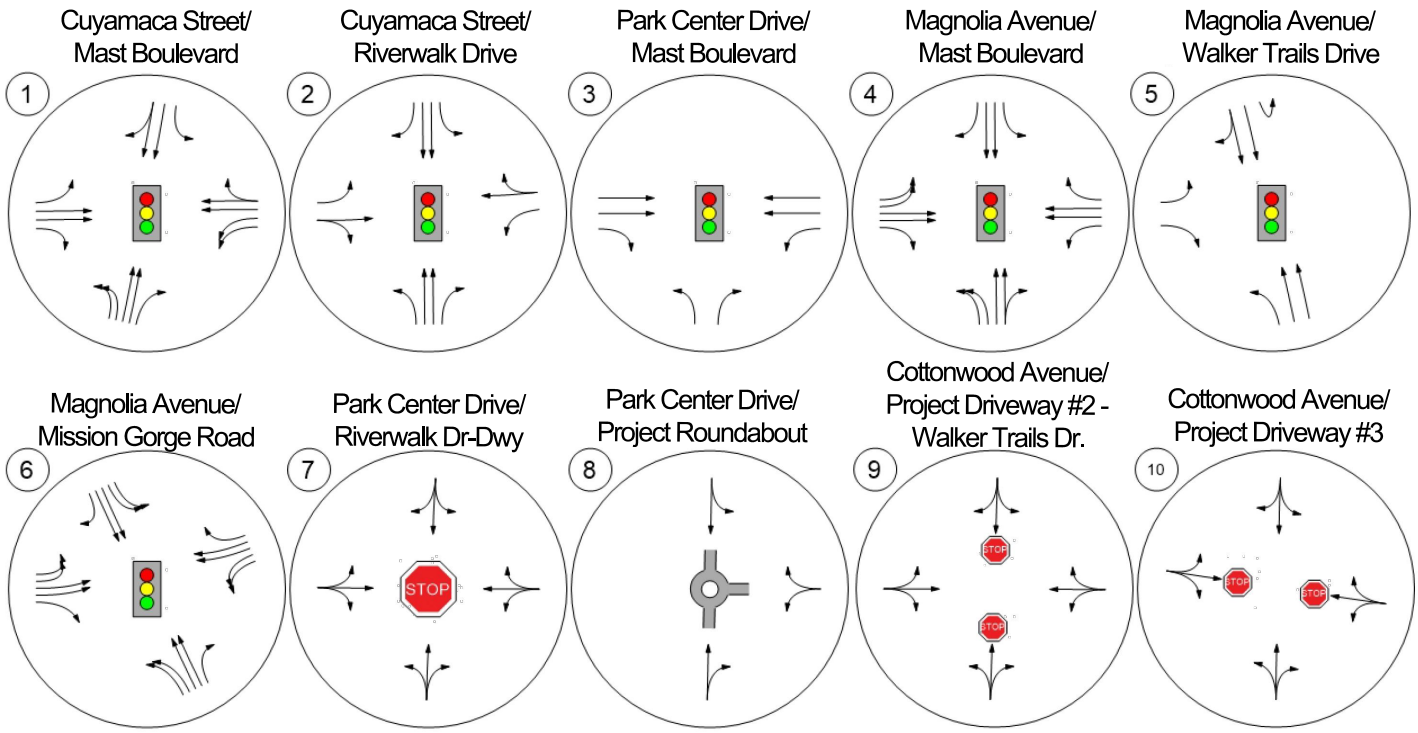
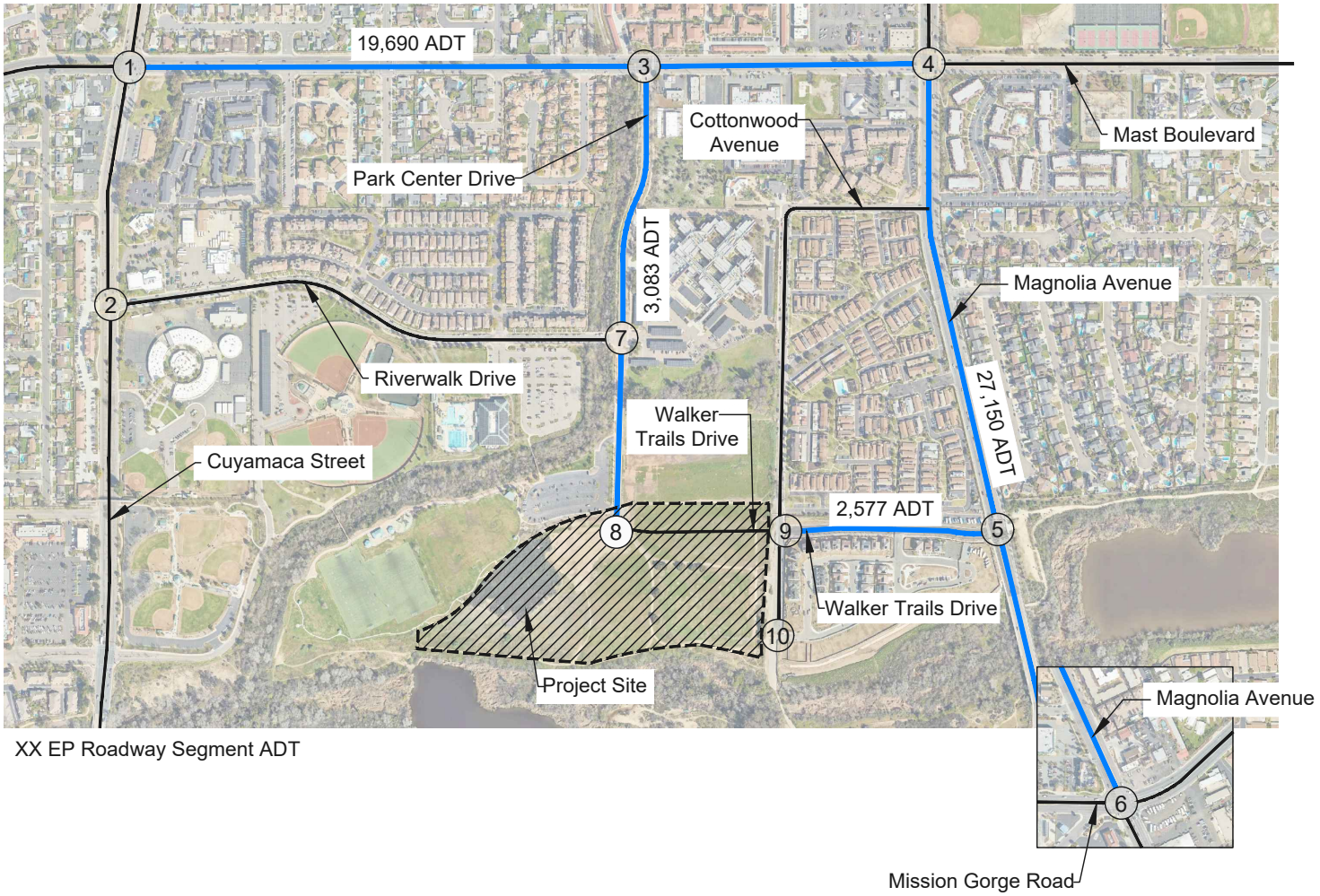


Exhibit 9: EP Lane Geometry and Intersection Control



XX EP Roadway Segment ADT

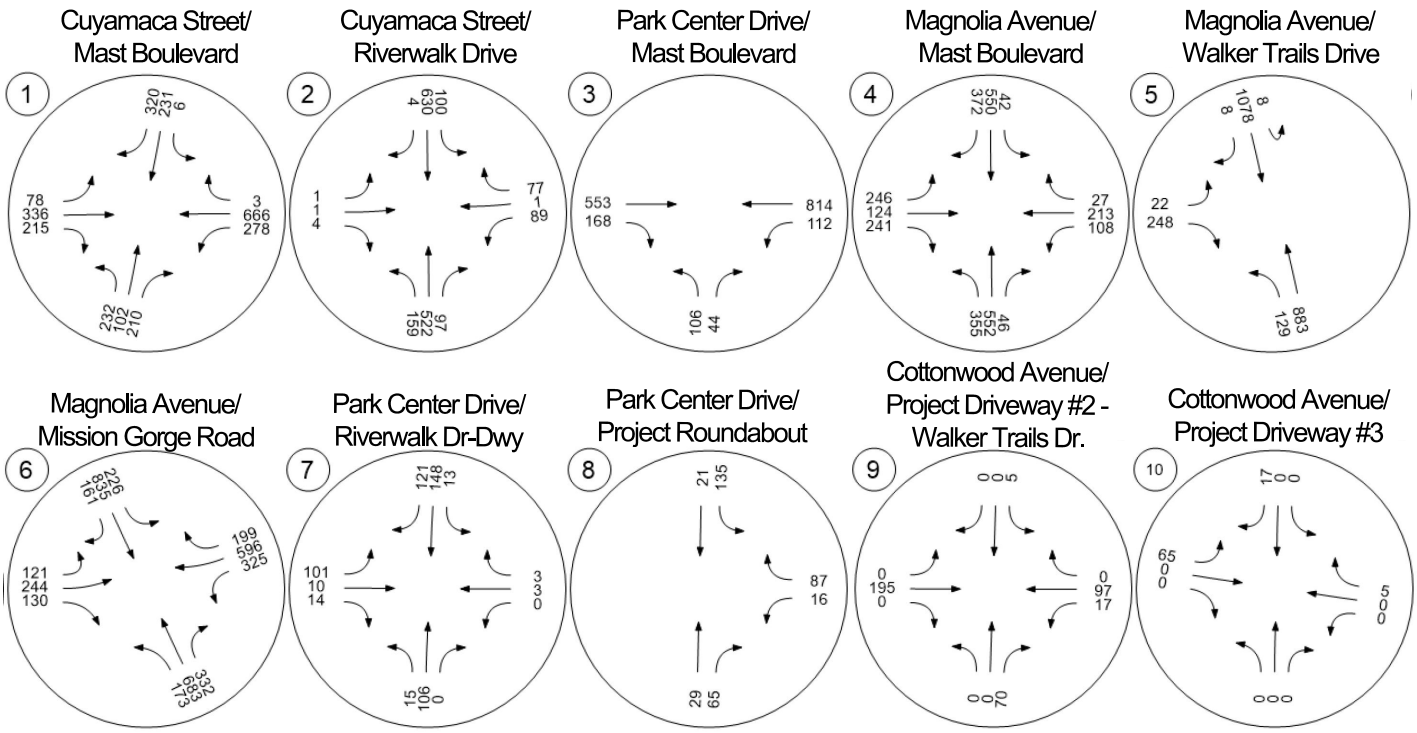
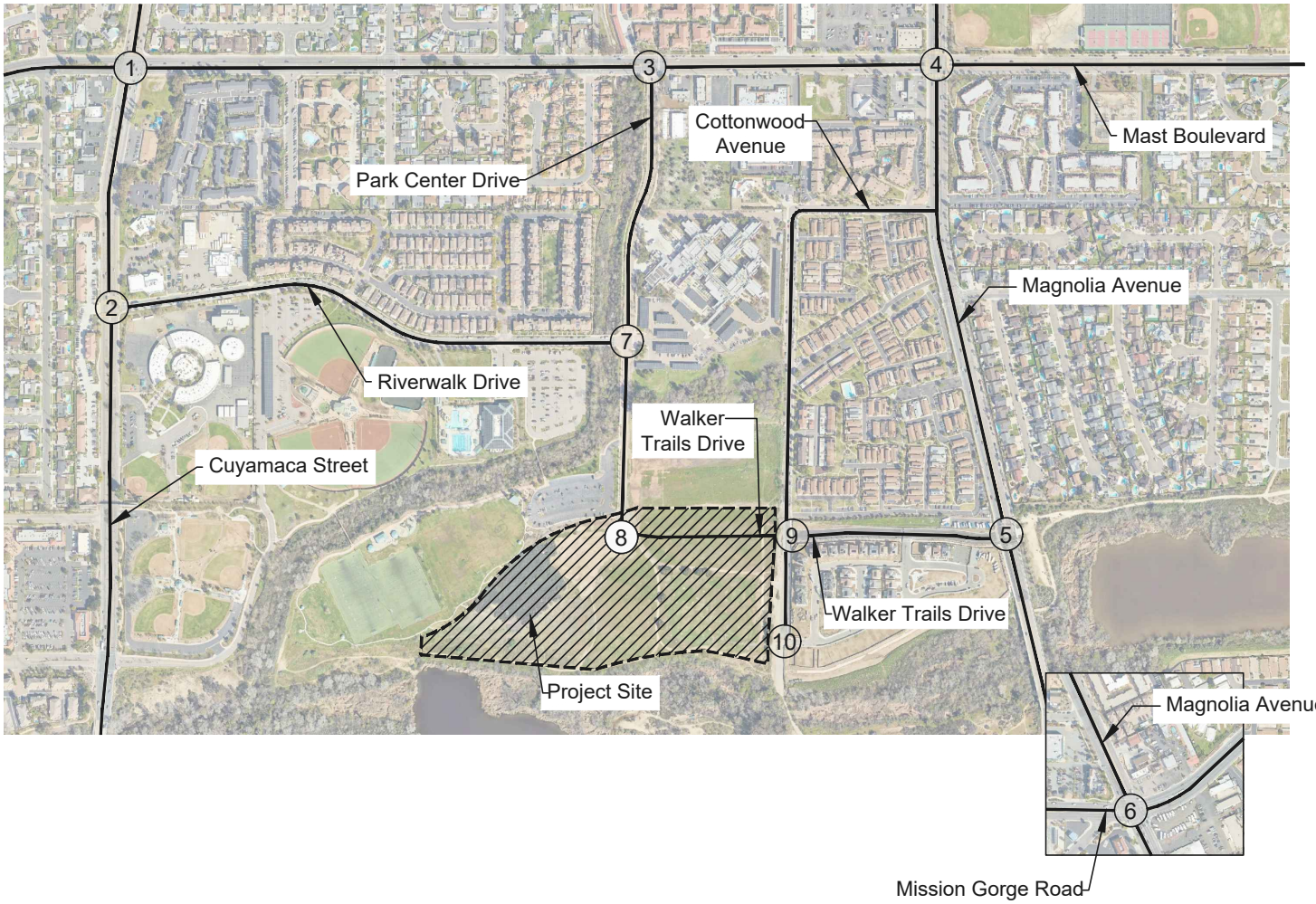


Exhibit 10: EP AM Peak Hour Volumes



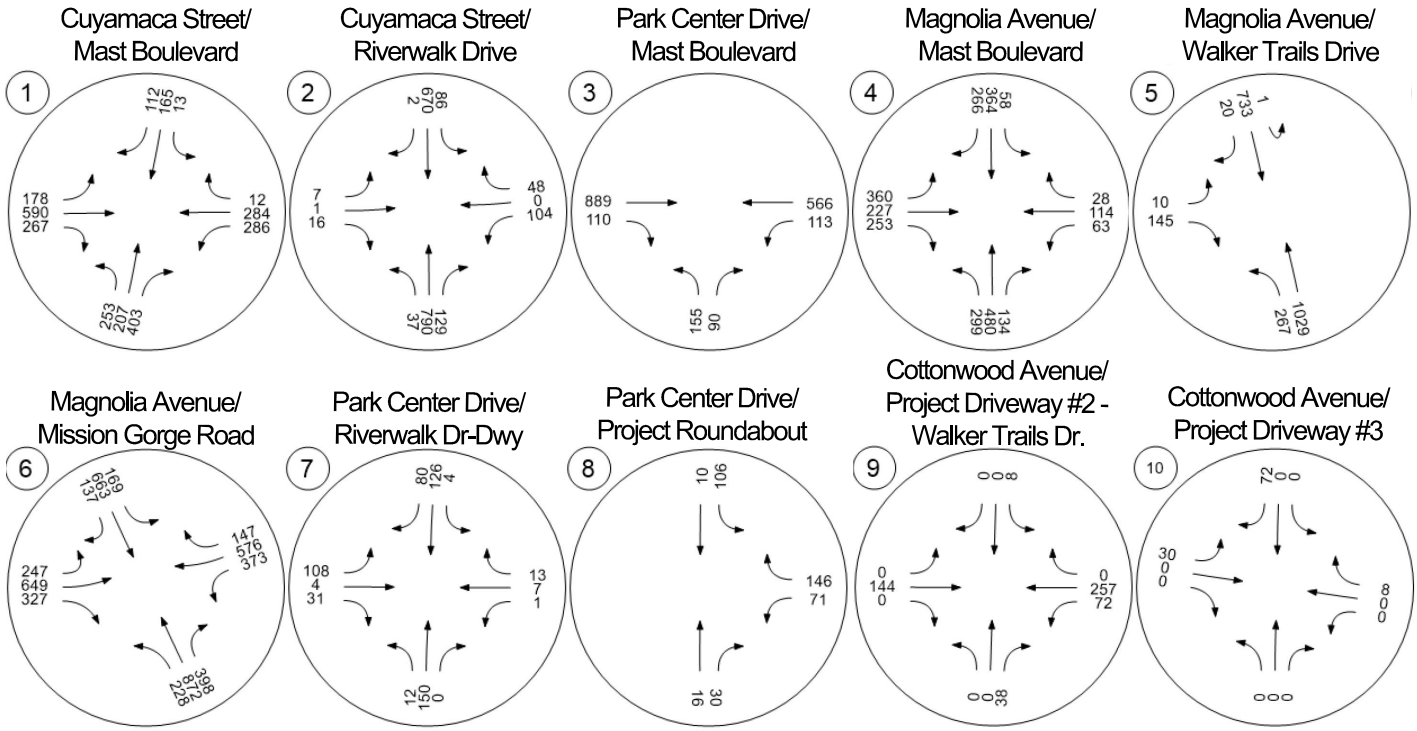


Exhibit 11: EP PM Peak Hour Volumes

6.0 NEAR-TERM PLUS PROJECT TRAFFIC CONDITIONS (NTP)

Near-Term Plus Project Traffic Conditions (NTP) analysis is intended to identify the effects of both the project as expected on its opening day and cumulative conditions on the circulation system.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the NTP scenario are consistent with those previously shown in **Exhibit 9.** In addition, the same methodology was applied as discussed in section 5.1 referring to the use of the SANDAG select zone distribution.

6.2 CUMULATIVE PROJECTS

This analysis accounts for the impact of other reasonably foreseeable development projects in the study area. The City of Santee provided a list of cumulative projects in various stages of planning, entitlement, or construction. Projects considered to potentially have a significant impact on traffic conditions in the study area were within a one-mile radius of the proposed project site. Eleven projects from the list were found to meet this criterion. The locations of these project are shown in **Exhibit 12**. The project land use and trip generation are shown in **Table 10**.

Table 10
Cumulative Project Trip Generation

Project	Land Use[1]	Qty	Unit[3]	Daily		AM Peak Hour					PM Peak Hour				
				Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
								In	Out	Total			In	Out	Total
1. DR2022-5 Park Center Apartments (22 du/ac)	Apartment (more than 20 du/ac)	54	DU	6	324	0.08	2:8	5	21	26	0.09	7:3	20	9	29
2. TM2016-1 Walker Trails	Single Family Detached	67	DU	10	670	0.08	3:7	16	38	54	0.10	7:3	47	20	67
3. DR2022-1 Southwest Signal	Industrial Plant	24.6	TSF	10	246	0.14	8:2	28	6	34	0.15	3:7	11	26	37
4. DR2018-6 Lunar Lane Warehouse	Warehouse	7.4	TSF	5	37	0.13	7:3	3	2	5	0.15	4:6	2	4	6
5. P2202-10 Santee Auto Center	Auto Sale Buildings	33.9	TSF	50	1,699	0.05	7:3	59	26	85	0.08	4:6	54	82	136
	Auto Sale Buildings	33.1	TSF	50	1,656	0.05	7:3	58	25	83	0.08	4:6	53	79	132
	Auto Body Shop	16.4	TSF	20	328	0.08	7:3	18	8	26	0.11	4:6	14	22	36
	Car Wash	1	ST	900	900	0.04	5:5	18	18	36	0.09	5:5	41	40	81
6. TM2023-1 Habitat For Humanity	Condominium	17	DU	8	136	0.08	2:8	2	9	11	0.10	7:3	10	4	14

7. P2021-1 Popeye's	Fast Food Restaurant w/ Drive Thru	1.74	TSF	650	1,131	0.07	5:5	40	39	79	0.07	5:5	40	39	79
	Pass-By Trips				*-452*			*0*	*0*	*0*			*-16*	*-16*	*-32*
8. DR2022-6 Excel Hotel	Resort Hotel	97	RM	8	776	0.05	6:4	23	16	39	0.08	4:6	25	37	62
9. DR2015-10 Karl Strauss	Sit-down High Turnover Restaurant	7.4	TSF	160	1,184	0.08	5:5	47	48	95	0.08	6:4	57	38	95
	Pass-By Trips				*-237*			*0*	*0*	*0*			*-11*	*-8*	*-19*
	Corporate Headquarters Office	24	TSF	7	168	0.15	9:1	23	2	25	0.15	2:8	5	20	25
	Warehouse	46	TSF	5	230	0.13	7:3	21	9	30	0.15	4:6	14	21	35
10. DR2023-3 Lutapaj Specialty Food Store	Wine Tasting Room[2]	2.1	TSF	45.96	94	2.07	70:30	3	1	4	7.31	50:50	8	7	15
11. DR2022-7 Cuyamaca Business Ctr	Medical-Dental Office	6.28	TSF	50	314	0.06	8:2	15	4	19	0.11	3:7	10	25	35

	Daily	Volume	AM Peak Hour	In	Out	Total	PM Peak Hour	In	Out	Total
Subtotal		9,893		379	271	650		411	472	883
Pass-By		-689		0	0	0		-27.4	-23	-51
Net Total		**9,204**		**379**	**271**	**650**		**384**	**449**	**832**

1: Trip generation rates from SANDAG Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002).
2: Trip generation rates from ITE Trip Generation (11th Edition, 2021), Land Use Code 495. DU = Dwelling Unit.
3: DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms.

6.3 NEAR-TERM PLUS PROJECT TRAFFIC VOLUMES

NTP traffic volumes were estimated based on a yearly growth rate of two percent (2%) per year from base year, 2024, to the proposed project's estimated year of completion, 2025. The growth rate is applied to the existing volumes. Volumes expected to be generated by the proposed project and cumulative projects are then added.

NTP Traffic Volumes = (Existing (2024) Counts * 1.02^1) + Cumulative + Project

6.4 NEAR-TERM PLUS PROJECT TRAFFIC INTERSECTION LEVEL OF SERVICE ANALYSIS

NTP intersection analysis is shown in **Table 11.** NTP traffic AM and PM peak hour volumes at the study intersections are shown in **Exhibit 13** and **Exhibit 14**. See **Appendix C** for HCM analysis sheets**.**

Table 11
Intersection Analysis – Near-Term Plus Project Traffic Conditions

Intersection			Control Type[1]	Peak Hour	Existing Conditions		NTP Conditions	
					Delay[2]	LOS	Delay[2]	LOS
1	Cuyamaca Street	Mast Boulevard	Signal	AM	31.9	C	35.8	D
				PM	30.2	C	33.1	C
2	Cuyamaca Street	Riverwalk Drive	Signal	AM	17.0	B	17.4	B
				PM	14.0	B	14.2	B
3	Park Center Drive	Mast Boulevard	Signal	AM	6.1	A	8.3	A
				PM	7.9	A	12.2	B
4	Magnolia Avenue	Mast Boulevard	Signal	AM	24.6	C	27.7	C
				PM	21.5	C	22.0	C
5	Magnolia Avenue	Walker Trails Drive	Signal	AM	3.2	A	17.9	B
				PM	2.6	A	14.5	B
6	Magnolia Avenue	Mission Gorge Road	Signal	AM	20.5	C	21.8	C
				PM	23.0	C	25.9	C
7	Park Center Drive	Riverwalk Drive	AWSC	AM	8.4	A	11.5	B
				PM	8.0	A	9.5	A
8	Park Center Drive	Project Roundabout	Roundabout	AM	-	-	4.1	A
				PM	-	-	4.3	A
9	Cottonwood Avenue	Project Driveway #2 – Walker Trails Drive	TWSC	AM	7.2	A	11.7	B
				PM	7.2	A	13.0	B
10	Cottonwood Avenue	Project Driveway #3	TWSC	AM	8.3	A	8.8	A
				PM	8.3	A	8.9	A

1: AWSC = All-Way Stop-Control; TWSC = Two Way Stop Control; OWSC = One Way Stop Control.
2: Delay shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, for intersections with one or two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 11**, the study intersections and the proposed driveways are projected to operate at an acceptable LOS during the AM and PM peak hours for NTP Traffic Conditions.

6.5 NEAR-TERM PLUS PROJECT TRAFFIC ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

The roadway segment level of service analysis for NTP traffic conditions was conducted utilizing the volumes and roadway capacities presented previously in **Table 6**. These existing daily volumes per segment were added to both the proposed and cumulative project trip generation daily volumes for the same segments. The trip generation daily volumes for each segment were found by taking the correlated trip distribution percentages, shown previously in **Exhibit 6:** Project Trip Distribution at Study Intersections, from the trip generation daily totals. The results of the roadway analysis for EP traffic conditions are shown on **Table 12**.

Table 12
Roadway Segment Analysis – Near-Term Plus Project Conditions

Roadway	Segment	Classification[1]	Lanes	LOS D Capacity	Existing ADT[2]	LOS	NTP ADT[2]	LOS
Park Center Drive	Mast Boulevard to Project Roundabout	Parkway TWLTL	2	13,000	2,843	A	3,443	A
Mast Boulevard	Cuyamaca Street to Magnolia Avenue	Major Arterial	4	35,000	19,450	B	20,241	B
Magnolia Avenue	Mast Boulevard to Mission Gorge Road- Woodside Avenue	Major Arterial	4	35,000	25,110	C	28,909	C
Walker Trail Drive	Cottonwood Avenue to Magnolia Avenue	Collector Residential	2	6,500	537	A	5,287	C

1: TWLTL = Two-Way Left-Turn Lane.
2: ADT = Average Daily Traffic

As shown in **Table 12**, the existing study roadway segments are currently operating at an acceptable daily LOS under Existing traffic conditions. **Exhibit 13** shows the Near-Term Plus Project ADT on the study roadway segments.

6.6 QUEUING REVIEW

As shown in **Exhibit 14**, the PM peak hour volume of the northbound leg left-turn movement of Intersection 5: Magnolia Avenue/Walker Trails Drive exceeded 300 vehicles, the threshold provided by the City of Santee. Therefore the movement was reviewed for the sufficiency of storage space. Using NTP volumes, 95th percentile queue lengths at the movement were calculated and compared with the movement storage space. **Table 13** shows the 95th percentile calculations for both AM and PM peak hour NTP volumes.

Table 13
Queue Review – Near-Term Plus Project Conditions

Intersection			Control	Leg[1]	Movement[2]	Storage Length (ft)	95th Percentile Queue (ft)	
							AM Peak	PM Peak
5	Magnolia Avenue	Walker Trails Drive	Signal	NB	LT	160	140	258

1: NB = Northbound.
2: LT = Left-turn.

As shown in **Table 13**, the storage space for the northbound left-turn movement of Intersection 5 is not sufficient for the PM peak hour 95th percentile queue.

6.7 RECOMMENDED IMPROVEMENTS

A review was completed to examine the impact of adding a second left-turn movement for the northbound leg of Intersection 5: Magnolia Avenue/Walker Trails Drive. The Existing left-turn movement has a pocket

length of 160-feet. The addition of a second left-turn movement will be designed so both left-turn pockets are 80-feet each. **Exhibit 15** displays the lane configuration of Intersection 5 with the added left-turn movement. **Table 14** shows the 95th percentile calculations under NTP conditions for both AM and PM peak hours.

Table 14
Queue Review – Near-Term Plus Project Conditions With Improvements

Intersection			Control	Leg[1]	Movement[2]	95th Percentile Queue (ft)							
						NTP Conditions				NTP w/ Improvements Conditions			
						Configuration	Storage Length (ft)	Peak Hour		Configuration	Storage Length (ft)[3]	Peak Hour[4]	
								AM	PM			AM	PM
5	Magnolia Avenue	Walker Trails Drive	Signal	NB	LT	One LT Pocket	160	140	258	Two LT Pockets	160	56	135

1: NB = Northbound.
2: LT = Left-turn.
3: Storage length is 80-feet per left-turn movement for 160-feet total.
4: Peak hour volume is the total volume from both left-turn movements.

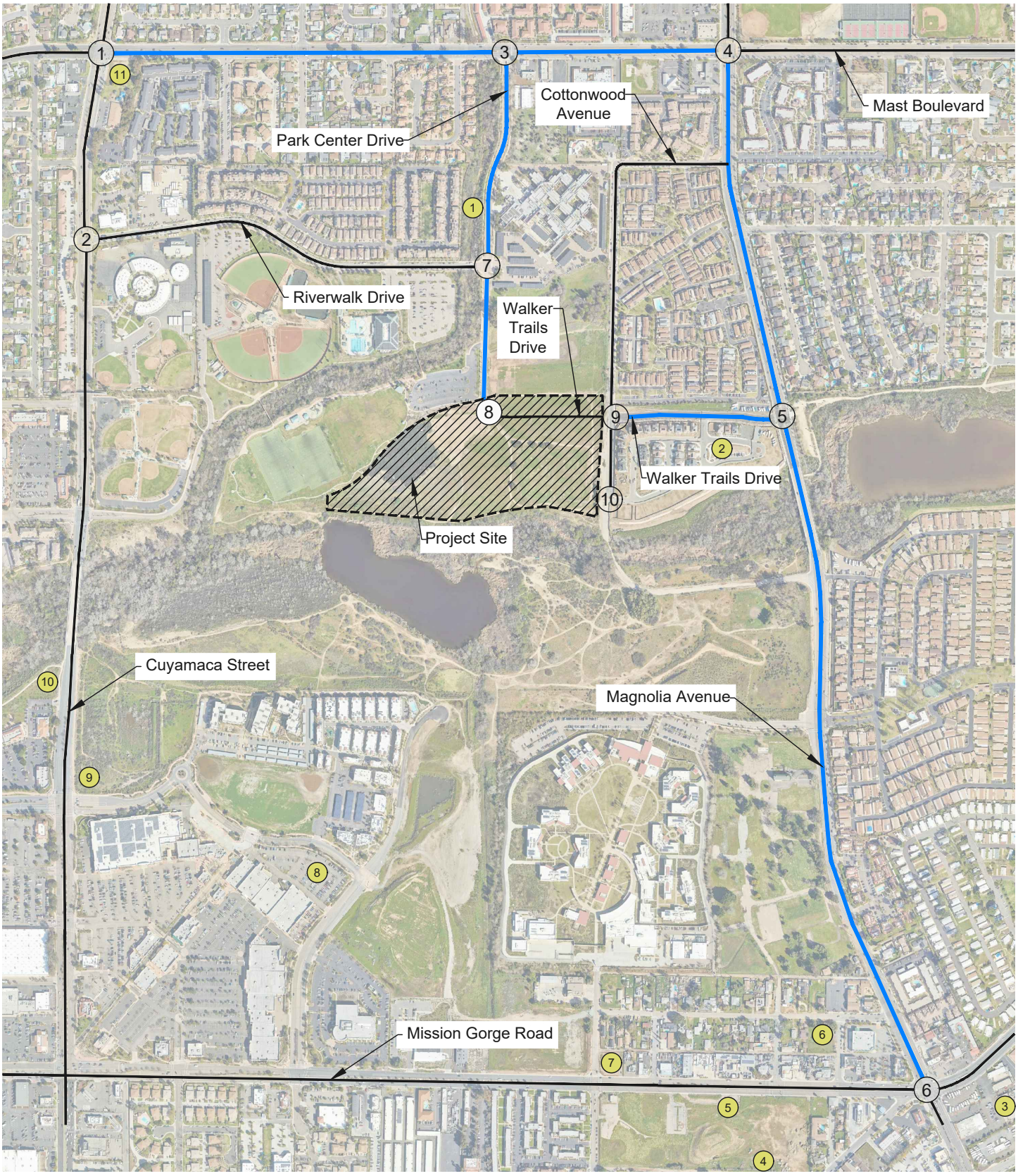
As shown in **Table 14**, the 95th percentile queue lengths under NTP Conditions with Improvements do not exceed the northbound left-turn movements at Intersection 5: Magnolia Avenue/Walker Trails Drive.

6.8 PROJECT FAIR SHARE

The fair share percentage of the proposed project for the recommended improvement is identified in **Table 15** below. The percentage of project fair share at the affected Intersection 5: Magnolia Avenue/Walker Trails Drive was calculated using the total PM left-turn trips generated by the project divided by the total PM left-turn traffic under NTP conditions.

Table 15
Fair Share Analysis

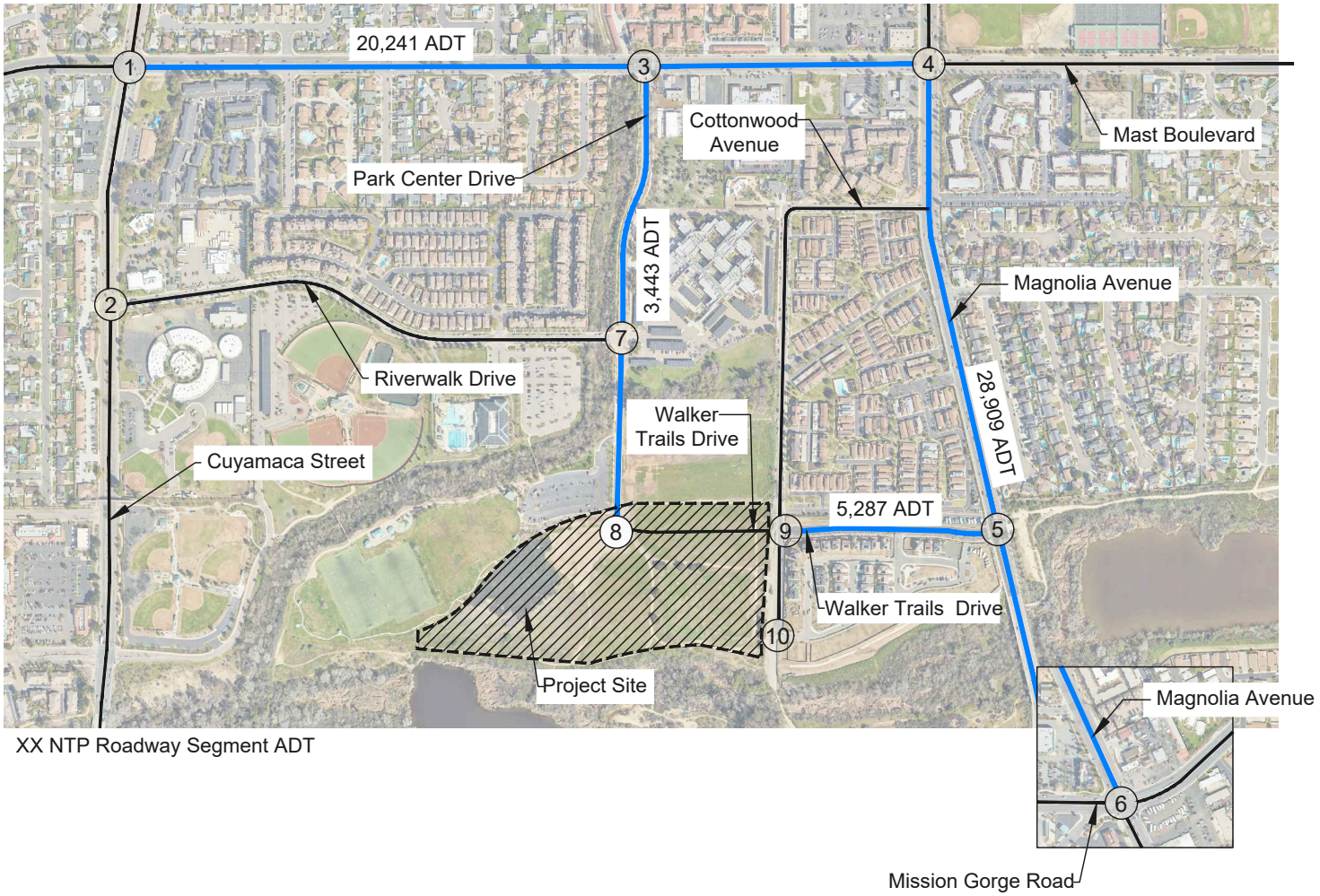
Intersection			Movement	Improvement	Peak Hour	Total Volume	Project Volume	Project % of Fair Share
5	Magnolia Avenue	Walker Trails Drive	Northbound Left-Turn	Add Second LT pocket at NB movement	PM	314	126	40%



Legend:

- (X) Approximate Cumulative Project Locations
- Project Site
- (#) Study Intersection Location
- Study Roadway Segment

Exhibit 12: Proposed Cumulative Project Map



XX NTP Roadway Segment ADT

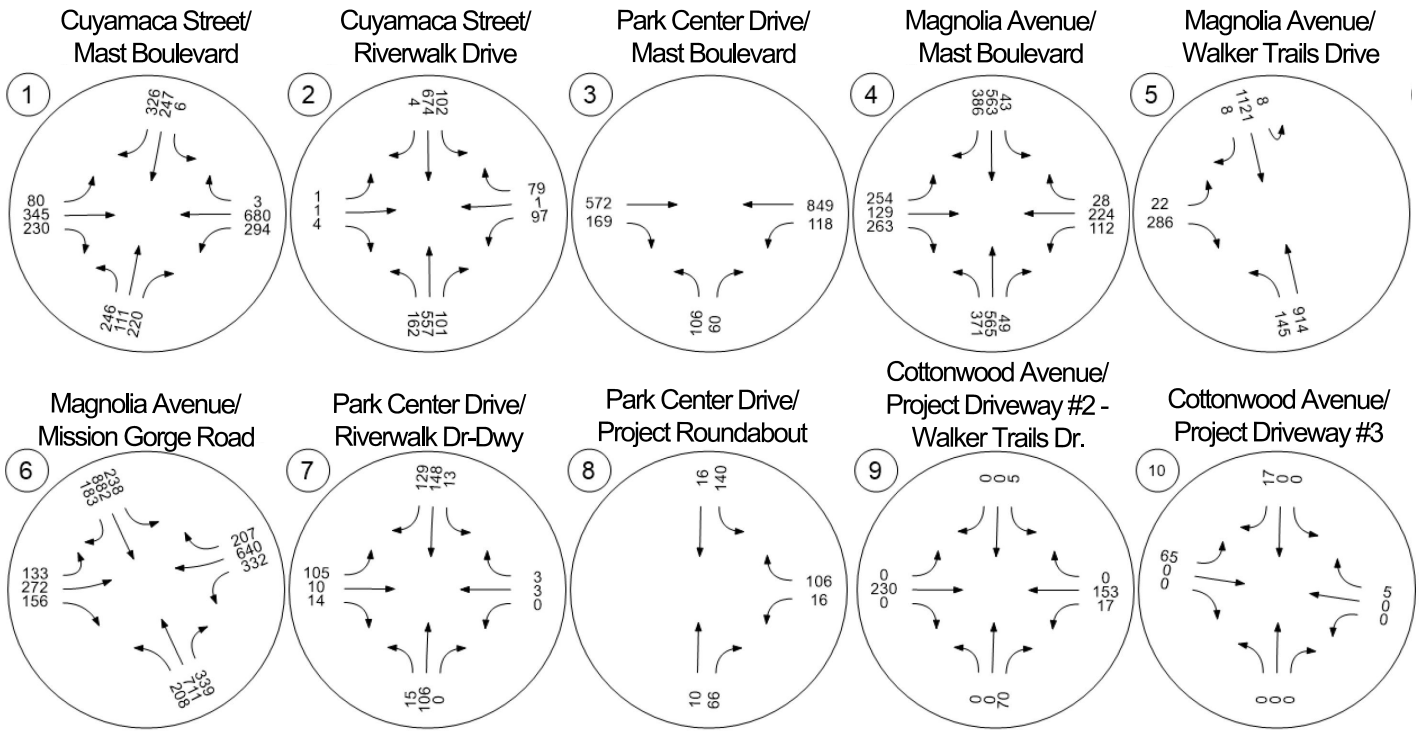
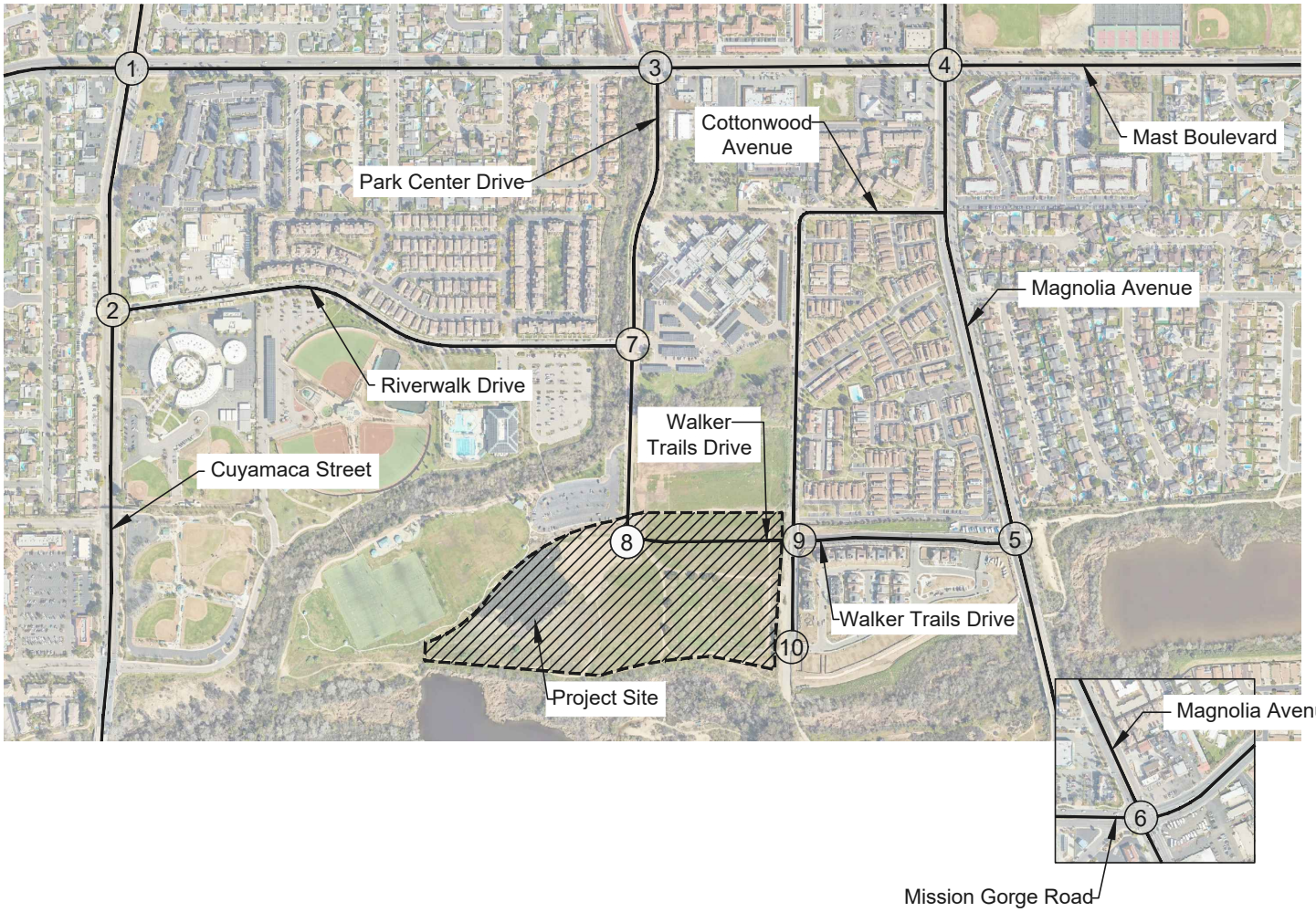


Exhibit 13: Near Term Plus Project AM Peak Hour Volumes



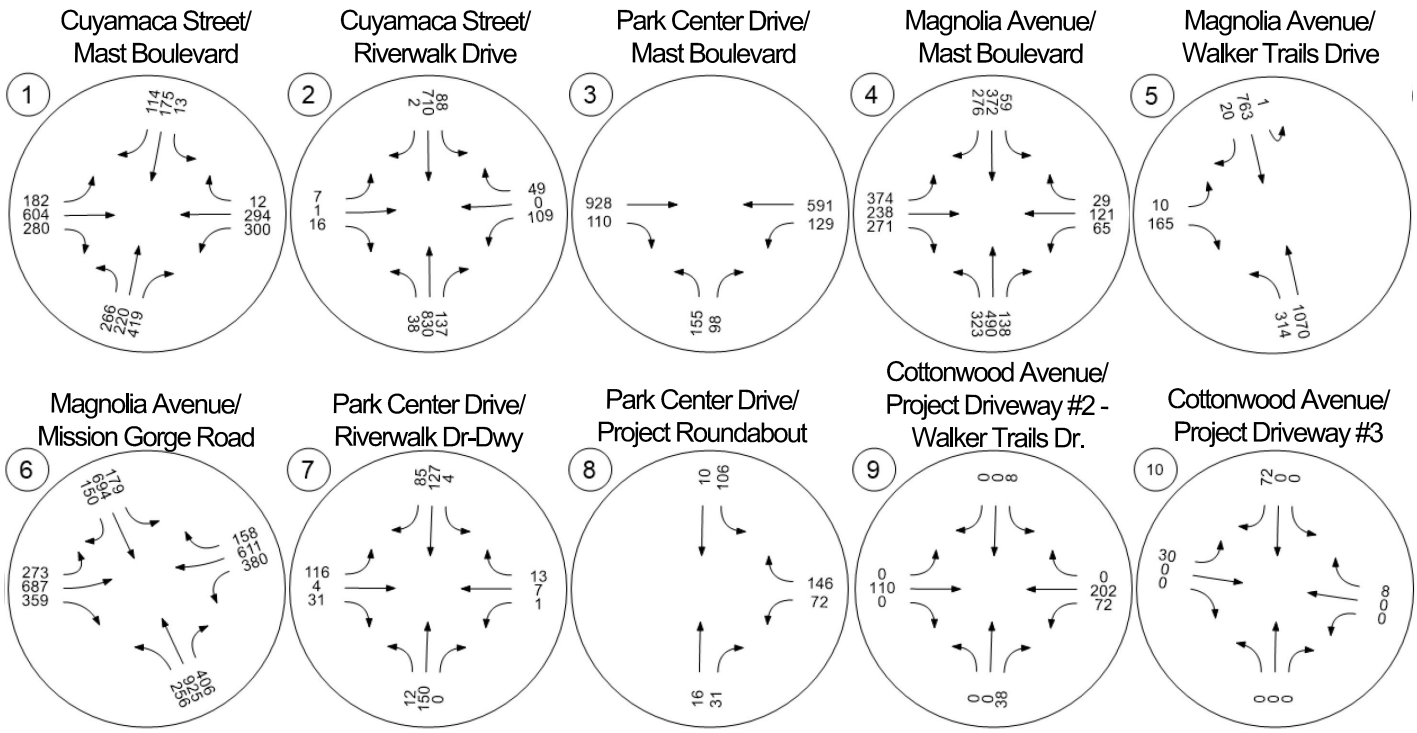
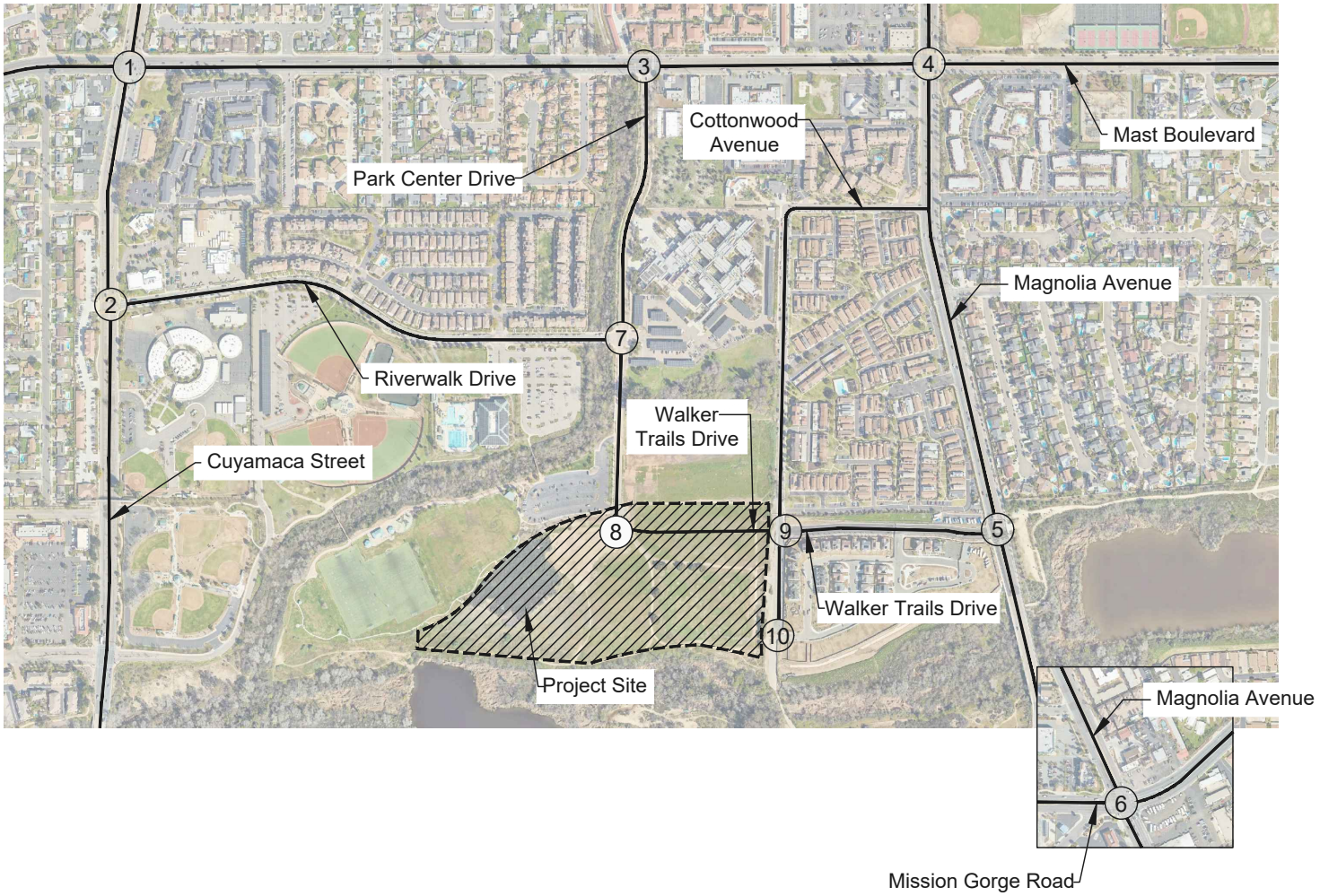


Exhibit 14: Near Term Plus Project PM Peak Hour Volumes



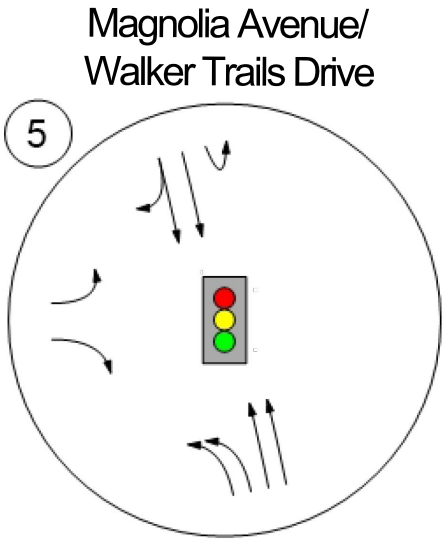


Exhibit 15: Near Term Plus Project with Improvement Lane Configuration

APPENDIX

Appendix A: Scoping Agreement and City Documents
Appendix B: Existing Traffic Counts and Model Volumes
Appendix C: HCM Analysis Sheets

APPENDIX A

SCOPING AGREEMENT AND CITY DOCUMENTS

Scoping Agreement for Traffic Impact Analysis

This form acknowledges the requirements for the traffic impact analysis of the following project. The analysis will follow the local jurisdiction's traffic impact analysis guidelines.

Project Name:	Cottonwood & Park
Project Address:	Intersection of Cottonwood Avenue & Park Center Drive
Project Description:	358 single-family attached dwelling units

	Consultant	Developer
Name:	TJW Engineering	CITY VENTURES
Address:	9841 Irvine Center Drive, Suite 200	3121 Michelson Drive, Suite 150
	Irvine, CA 92618	Irvine, CA 92612
Telephone:	949-878-3509	
Email:		

Trip Generation Source: ITE Trip Generation Manual, 11th Edition (2021) SANDAG trip generation rate table

Current GP Land Use:	Town Center	Proposed Land Use:	Town Center
Current Zoning:	TCR-14	Proposed Zoning:	TCR-14

Is the project screened from LOS analysis? [ ] Yes [X] No

Justification:	The *Guidelines for Transportation Impact Studies in the San Diego Region (Guidelines)* (May 2019) indicate any project generating traffic greater than 1,000 daily trips or 100 peak-hour trips should have a roadway analysis. The proposed project exceeds both daily and AM and PM peak hour thresholds.

Is the project screened from VMT analysis? [X] Yes [ ] No

Justification:	Per City staff, the project does not require a full VMT analysis. However, the project will need an addendum to the EIR of the City's Housing Element for VMT conformity.

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				38	151	189
PM Trips				156	66	222
Daily						2,368

Internal Trip Capture: [ ] Yes [X] No _____ % Trip Discount

Pass-By Allowance: [ ] Yes [X] No _____ % Trip Discount

Trip Distribution: See attached exhibit This is yet to be determined by modeling

Project Build-out Year: 2025 Annual Ambient Growth Rate: 2%

Study Intersections:

1. Cuyamaca St/Riverwalk Dr
2. Mast Blvd/Park Center Dr
3. Mast Blvd/Magnolia Ave
4. Magnolia Ave/Park Center Dr
5. Magnolia Ave/Mission Gorge Rd
6. Park Center Dr/Riverwalk Dr
7. Project Driveway #1/Chubb Ln
8. Project Driveway #2/Chubb Ln
9. Mast Blvd/Cuyamaca St
10. Main project driveway

Study Roadway Segments:

1. Magnolia Ave between Mast Blvd & Mission Gorge Rd
2. Park Center Dr (Mast to Project Driveway)
3. Mast Blvd between Cuyamaca St & Magnolia Ave
4. Park Center Dr (Project driveway to Magnolia Ave)

Analysis Scenarios:

1. Existing Traffic Conditions
2. Existing Plus Project Traffic Conditions
3. Near Term (Existing + Cumulative + Project) Traffic Conditions
4.
5.

Other Jurisdiction Analyzed? [ ] Yes [X] No Name of Jurisdiction: _____

Date of Traffic Counts: New counts will be collected

Additional Items to be Addressed:	A SANDAG regional model run will be completed for no project and with project (including roadway connections) to determine any change in roadway traffic distribution as a result of the project completing the roadway connection of Park Center Drive. A total of four (4) model runs will be completed for base year and future year without and with project scenarios.

Additional Notes:	

Authorizations:

David Chew, PTP	Minjie Mei
Consultant's Representative	City (Approved By)
Signature	Signature
March 12, 2024	3/18/2024
Date	Date

LEGEND

NEIGHBORHOOD #1
2-STORY ROWHOMES

- PLAN 1
- PLAN 2
- PLAN 3

NEIGHBORHOOD #2
3-STORY INTERLOCK
TOWNHOMES

- PLAN 1
- PLAN 2

NEIGHBORHOOD #3
3-STORY COURTYARD
FLATS

- PLAN 1
- PLAN 2
- PLAN 3A
- PLAN 3B
- PLAN 3C
- PLAN 4A
- PLAN 4B
- PLAN 4C
- PLAN 5
- PLAN 6

A — ACCESSIBLE UNIT

▲ — UNIT ENTRY

TRASH ENCLOSURE

TRANSFORMER

Architecture + Planning
17911 Von Karman Ave,
Suite 200
Irvine, CA 92614
949.851.2133
ktgy.com

City Ventures
3121 Michelson Drive, Suite 150
Irvine, CA 92612

COTTONWOOD & PARK
SANTEE, CA # 2023-0148

Plot Date: 1.17.2024
1st Submittal Date: 12.22.2023

0 40 80 160

SITE PLAN
OPTION 3b

A0.10

Light Rail Trolley (LRT)

The City of Santee is served by the Green Line Trolley (Route 530), with one (1) station located at the Santee Transit Center.

Green Line is the third line to be constructed in the San Diego Trolley system. It runs between the Santee Transit Center and the 12th and Imperial Avenue Transit Center in Downtown San Diego. Green Line service began on July 10, 2005 after completion and opening of the 5.9 miles (9.5 km) Mission Valley East extension. The line provides service from Santee through Mission Valley, and into Downtown San Diego via the Old Town Transit Center with 15-minute service Mondays through Fridays, and 30-minute service on the weekends.

4.3 Bicycling

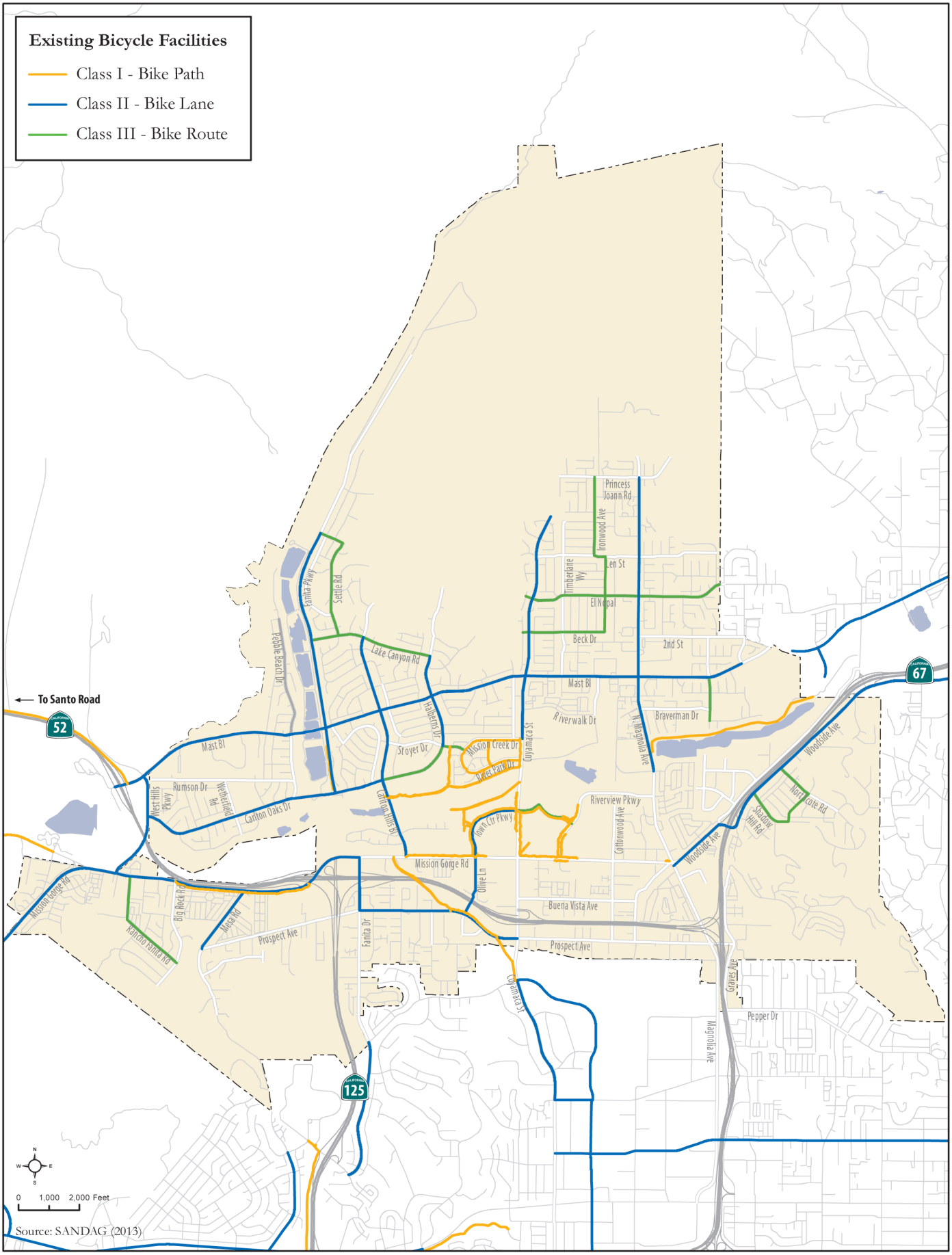
Bicycle facilities are an integral component of any transportation system. Adequate bicycle facilities encourage active transportation, enhance recreational opportunities, and help attract visitors. Bikeways not only provide local opportunities for cyclists, but also offer regional connections.

Table 4.1 presents the four bicycle classifications recognized in California, while Figure 4-4 displays the existing bicycle facilities in Santee.

As shown in Figure 4-3, a combination of Class I, II, and III bicycle facilities create the backbone of Santee's bicycle network. Bicycle facilities along Mast Boulevard, Carlton Oaks Drive, Mission Gorge Road, and Woodside Avenue provide east-west connections, while facilities along Carlton Hills Boulevard, Cuyamaca Street, and North Magnolia Avenue provide north-south connections.

Table 4.1 California Bicycle Facility Classifications

Class Description	Example
Class I Bikeway (Bike Path) –Class I facilities provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motor vehicles minimized. Bike paths can provide connections where roadways are non-existent or unable to support bicycle travel. The minimum paved width for a two-way bike path is 8 feet and 5 feet for a one-way bike path, with a minimum 2 foot wide graded area adjacent to the pavement.	
Class II Bikeway (Bike Lane) – Provides a striped lane designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with pedestrian and motor vehicle crossflows permitted. The minimum bike lane width where parking stalls are marked is 5 feet.	
Class III Bikeway (Bike Route) – Provides shared use of traffic lanes with cyclists and motor vehicles, identified by signage and street markings such as "sharrows". Bike routes are best suited for low-speed, low-volume roadways with an outside lane width of 14 feet or wider.	
Class IV Bikeway (Cycle Track) – Also referred to as separated bikeways, cycle tracks provide a right-of-way designated exclusively for bicycle travel within the roadway and physically protected from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, or on-street parking.	



Source: SANDAG (2013)

City of Santee
Mobility Element
CHEN RYAN

Figure 4-4
Existing (2013) Bicycle Facilities

4.4 Pedestrian Environment

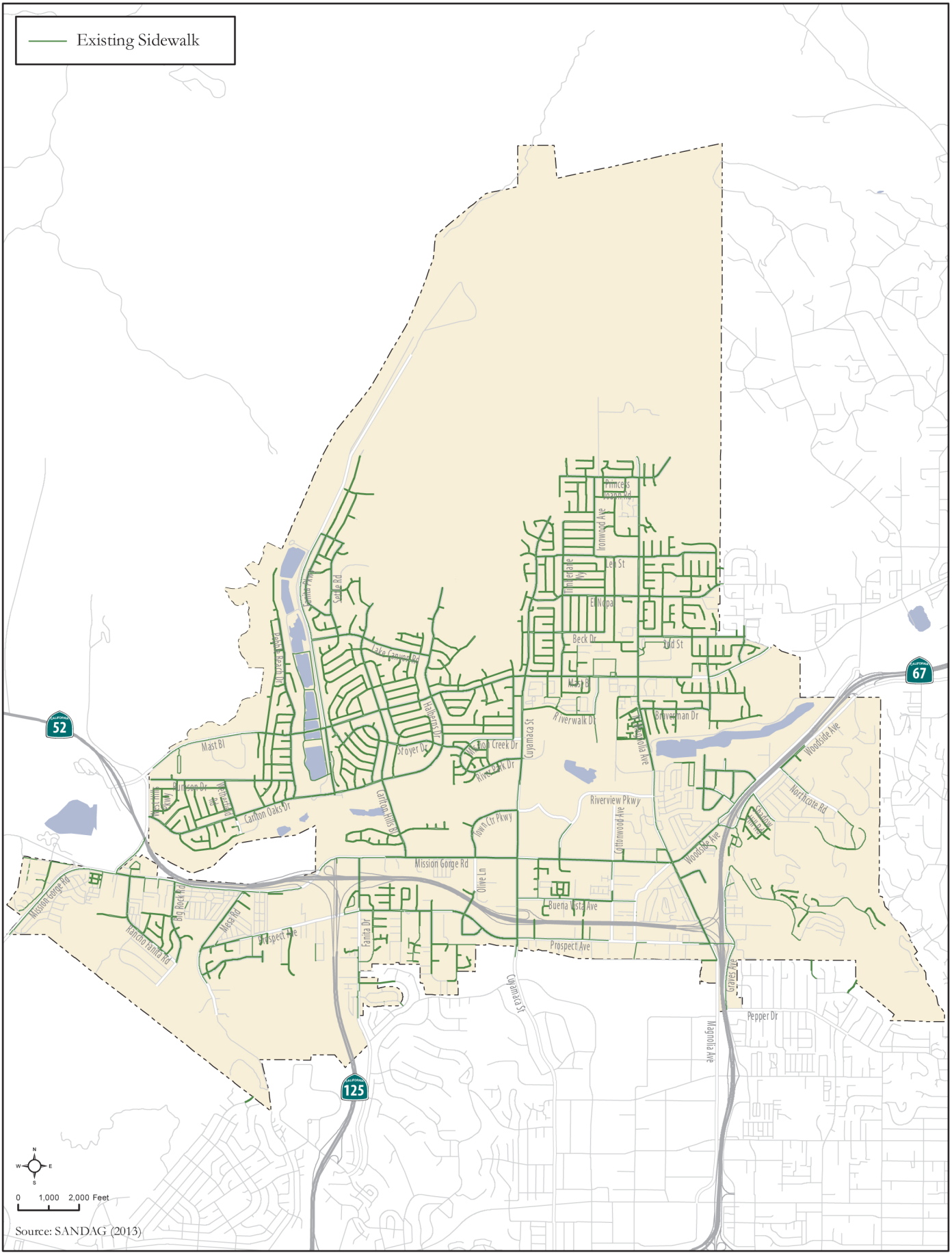
Walkability is an important mobility and quality of life consideration for communities. The degree to which people walk for transportation and recreation is influenced by the comfort, safety, and convenience. Comfort is influenced by traffic volumes, travel speed, separation from traffic, topography, the presence of sidewalks and improved paths, and climate. Safety is influenced by the speed and volume of conflicting vehicular traffic, street widths, traffic control, number of conflict points, and infrastructure design. Convenience is influenced by distance and directness of travel. As connectivity increases, travel distance decreases and route option increases for pedestrians.

As funds have become available, the City has installed sidewalks and pedestrian ramps where they were missing. The City continues to pursue grant funding to improve pedestrian facilities.

Newer streets in the City, particularly within the Town Center area as well as along Mission Gorge Road, have sidewalks which are separated from the street and designed along landscaped corridors. These designs provide a more pleasant and safe pedestrian experience and encourage pedestrian travel. The City's current policy is to provide non-contiguous sidewalks on all new and widened streets of collector classification or larger.

Within the Town Center area, the Town Center Specific Plan identifies a network of interconnected bike and pathways linking activity centers within the Town Center, as well as linking the Town Center with the bike and pedestrian trail system in the rest of the City.

Pedestrian facilities include sidewalks, curb ramps, and other amenities such as street trees for shading and pedestrian scale lighting. Figure 4-5 displays roadway segments with existing sidewalks. As shown, the northern portion of Santee is very well-connected by sidewalks. Sidewalks are less prevalent in the older, southern areas.



City of Santee
Mobility Element
CHEN RYAN

Figure 4-5
Existing (2013) Sidewalks

Policy 1.3: The City shall ensure that the entire right-of-way is designed to accommodate appropriate modes of transportation.

Policy 1.4: The City should create a vibrant town center by developing a connected system of multi-modal corridors that encourage walking, biking, and riding transit. A mobility hub should be considered at the existing Santee Trolley Square providing features such as bikeshare, bike parking, carshare, neighborhood electric vehicles, real-time traveler information, demand-based shuttle services, wayfinding signage, bicycle and pedestrian improvements, urban design enhancements, etc.

Policy 1.5: The City should regularly review, update and collect adequate transportation impact fees (TIF) and ensure the efficient allocation of state and regional funding sources for the development and maintenance of local transportation (across all modes) improvements and operations.

Streets and Freeway System

Objective 2.0: Develop an efficient, safe and multi-modal transportation network, consisting of local roads, collectors, arterials, freeways and transit services, in a manner that promotes the health and mobility of Santee residents and that meets future circulation needs, provides access to all sectors of the City, and supports established and planned land uses.

Policy 2.1: The City shall encourage an automobile Level of Service "D" on street segments and at intersections throughout the circulation network while also maintaining or improving the effectiveness of the non-automotive components of the circulation system (i.e. pedestrians, bicyclists, and public transit), especially in the Town Center area. The City may approve a lower automobile Level of Service if it finds that the effectiveness of non-automotive components of the circulation system would be maintained or improved as a result. In other cases, the City shall not approve any development that causes a drop in the level of service at a street segment or an intersection to LOS "E" or "F", after feasible mitigation, without overriding social, economic, or other benefits.

Policy 2.2: The City should ensure adequate accessibility for all modes to the northern undeveloped area of the City by designating a functional network of public streets for future dedication either prior to, or concurrent with anticipated need.

Policy 2.3: The City shall establish minimum design standards for streets, which include grade, widths, alignment and public improvement requirements in a City design manual.

Policy 2.4: The City shall manage the existing truck route network for use by City serving heavy commercial and industrial traffic to provide for a safe circulation system for all drivers.

Policy 2.5: The City should not allow city streets to be used for through-City truck traffic.

Policy 10.5: The City shall oppose the installation of freeway on-ramp meters unless appropriate mitigation is provided by Caltrans for impacts to City streets caused by such metering.

Policy 10.6: The City supports the connection of Caltrans traffic signals on City streets to the City's interconnected traffic signal system to maintain traffic flow.

7.0 Implementation

This section presents the circulation plan for the City of Santee, including buildout of the Mobility Element roadway classifications, designated multi-modal corridors, and planned bicycle facilities. Additionally, a discussion regarding the Mobility Element's relationship to the City's Capital Improvement Program and Maintenance Program is provided, as well as a discussion about Design Review and Project Processing.

7.1 Circulation Plan

Streets and Freeway System

This section provides a description, cross-section and list of designated Mobility Element roadways within the City of Santee. The classifications are intended to assist in understanding the buildout design configuration and right-of-way needs for each circulation network segment. A guiding strategy for streets system planning was to provide a mobility network that accommodates all modes and users and to avoid extensive road widening wherever possible.

A number of proposed network changes such as lane reductions along Mission Gorge Road, Prospect Avenue, Town Center Parkway, Riverview Parkway, and Olive Lane will provide much needed bicycle connectivity to promote and encourage for travel mode shifts in Santee. This would also potentially reduce City's vehicle miles of travel (VMT) and greenhouse gas emissions, and helps transform Santee into a more sustainable community.

With this Mobility Element, the City is clarifying and expanding the roadway classification system and Table 7.1 displays the City's revised roadway classifications and standards.

Table 7.1 City of Santee Revised Roadway Classifications and Standards

Street Classification	Description / Sub-classification	# of Lanes	LOS / ADT Thresholds				
			A	B	C	D	E
Circulation Element							
Prime Arterial	Median	6 lanes	25,000	35,000	50,000	55,000	60,000
Major Arterial	Median	4 lanes	15,000	21,000	30,000	35,000	40,000

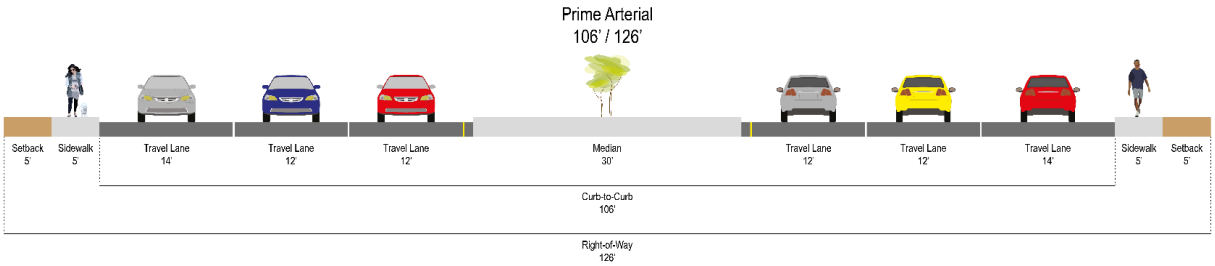
Parkway	Median	4 lanes	15,000	21,000	30,000	35,000	40,000
	w/ TWLTL	2 lanes w/ TWLTL	5,000	7,000	10,000	13,000	15,000
	-	2 lanes	4,000	5,500	7,500	9,000	10,000
Collector	w/ TWLTL	2 lanes w/ TWLTL	5,000	7,000	10,000	13,000	15,000
	Industrial Collector	2 lanes	2,500	3,500	5,000	6,500	8,000
	Residential Collector	2 lanes	2,500	3,500	5,000	6,500	8,000
Non-Circulation Element							
Industrial Local		2 lanes	-	-	2,200*	-	-
Residential Local		2 lanes	-	-	2,200*	-	-
Cul-De-Sac Street		2 lanes	-	-	300*	-	-
Hillside Street		2 lanes	-	-	700*	-	-

Notes:
TWLTL = Two-way left-turn lane.
*represents design capacity of non-CE road. LOS does not apply to non-CE roads.

The following cross-sections display the typical sections (features, dimensions, etc.) for each classification. Cross-sections are intended to demonstrate general feasibility of proposed network buildout, however, actual improvements will require additional engineering studies and design work and shall be to the satisfaction of the City Engineer.

Prime Arterial

Prime Arterial are six lanes or larger divided roadways with raised, landscaped medians to control turning movements that cross other arterials at grade with signalized intersections. Prime Arterials also have an increased landscaped parkway width between the right-of-way and curb.



Notes:

1. *Class II bike lanes currently exist along Mission Gorge Road, between SR-52 Ramps and Fanita Drive, and these bike lanes will remain under the Preferred Plan.*

2. *Parkways (for non-contiguous sidewalks) and/or wider sidewalks may be required where necessary on Prime Arterial facilities.*

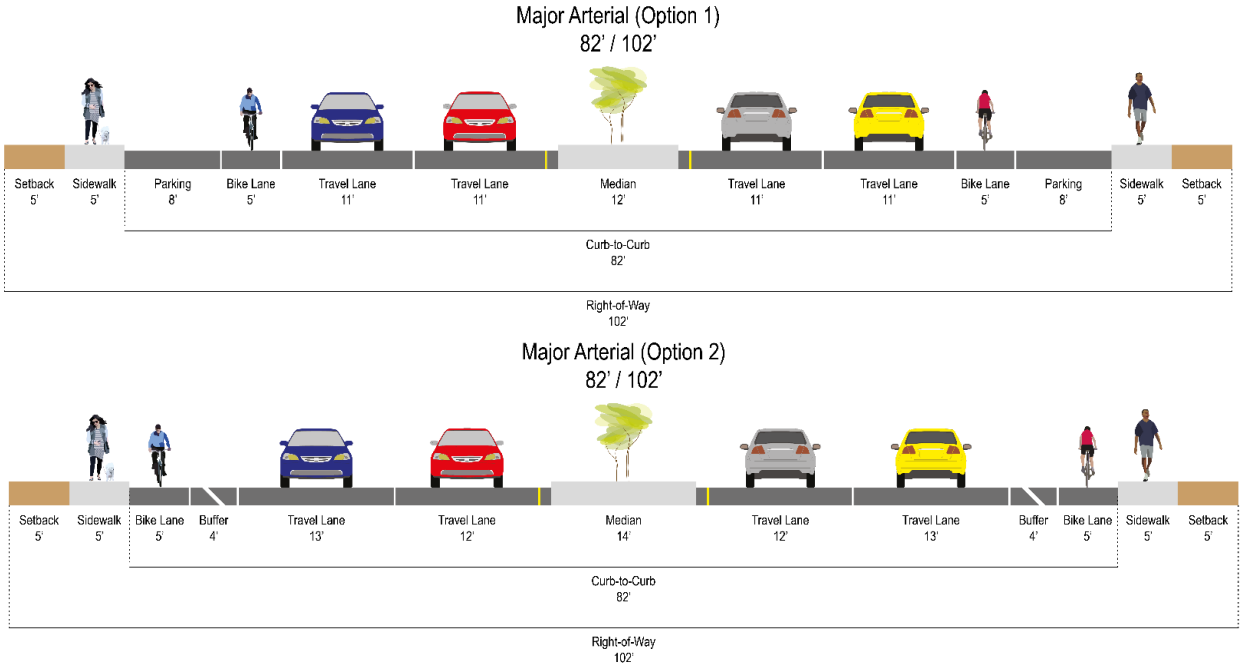
3. *Town Center Specific Plan or Mission Gorge Road Design Standards apply where applicable.*

The following Mobility Element roadways have been designated as Prime Arterials.

- Cuyamaca Street, between Town Center Parkway and Prospect Avenue;
- Magnolia Avenue, between Mission Gorge Road and Prospect Avenue; and
- Mission Gorge Road, between SR-52 and Riverview Parkway.

Major Arterial

Major Arterials are four to six lane divided roadways with landscaped raised medians to control turning movements and that cross other arterials at grade with signalized intersections.



Note:

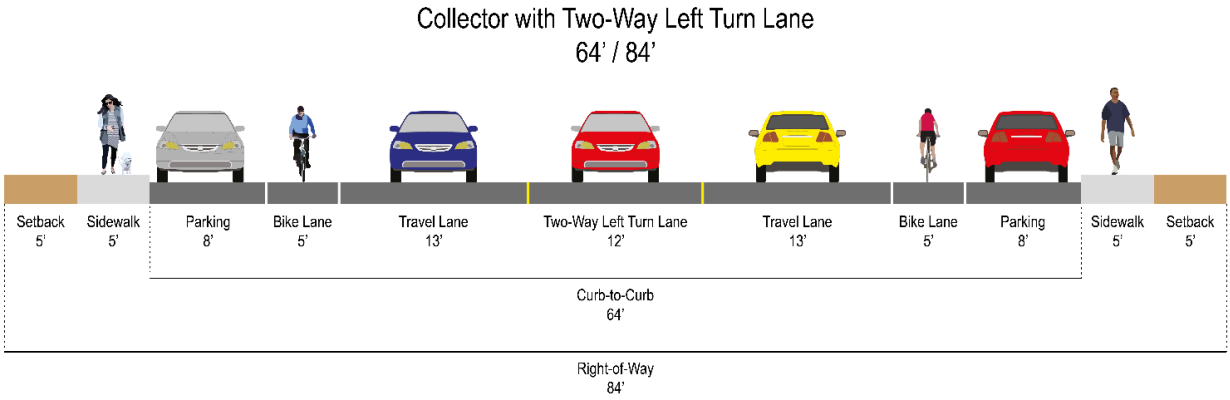
1. *Parkways (for non-contiguous sidewalks) and/or wider sidewalks may be required where necessary on Major Arterial facilities.*

The following Mobility Element roadways have been designated as Major Arterials.

- Carlton Hills Boulevard, between Lake Canyon Road and Mission Gorge Road;
- Cuyamaca Street, between Princess Joann Road and Town Center Parkway;
- Cuyamaca Street, between Prospect Avenue and southern city limits;
- Fanita Drive, between Mission Gorge Road and Prospect Avenue;
- Magnolia Avenue, between Princess Joann Road and Mission Gorge Road;
- Magnolia Avenue, between Prospect Avenue and southern city limits;
- Mast Boulevard, between SR-52 and Magnolia Avenue;
- Mast Boulevard, between Magnolia Avenue and eastern city limits (with Mast Boulevard extension option)
- Mission Gorge Road, between western City limits and SR-52;
- Mission Gorge Road, between Riverview Parkway and Magnolia Avenue;
- Woodside Avenue, between Magnolia Avenue and SR-67.

Collector Road with Two-Way Left Turn Lane (TWLTL)

Collectors are feeder or connector roadways that complement the arterial network, but are of lesser capacity, with two or four lanes and striped turning lanes. Collectors typically have signalized or "Stop" sign control at intersections with other circulation element streets.



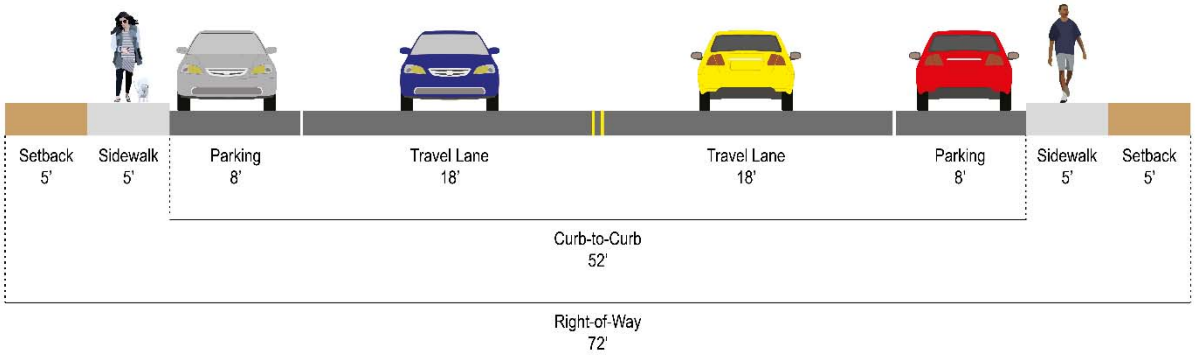
The following Mobility Element roadways have been designated as Collector Roads with Two-Way Left Turn Lane:

- Carlton Hills Boulevard, between Swanton Drive and Lake Canyon Road;
- Carlton Oaks Drive, between West Hills Parkway and Stoyer Drive;
- Cottonwood Avenue, between Park Avenue and Prospect Avenue;
- Cuyamaca Street, between northern terminus and Princess Joann Road;
- El Nopal, between Magnolia Avenue and eastern city limits;
- Fanita Drive, between Prospect Avenue and southern city limits;
- Graves Avenue, between Prospect Avenue and southern city limits;
- Halberns Boulevard, between Lake Canyon Road and Stoyer Drive;
- Mast Boulevard, between Magnolia Avenue and Los Ranchitos Road (with no Mast Boulevard extension option);
- Mesa Road, between Mission Gorge Road and Prospect Avenue;
- Olive Lane, between Mission Gorge Road and Prospect Avenue;
- Prospect Avenue, between Mesa Road and Magnolia Avenue;
- N. Woodside Avenue, between Woodside Avenue and eastern city limits;
- S. Woodside Avenue, between Woodside Avenue and eastern city limits.

Collector Industrial

Collector Industrial are slightly larger local roadways to accommodate commercial vehicles safely in areas of industrial development.

Collector Industrial & Collector No Fronting Property
52' / 72'

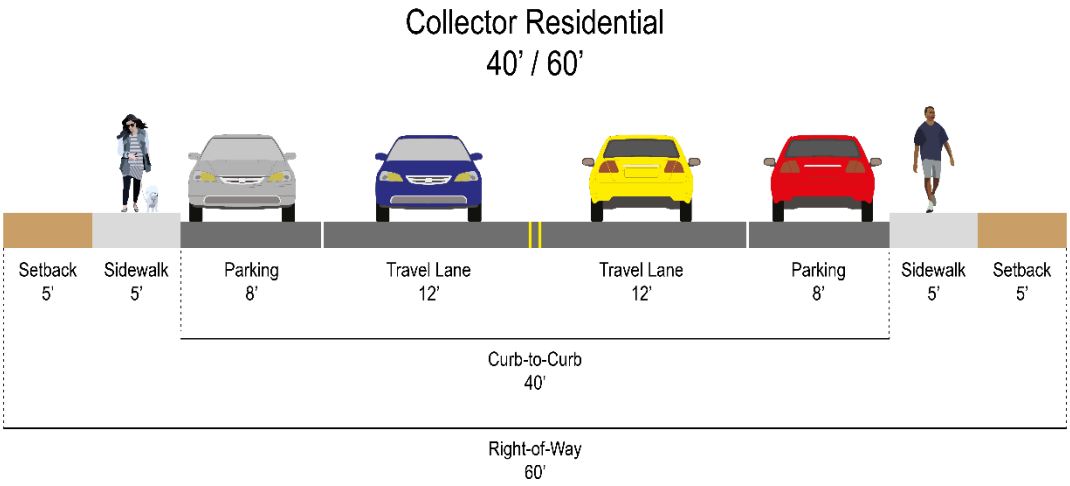


The following Mobility Element roadways have been designated as Collector Industrial:

- Abraham Way, between northern terminus and Isaac Street;
- Argent, Street between Prospect Avenue and Pathway Street
- Buena Vista Avenue, between Cuyamaca Street and Railroad Avenue;
- Hartley Road, between western terminus and N. Woodside Avenue;
- Isaac Street, between Abraham Way and Hartley Road;
- Pathway Street, between Argent Street and Prospect Avenue
- Railroad Avenue, between Mission Gorge Road and Buena Vista Avenue;
- Rockville Street, between Magnolia Avenue and the eastern terminus;
- Wheatland Avenue, between Abraham Way and N. Woodside Avenue.

Collector Residential

Collector Residential are two lane distributor roadways, slightly larger than local streets to enhance safety and traffic circulation into and out of neighborhood areas.



The following Mobility Element roadways have been designated as Collector Residential:

- 2nd Street, between Magnolia Avenue and Los Ranchos Road;
- Atlas View Drive, between Prospect Avenue and Pryor Drive;
- Beck Drive, between Cuyamaca Street and Woodrose Avenue;
- Big Rock Road, between Mission Gorge Road and Rancho Fanita Drive;
- Bilteer Drive, between Beck Drive and Mast Boulevard;
- Braverman Drive, between Magnolia Avenue and Jeremy Street;
- Cottonwood Avenue, between Palm Glen Drive and Street "A";
- El Nopal, between Cuyamaca Street and Magnolia Avenue;
- Fanita Parkway, between Mast Boulevard and Carlton Oaks Drive;
- Ganley Road, between Fanita Parkway and Settle Road;
- Graves Avenue, between northern terminus and Prospect Avenue;
- Halberns Boulevard, between northern terminus and Lake Canyon Road;
- Ironwood Avenue, between Princess Joann Road and Woodglen Vista Road;
- Jeremy Street, between 2nd Street and Braverman Drive;
- Lake Canyon Road, between Fanita Parkway and Halberns Boulevard;
- Len Street, between Magnolia Avenue and Santana Street;
- Los Ranchitos Road, between 2nd Street and Mast Boulevard;
- Mesa Heights Road, between Mesa Road and Tyler Street;
- Mesa Road, between Prospect Avenue and southern terminus;
- Mission Creek Drive, between Willow Pond Road and Cuyamaca Street;
- Northcote Road, between S. Woodside Avenue and Robinridge Way;
- Palm Glen Drive, between Cottonwood Avenue and Magnolia Avenue;
- Pebble Beach Drive, between Grass Valley Lane and Carlton Oaks Drive;
- Princess Joann Road, between Cuyamaca Street and eastern terminus;

- Rancho Fanita Drive, between Mission Gorge Road and Big Rock Road;
- Riverpark Drive, between Willow Pond Road and Cuyamaca Street;
- Riverwalk Drive, between Cuyamaca Street and Park Center Drive;
- Rumson Drive, between western terminus and Pebble Beach Drive;
- Settle Road, between Ganley Road and Lake Canyon Road;
- Shadow Hill Road, between S. Woodside Avenue and Ruocco Drive;
- Strathmore Drive, between northern terminus and Settle Road;
- South Slope Drive, between Prospect Avenue and Mesa Heights Road;
- Stoyer Drive, between Carlton Hills Boulevard and Carlton Oaks Drive;
- Summit Avenue between Magnolia Avenue and Princess Joann Road;
- Timberlane Way, between Woodglen Vista and Beck Drive;
- Tyler Street, between northern terminus and southern terminus;
- Wethersfield Road, between Rumson Drive and Inverness Road;
- Willow Pond Road, between Carlton Oaks Drive and Mission Creek Drive; and
- Woodglen Vista Road, between Cuyamaca Street and Magnolia Avenue.

Parkway

Parkway are roadways requiring unique design applications where standard designs cannot be utilized because of steep terrain, right-of-way constraints, special development needs and/or other special conditions. Due to significant variation among parkway cross-sections, a typical cross-section is not provided. The following Mobility Element roadways have been designated as Parkway:

- Cottonwood Avenue*, between Street "A" and Riverview Parkway;
- Fanita Parkway*, between northern terminus and Mast Boulevard;
- Magnolia Avenue*, between Cuyamaca Street and Princess Joann Road;
- Park Center Drive, between Mast Boulevard and Street "A";
- Riverview Parkway, between Mission Gorge Road and Magnolia Avenue;
- Street "A"*, between Park Center Drive and Magnolia Avenue;
- Town Center Parkway*, between Mission Gorge Road and Riverview Parkway.

* The Mobility Element identifies general and approximate locations for future routes to be dedicated and constructed pursuant to development. Precise alignment and design of these routes will require in depth study at the time that future development occurs.

Multi-Modal Corridors

To support AB 1358 (the Complete Streets Act) and create a vibrant town center, a system of multi-modal corridors was developed in the town center area with mixed land uses and a regionally significant transit center to encourage walking, biking and riding transit. The following roadway segments were designated to be Multi-Modal Corridors since they provides connectivity between the town center / transit center and the surrounding residential land uses:

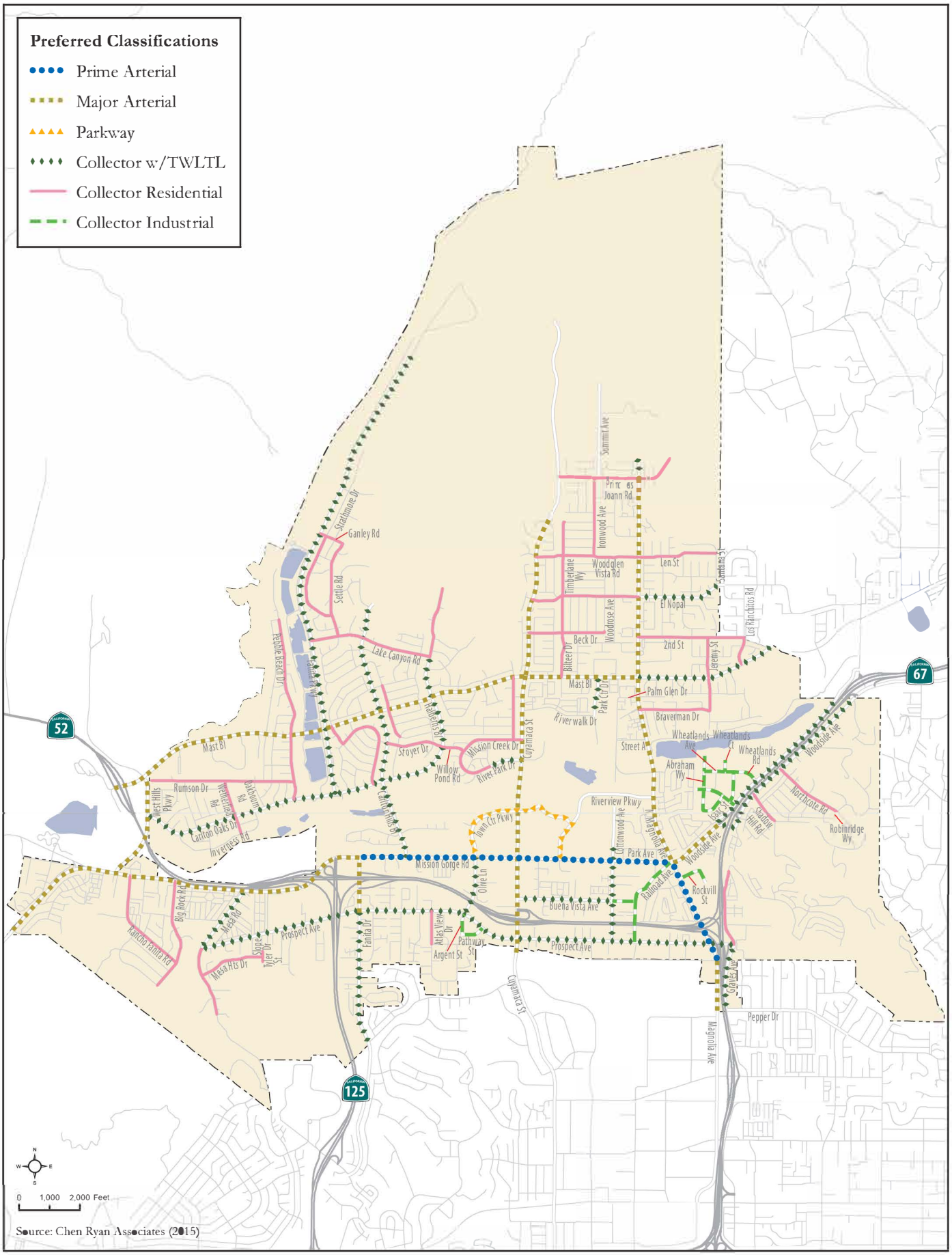
- Prospect Avenue, between Olive Lane and Magnolia Avenue;

- Olive Lane / Town Center Parkway, between Cuyamaca Street and Prospect Avenue;
- Mission Gorge Road, between Cuyamaca Street and Cottonwood Avenue;
- Riverview Parkway, between Cuyamaca Street and Mission Gorge Road;
- Cuyamaca Street, between Town Center Parkway and Prospect Avenue; and
- Cottonwood Avenue, between Mission Gorge Road and Prospect Avenue.

Figure 7-1 displays buildout of the Mobility Element roadway classifications along with the designated multi-modal corridors.

Regional Facilities

Regional transportation facilities such as SR-125, SR-67 and SR-52 serve an important role for the City of Santee's mobility system and must therefore be given consideration when developing future networks and performing various analyses. The most recent *San Diego Forward: The Regional Plan*, adopted in October 2015, indicates two improvement projects which could reduce peak hour congestion along this corridor. These improvements include widening of SR-52 between Mast Boulevard and SR-125 from 4 general purpose lanes to 6 by 2035, and constructing two managed lanes between I-15 and SR-125 by 2050.



Source: Chen Ryan Associates (2015)

City of Santee
Mobility Element
CHEN RYAN

Figure 4-1
Existing (2013) Functional Street Classifications

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*

Route 832 – Monday through Friday / *lunes a viernes*

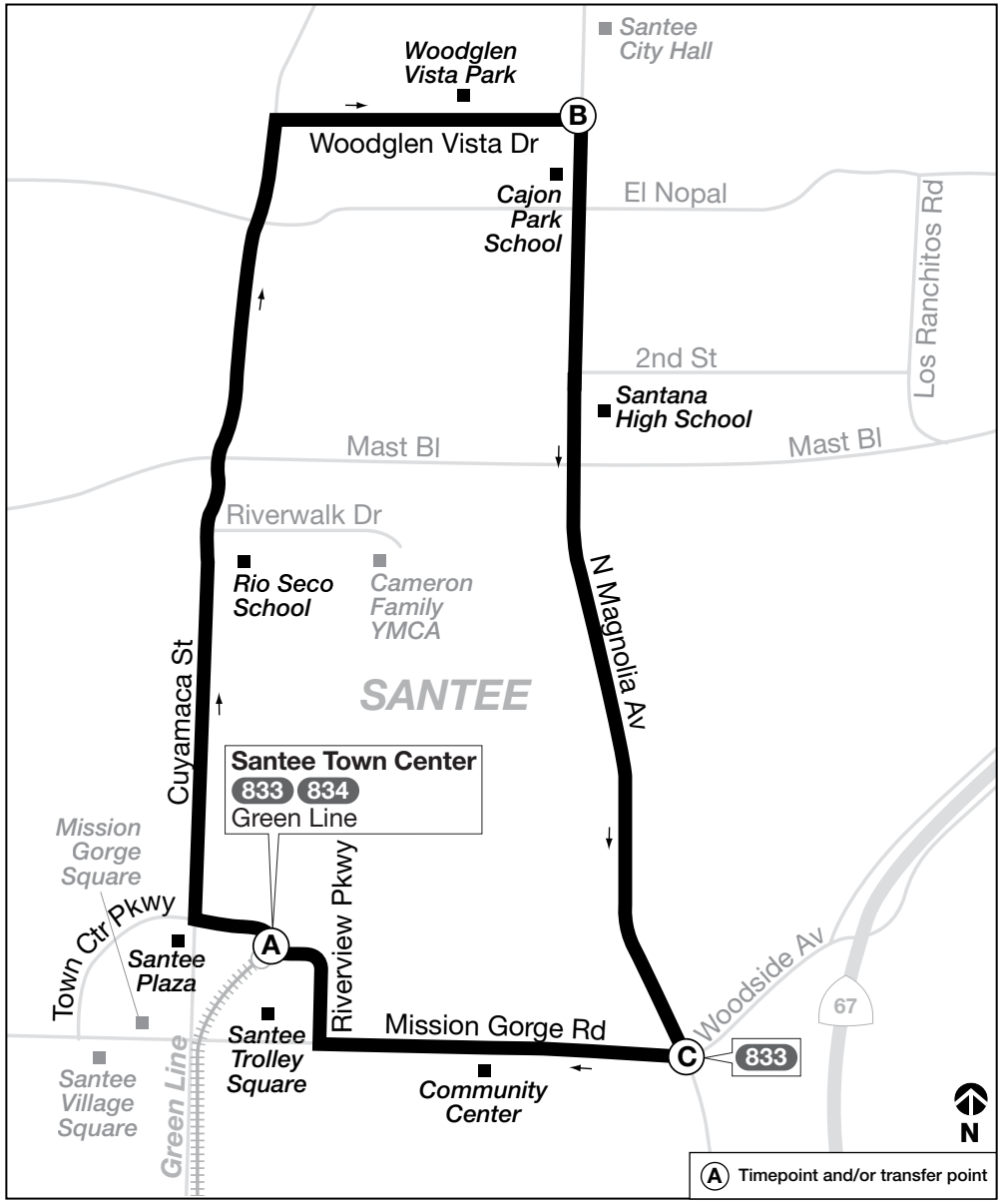
Santee Town Center ➡ North Santee ➡ Santee Town Center

Ⓐ Santee Town Center **DEPART**	Ⓑ Magnolia Av. & Woodglen Vista Dr.	Ⓒ Mission Gorge Rd. & Magnolia Av.	Ⓐ Santee Town Center **ARRIVE**
6:05a	6:14a	6:21a	6:24a
6:50	6:59	7:06	7:09
7:35	7:44	7:52	7:56
8:20	8:29	8:37	8:41
9:20	9:29	9:36	9:39
10:20	10:29	10:36	10:39
11:20	11:29	11:36	11:39
12:20p	**12:29p**	**12:36p**	**12:39p**
1:20	**1:29**	**1:37**	**1:41**
2:08	**2:17**	**2:25**	**2:29**
2:53	**3:02**	**3:10**	**3:14**
3:38	**3:47**	**3:55**	**3:59**
4:23	**4:32**	**4:39**	**4:42**
5:21	**5:30**	**5:37**	**5:40**
6:21	**6:30**	**6:37**	**6:40**
7:21	**7:30**	**7:37**	**7:40**

Route 832 – Saturday and Sunday / *sábado y domingo*

Santee Town Center ➡ North Santee ➡ Santee Town Center

	Ⓐ Santee Town Center **DEPART**	Ⓑ Magnolia Av. & Woodglen Vista Dr.	Ⓒ Mission Gorge Rd. & Magnolia Av.	Ⓐ Santee Town Center **ARRIVE**	
	8:21a	8:29a	8:36a	8:39a	**B**
	9:21	9:30	9:37	9:41	**B**
A	10:21	10:30	10:37	10:41	**B**
A	11:21	11:30	11:37	11:41	**B**
A	**12:21p**	**12:30p**	**12:37p**	**12:41p**	**B**
A	**1:21**	**1:30**	**1:37**	**1:41**	**B**
A	**2:21**	**2:30**	**2:37**	**2:41**	**B**
A	**3:21**	**3:30**	**3:37**	**3:41**	**B**
A	**4:21**	**4:30**	**4:37**	**4:41**	



A = Bus arrives from El Cajon as Route 833 and continues as Route 832. / *El Viaje llega de El Cajon como la ruta 833 y continua como la ruta 832.*
B = Bus continues as Route 833 to El Cajon. / *El viaje continua hacia El Cajon como la ruta 833.*

A Saturday/Sunday schedule will be operated on the following holidays and observed holidays
Se operará con horario de sábado/domingo durante los siguientes días festivos y feriados observados >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.
Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

APPENDIX B

EXISTING TRAFFIC COUNTS AND MODEL VOLUMES

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Santee
N/S: Park Center Drive
E/W: Riverwalk Drive
Weather: Clear

File Name : 01_STE_PC_Riv AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Park Center Drive Southbound				CSD Health & Human Services DW Westbound				Park Center Drive Northbound				Riverwalk Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	2	6	14	0	0	1	1	0	0	0	0	13	17	2	32	47
07:15 AM	3	0	3	6	0	0	1	1	0	1	0	1	15	7	1	23	31
07:30 AM	5	2	10	17	0	14	8	22	3	0	0	3	8	4	1	13	55
07:45 AM	4	4	12	20	0	7	0	7	0	2	0	2	10	2	0	12	41
Total	18	8	31	57	0	21	10	31	3	3	0	6	46	30	4	80	174
08:00 AM	2	7	35	44	0	1	1	2	3	1	0	4	20	3	3	26	76
08:15 AM	2	3	58	63	0	0	1	1	0	3	0	3	41	1	1	43	110
08:30 AM	4	2	16	22	0	0	1	1	2	2	0	4	23	4	3	30	57
08:45 AM	5	2	12	19	0	2	0	2	2	4	0	6	17	2	5	24	51
Total	13	14	121	148	0	3	3	6	7	10	0	17	101	10	12	123	294
Grand Total	31	22	152	205	0	24	13	37	10	13	0	23	147	40	16	203	468
Apprch %	15.1	10.7	74.1		0	64.9	35.1		43.5	56.5	0		72.4	19.7	7.9		
Total %	6.6	4.7	32.5	43.8	0	5.1	2.8	7.9	2.1	2.8	0	4.9	31.4	8.5	3.4	43.4	

	Park Center Drive Southbound				CSD Health & Human Services DW Westbound				Park Center Drive Northbound				Riverwalk Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	**7**	35	44	0	1	**1**	**2**	**3**	1	0	4	20	3	3	26	76
08:15 AM	2	3	**58**	**63**	0	0	1	1	0	3	0	3	**41**	1	1	**43**	**110**
08:30 AM	4	2	16	22	0	0	1	1	2	2	0	4	23	**4**	3	30	57
08:45 AM	**5**	2	12	19	0	**2**	0	2	2	**4**	0	**6**	17	2	**5**	24	51
Total Volume	13	14	121	148	0	3	3	6	7	10	0	17	101	10	12	123	294
% App. Total	8.8	9.5	81.8		0	50	50		41.2	58.8	0		82.1	8.1	9.8		
PHF	.650	.500	.522	.587	.000	.375	.750	.750	.583	.625	.000	.708	.616	.625	.600	.715	.668

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City of Santee
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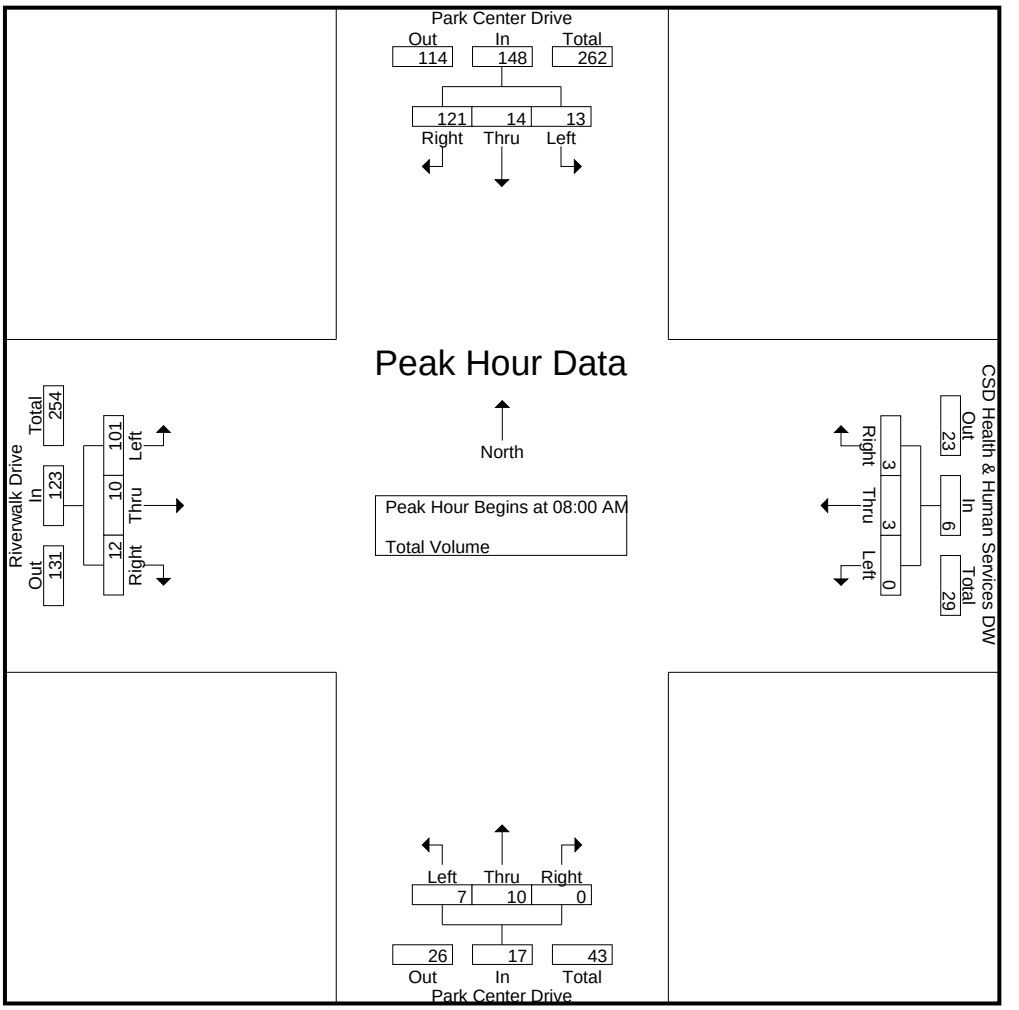
Weather: Clear

File Name : 01_STE_PC_Riv AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:15 AM				08:00 AM				08:00 AM			
+0 mins.	**4**	4	12	20	0	0	1	1	**3**	1	0	4	20	3	3	26
+15 mins.	2	**7**	35	44	0	**14**	**8**	**22**	0	3	0	3	**41**	1	1	**43**
+30 mins.	2	3	**58**	**63**	0	7	0	7	2	2	0	4	23	**4**	3	30
+45 mins.	4	2	16	22	0	1	1	2	2	**4**	0	**6**	17	2	**5**	24
Total Volume	12	16	121	149	0	22	10	32	7	10	0	17	101	10	12	123
% App. Total	8.1	10.7	81.2		0	68.8	31.2		41.2	58.8	0		82.1	8.1	9.8	
PHF	.750	.571	.522	.591	.000	.393	.313	.364	.583	.625	.000	.708	.616	.625	.600	.715

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City of Santee
N/S: Park Center Drive
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Weather: Clear

File Name : 01_STE_PC_Riv PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Park Center Drive Southbound				CSD Health & Human Services DW Westbound				Park Center Drive Northbound				Riverwalk Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	7	39	46	1	2	3	6	2	2	0	4	26	1	2	29	85
04:15 PM	0	7	25	32	0	2	6	8	2	5	0	7	20	2	1	23	70
04:30 PM	1	7	25	33	0	5	1	6	0	4	0	4	15	0	3	18	61
04:45 PM	0	7	27	34	0	1	3	4	2	1	0	3	24	0	4	28	69
Total	1	28	116	145	1	10	13	24	6	12	0	18	85	3	10	98	285
05:00 PM	1	2	16	19	1	2	7	10	1	4	0	5	33	1	5	39	73
05:15 PM	2	6	26	34	0	2	2	4	3	1	0	4	21	2	2	25	67
05:30 PM	1	11	18	30	0	2	1	3	2	3	0	5	17	0	8	25	63
05:45 PM	0	11	20	31	0	1	3	4	2	4	0	6	37	1	8	46	87
Total	4	30	80	114	1	7	13	21	8	12	0	20	108	4	23	135	290
Grand Total	5	58	196	259	2	17	26	45	14	24	0	38	193	7	33	233	575
Apprch %	1.9	22.4	75.7		4.4	37.8	57.8		36.8	63.2	0		82.8	3	14.2		
Total %	0.9	10.1	34.1	45	0.3	3	4.5	7.8	2.4	4.2	0	6.6	33.6	1.2	5.7	40.5	

	Park Center Drive Southbound				CSD Health & Human Services DW Westbound				Park Center Drive Northbound				Riverwalk Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	2	16	19	**1**	**2**	**7**	**10**	1	**4**	0	5	33	1	5	39	73
05:15 PM	**2**	6	**26**	**34**	0	2	2	4	**3**	1	0	4	21	**2**	2	25	67
05:30 PM	1	**11**	18	30	0	2	1	3	2	3	0	5	17	0	**8**	25	63
05:45 PM	0	11	20	31	0	1	3	4	2	4	0	**6**	**37**	1	8	**46**	**87**
Total Volume	4	30	80	114	1	7	13	21	8	12	0	20	108	4	23	135	290
% App. Total	3.5	26.3	70.2		4.8	33.3	61.9		40	60	0		80	3	17		
PHF	.500	.682	.769	.838	.250	.875	.464	.525	.667	.750	.000	.833	.730	.500	.719	.734	.833

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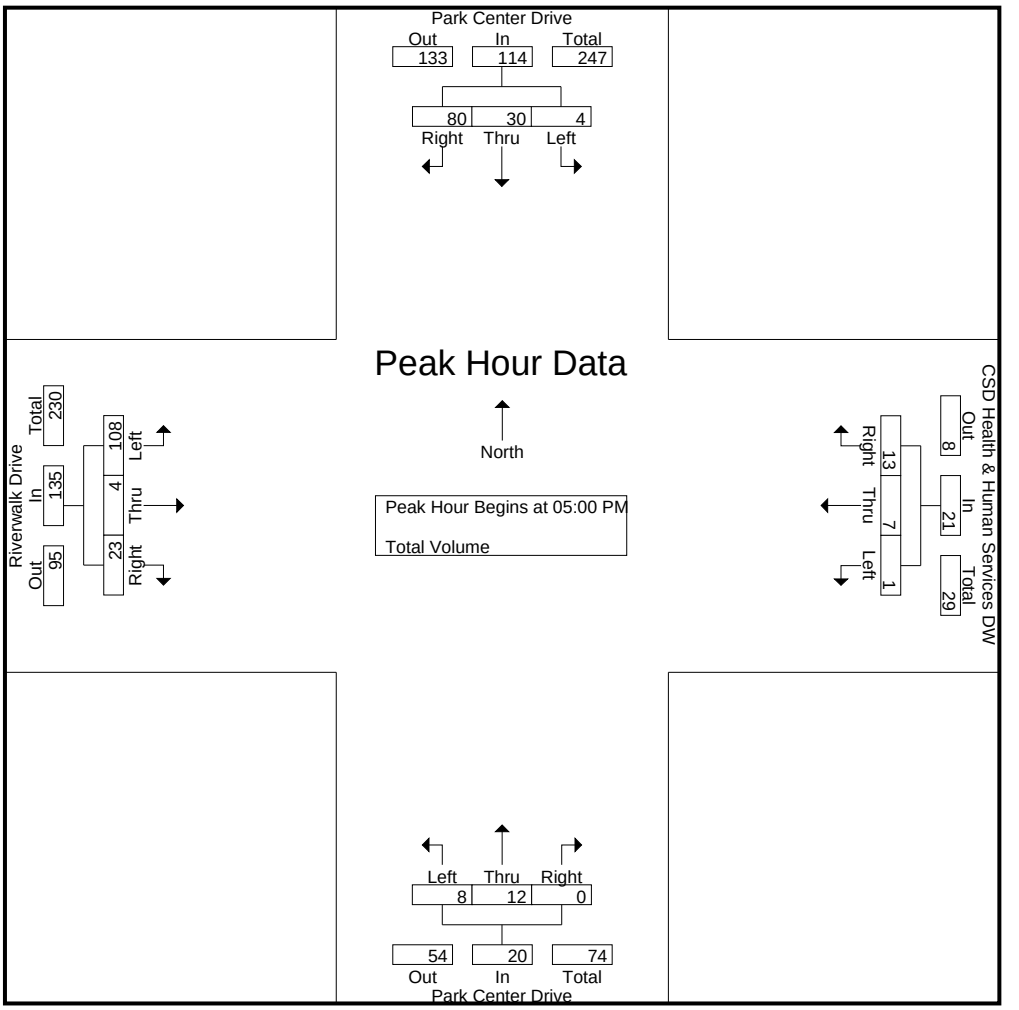
City of Santee
N/S: Park Center Drive
E/W: Riverwalk Drive
Weather: Clear

File Name : 01_STE_PC_Riv PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				05:00 PM				05:00 PM			
+0 mins.	0	**7**	**39**	**46**	0	2	6	8	1	**4**	0	5	33	1	5	39
+15 mins.	0	7	25	32	0	**5**	1	6	**3**	1	0	4	21	**2**	2	25
+30 mins.	**1**	7	25	33	0	1	3	4	2	3	0	5	17	0	**8**	25
+45 mins.	0	7	27	34	**1**	2	**7**	**10**	2	4	0	**6**	**37**	1	8	**46**
Total Volume	1	28	116	145	1	10	17	28	8	12	0	20	108	4	23	135
% App. Total	0.7	19.3	80		3.6	35.7	60.7		40	60	0		80	3	17	
PHF	.250	1.000	.744	.788	.250	.500	.607	.700	.667	.750	.000	.833	.730	.500	.719	.734

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City of Santee
N/S: Cuyamaca Street
E/W: Riverwalk Drive
Weather: Clear

File Name : 02_STE_Cuy_Riv AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Cuyamaca Street Southbound				Riverwalk Drive Westbound				Cuyamaca Street Northbound				Cuyamaca Towne Commons Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	107	1	116	21	0	8	29	0	63	29	92	0	0	0	0	237
07:15 AM	5	117	0	122	10	0	16	26	7	61	13	81	0	0	0	0	229
07:30 AM	9	134	0	143	35	0	9	44	9	79	13	101	0	0	0	0	288
07:45 AM	5	167	2	174	20	0	11	31	24	88	19	131	0	0	0	0	336
Total	27	525	3	555	86	0	44	130	40	291	74	405	0	0	0	0	1090
08:00 AM	39	162	0	201	17	0	24	41	29	132	24	185	0	0	1	1	428
08:15 AM	44	170	1	215	28	0	28	56	68	173	23	264	1	1	3	5	540
08:30 AM	12	131	1	144	16	1	14	31	38	129	29	196	0	0	0	0	371
08:45 AM	14	112	0	126	13	0	5	18	12	92	19	123	1	1	2	4	271
Total	109	575	2	686	74	1	71	146	147	526	95	768	2	2	6	10	1610
Grand Total	136	1100	5	1241	160	1	115	276	187	817	169	1173	2	2	6	10	2700
Apprch %	11	88.6	0.4		58	0.4	41.7		15.9	69.7	14.4		20	20	60		
Total %	5	40.7	0.2	46	5.9	0	4.3	10.2	6.9	30.3	6.3	43.4	0.1	0.1	0.2	0.4	

	Cuyamaca Street Southbound				Riverwalk Drive Westbound				Cuyamaca Street Northbound				Cuyamaca Towne Commons Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	5	167	**2**	174	20	0	11	31	24	88	19	131	0	0	0	0	336
08:00 AM	39	162	0	201	17	0	24	41	29	132	24	185	0	0	1	1	428
08:15 AM	**44**	**170**	1	**215**	**28**	0	**28**	**56**	**68**	**173**	23	**264**	**1**	**1**	**3**	**5**	**540**
08:30 AM	12	131	1	144	16	**1**	14	31	38	129	**29**	196	0	0	0	0	371
Total Volume	100	630	4	734	81	1	77	159	159	522	95	776	1	1	4	6	1675
% App. Total	13.6	85.8	0.5		50.9	0.6	48.4		20.5	67.3	12.2		16.7	16.7	66.7		
PHF	.568	.926	.500	.853	.723	.250	.688	.710	.585	.754	.819	.735	.250	.250	.333	.300	.775

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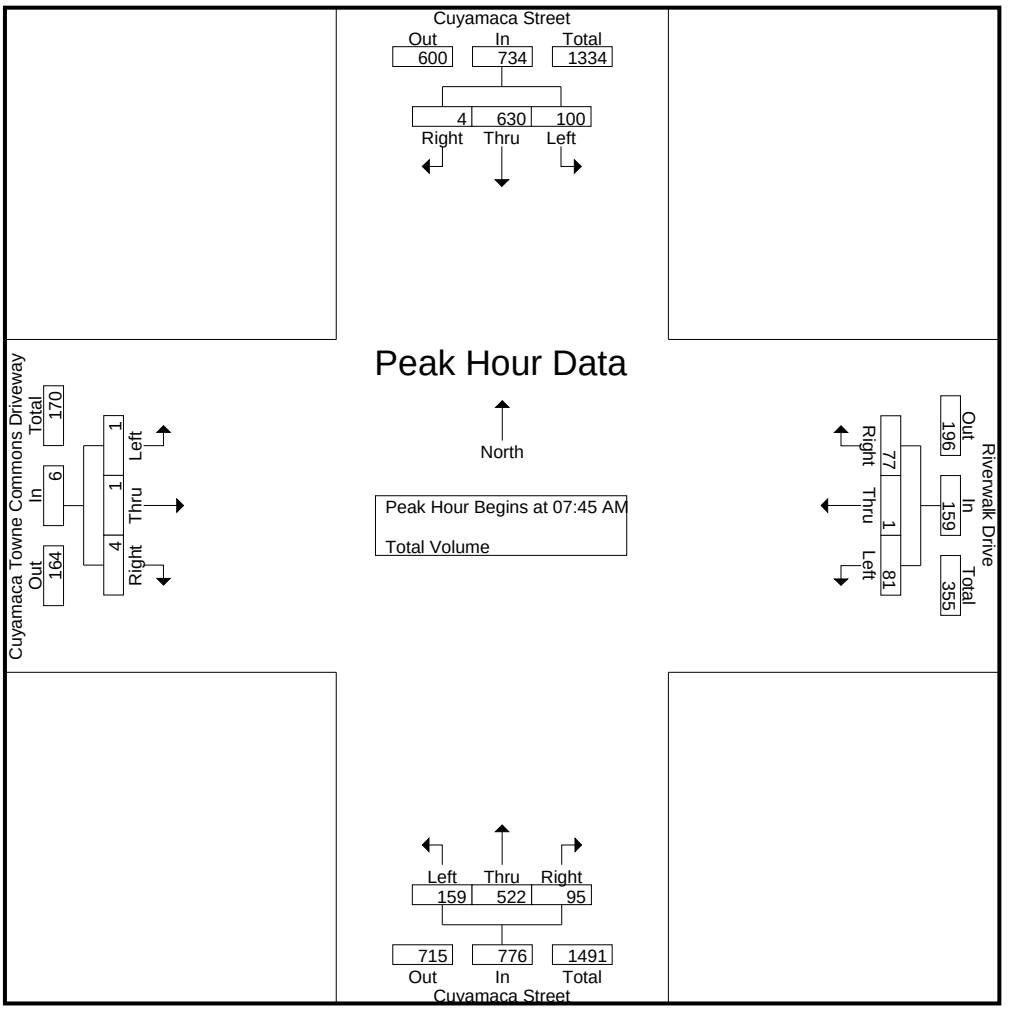
City of Santee
N/S: Cuyamaca Street
E/W: Riverwalk Drive
Weather: Clear

File Name : 02_STE_Cuy_Riv AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:45 AM				08:00 AM			
+0 mins.	5	167	**2**	174	**35**	0	9	44	24	88	19	131	0	0	1	1
+15 mins.	39	162	0	201	20	0	11	31	29	132	24	185	**1**	**1**	**3**	**5**
+30 mins.	**44**	**170**	1	**215**	17	0	24	41	**68**	**173**	23	**264**	0	0	0	0
+45 mins.	12	131	1	144	28	0	**28**	**56**	38	129	**29**	196	1	1	2	4
Total Volume	100	630	4	734	100	0	72	172	159	522	95	776	2	2	6	10
% App. Total	13.6	85.8	0.5		58.1	0	41.9		20.5	67.3	12.2		20	20	60	
PHF	.568	.926	.500	.853	.714	.000	.643	.768	.585	.754	.819	.735	.500	.500	.500	.500

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City of Santee
N/S: Cuyamaca Street
E/W: Riverwalk Drive
Weather: Clear

File Name : 02_STE_Cuy_Riv PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Cuyamaca Street Southbound				Riverwalk Drive Westbound				Cuyamaca Street Northbound				Cuyamaca Towne Commons Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	27	155	0	182	31	0	7	38	7	215	27	249	1	0	11	12	481
04:15 PM	19	176	1	196	25	0	14	39	11	181	28	220	3	0	3	6	461
04:30 PM	21	175	1	197	23	0	9	32	9	190	28	227	2	0	2	4	460
04:45 PM	19	164	0	183	21	0	18	39	10	204	38	252	1	1	0	2	476
Total	86	670	2	758	100	0	48	148	37	790	121	948	7	1	16	24	1878
05:00 PM	27	155	0	182	32	0	24	56	6	189	30	225	9	1	7	17	480
05:15 PM	13	159	0	172	28	0	9	37	6	198	32	236	2	0	1	3	448
05:30 PM	21	140	0	161	19	0	14	33	11	195	36	242	4	0	1	5	441
05:45 PM	21	159	1	181	34	0	18	52	16	200	38	254	0	0	0	0	487
Total	82	613	1	696	113	0	65	178	39	782	136	957	15	1	9	25	1856
Grand Total	168	1283	3	1454	213	0	113	326	76	1572	257	1905	22	2	25	49	3734
Apprch %	11.6	88.2	0.2		65.3	0	34.7		4	82.5	13.5		44.9	4.1	51		
Total %	4.5	34.4	0.1	38.9	5.7	0	3	8.7	2	42.1	6.9	51	0.6	0.1	0.7	1.3	

	Cuyamaca Street Southbound				Riverwalk Drive Westbound				Cuyamaca Street Northbound				Cuyamaca Towne Commons Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**27**	155	0	182	**31**	0	7	38	7	**215**	27	249	1	0	**11**	**12**	**481**
04:15 PM	19	**176**	**1**	196	25	0	14	**39**	**11**	181	28	220	**3**	0	3	6	461
04:30 PM	21	175	1	**197**	23	0	9	32	9	190	28	227	2	0	2	4	460
04:45 PM	19	164	0	183	21	0	**18**	39	10	204	**38**	**252**	1	**1**	0	2	476
Total Volume	86	670	2	758	100	0	48	148	37	790	121	948	7	1	16	24	1878
% App. Total	11.3	88.4	0.3		67.6	0	32.4		3.9	83.3	12.8		29.2	4.2	66.7		
PHF	.796	.952	.500	.962	.806	.000	.667	.949	.841	.919	.796	.940	.583	.250	.364	.500	.976

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City of Santee
N/S: Cuyamaca Street
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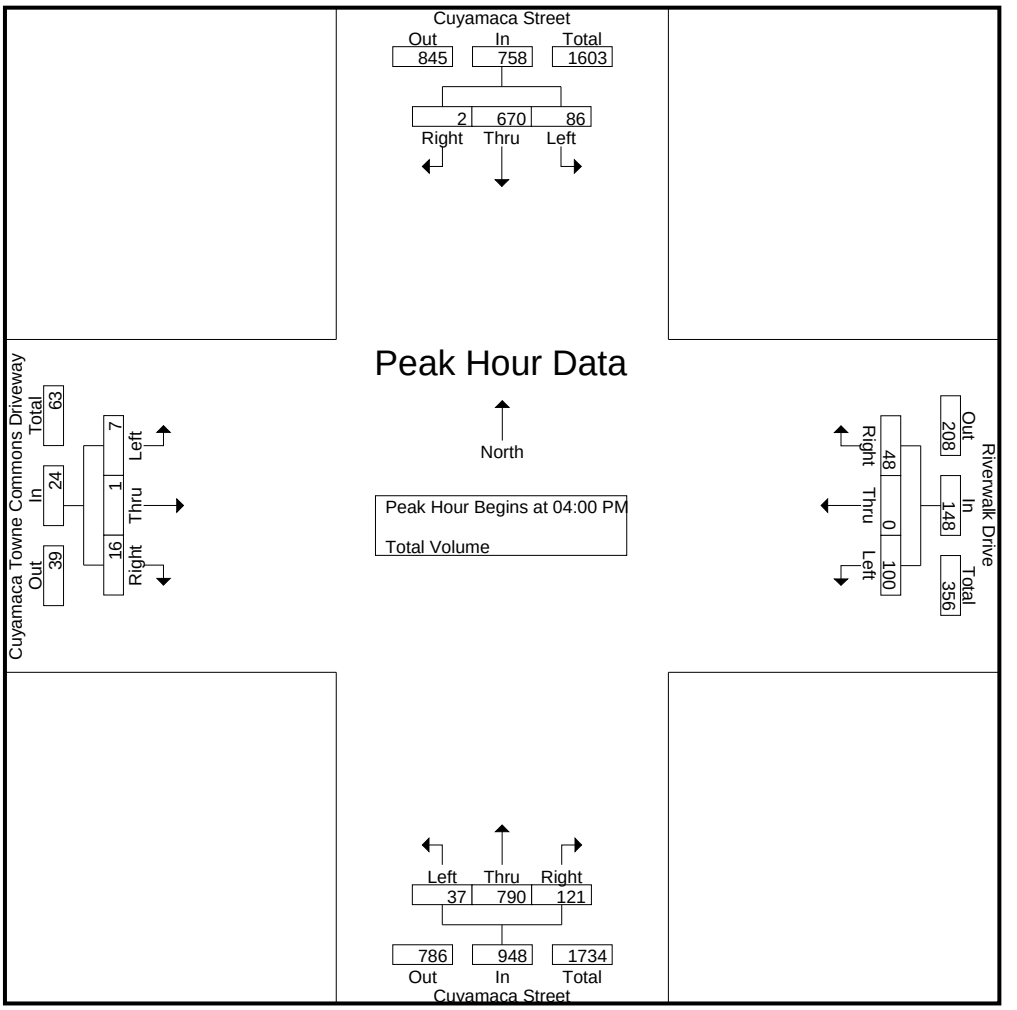
File Name : 02_STE_Cuy_Riv PM
Site Code : 23624260
Start Date : 3/21/2024



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				05:00 PM				04:15 PM			
+0 mins.	**27**	155	0	182	32	0	**24**	**56**	6	189	30	225	3	0	3	6
+15 mins.	19	**176**	**1**	196	28	0	9	37	6	198	32	236	2	0	2	4
+30 mins.	21	175	1	**197**	19	0	14	33	11	195	36	242	1	**1**	0	2
+45 mins.	19	164	0	183	**34**	0	18	52	**16**	**200**	**38**	**254**	**9**	1	**7**	**17**
Total Volume	86	670	2	758	113	0	65	178	39	782	136	957	15	2	12	29
% App. Total	11.3	88.4	0.3		63.5	0	36.5		4.1	81.7	14.2		51.7	6.9	41.4	
PHF	.796	.952	.500	.962	.831	.000	.677	.795	.609	.978	.895	.942	.417	.500	.429	.426

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City of Santee
N/S: Park Center Drive
E/W: Mast Boulevard
Weather: Clear

File Name : 03_STE_PC_Mast AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Mast Boulevard Westbound			Park Center Drive Northbound			Mast Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	8	179	187	0	13	13	77	6	83	283
07:15 AM	5	210	215	1	15	16	91	2	93	324
07:30 AM	14	222	236	2	15	17	120	3	123	376
07:45 AM	12	200	212	4	8	12	117	7	124	348
Total	39	811	850	7	51	58	405	18	423	1331
08:00 AM	36	204	240	1	19	20	137	14	151	411
08:15 AM	48	188	236	11	36	47	179	12	191	474
08:30 AM	17	165	182	6	22	28	135	4	139	349
08:45 AM	17	131	148	1	22	23	94	5	99	270
Total	118	688	806	19	99	118	545	35	580	1504
Grand Total	157	1499	1656	26	150	176	950	53	1003	2835
Apprch %	9.5	90.5		14.8	85.2		94.7	5.3		
Total %	5.5	52.9	58.4	0.9	5.3	6.2	33.5	1.9	35.4	

	Mast Boulevard Westbound			Park Center Drive Northbound			Mast Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	14	**222**	236	2	15	17	120	3	123	376
07:45 AM	12	200	212	4	8	12	117	7	124	348
08:00 AM	36	204	**240**	1	19	20	137	**14**	151	411
08:15 AM	**48**	188	236	**11**	**36**	**47**	**179**	12	**191**	**474**
Total Volume	110	814	924	18	78	96	553	36	589	1609
% App. Total	11.9	88.1		18.8	81.2		93.9	6.1		
PHF	.573	.917	.963	.409	.542	.511	.772	.643	.771	.849

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City of Santee
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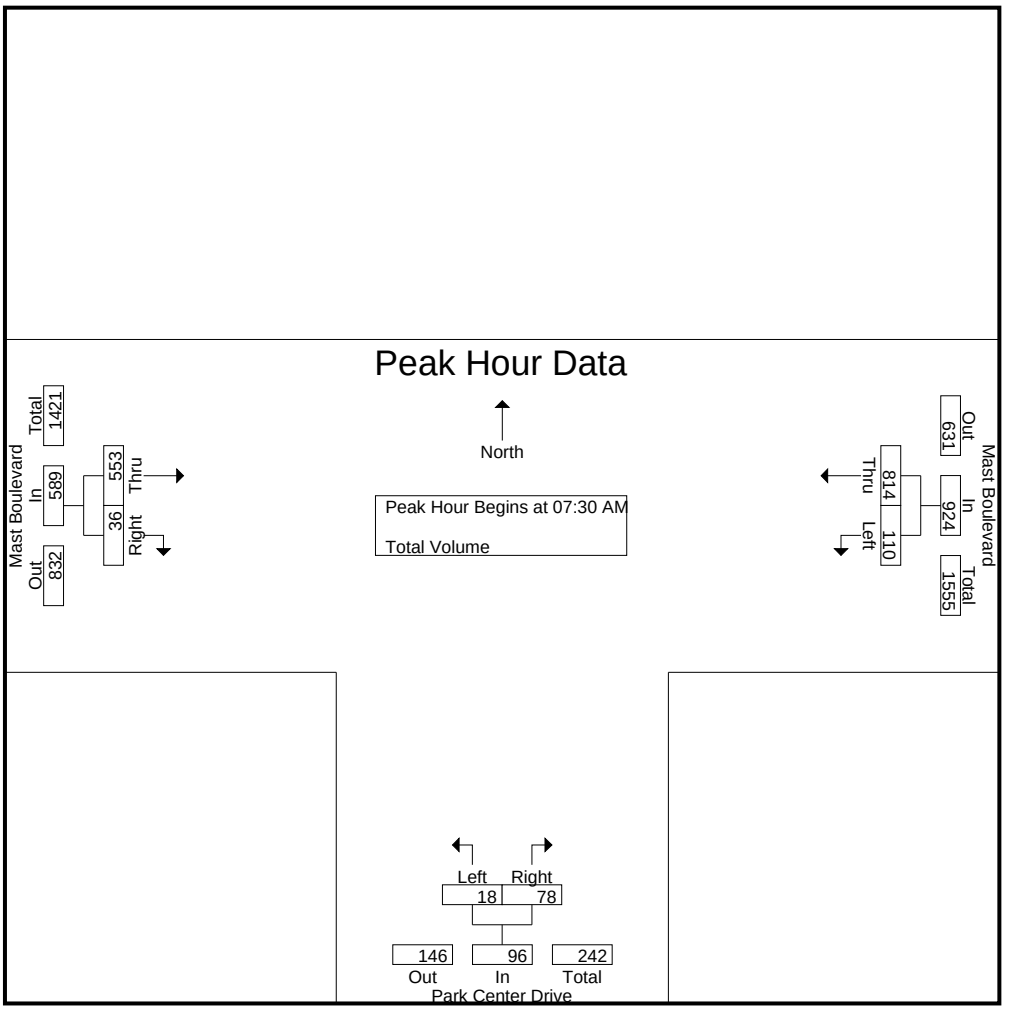

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:45 AM		
+0 mins.	14	**222**	236	1	19	20	117	7	124
+15 mins.	12	200	212	**11**	**36**	**47**	137	**14**	151
+30 mins.	36	204	**240**	6	22	28	**179**	12	**191**
+45 mins.	**48**	188	236	1	22	23	135	4	139
Total Volume	110	814	924	19	99	118	568	37	605
% App. Total	11.9	88.1		16.1	83.9		93.9	6.1	
PHF	.573	.917	.963	.432	.688	.628	.793	.661	.792

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City of Santee
N/S: Park Center Drive
E/W: Mast Boulevard
Weather: Clear

File Name : 03_STE_PC_Mast PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Mast Boulevard Westbound			Park Center Drive Northbound			Mast Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	35	118	153	3	26	29	196	7	203	385
04:15 PM	27	143	170	5	28	33	190	4	194	397
04:30 PM	27	135	162	5	12	17	212	8	220	399
04:45 PM	28	137	165	8	15	23	233	7	240	428
Total	117	533	650	21	81	102	831	26	857	1609
05:00 PM	20	131	151	6	34	40	225	1	226	417
05:15 PM	30	163	193	2	25	27	219	6	225	445
05:30 PM	24	132	156	3	16	19	191	5	196	371
05:45 PM	23	162	185	6	40	46	212	8	220	451
Total	97	588	685	17	115	132	847	20	867	1684
Grand Total	214	1121	1335	38	196	234	1678	46	1724	3293
Apprch %	16	84		16.2	83.8		97.3	2.7		
Total %	6.5	34	40.5	1.2	6	7.1	51	1.4	52.4	

	Mast Boulevard Westbound			Park Center Drive Northbound			Mast Boulevard Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	27	135	162	5	12	17	212	**8**	220	399
04:45 PM	28	137	165	**8**	15	23	**233**	7	**240**	428
05:00 PM	20	131	151	6	**34**	**40**	225	1	226	417
05:15 PM	**30**	**163**	**193**	2	25	27	219	6	225	**445**
Total Volume	105	566	671	21	86	107	889	22	911	1689
% App. Total	15.6	84.4		19.6	80.4		97.6	2.4		
PHF	.875	.868	.869	.656	.632	.669	.954	.688	.949	.949

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City of Santee
N/S: Park Center Drive
E/W: Mast Boulevard
Weather: Clear

File Name : 03_STE_PC_Mast PM
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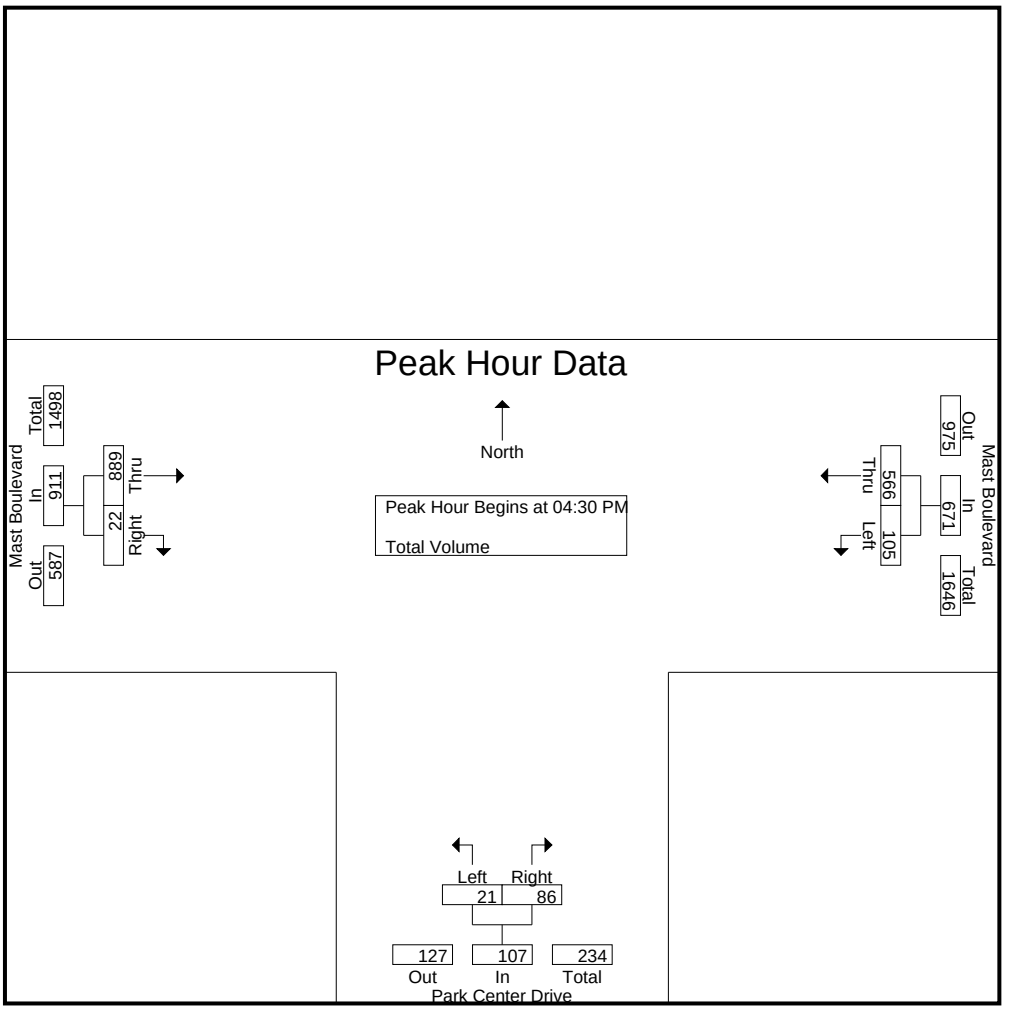

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			04:30 PM		
+0 mins.	20	131	151	**6**	34	40	212	**8**	220
+15 mins.	**30**	**163**	**193**	2	25	27	**233**	7	**240**
+30 mins.	24	132	156	3	16	19	225	1	226
+45 mins.	23	162	185	6	**40**	**46**	219	6	225
Total Volume	97	588	685	17	115	132	889	22	911
% App. Total	14.2	85.8		12.9	87.1		97.6	2.4	
PHF	.808	.902	.887	.708	.719	.717	.954	.688	.949

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City of Santee
N/S: Magnolia Avenue
E/W: Mast Boulevard
Weather: Clear

File Name : 04_STE_Mag_Mast AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Magnolia Avenue Southbound				Mast Boulevard Westbound				Magnolia Avenue Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	74	85	170	23	35	1	59	49	44	6	99	31	17	33	81	409
07:15 AM	12	114	90	216	18	52	9	79	65	86	8	159	20	19	47	86	540
07:30 AM	14	140	101	255	50	70	14	134	82	112	16	210	46	38	62	146	745
07:45 AM	9	162	83	254	34	54	5	93	68	88	11	167	55	18	55	128	642
Total	46	490	359	895	125	211	29	365	264	330	41	635	152	92	197	441	2336
08:00 AM	9	105	100	214	11	45	2	58	116	136	10	262	59	29	53	141	675
08:15 AM	10	139	88	237	13	42	6	61	89	201	9	299	86	31	71	188	785
08:30 AM	5	156	82	243	14	27	5	46	68	99	11	178	54	23	60	137	604
08:45 AM	8	98	81	187	16	20	3	39	51	86	9	146	39	13	43	95	467
Total	32	498	351	881	54	134	16	204	324	522	39	885	238	96	227	561	2531
Grand Total	78	988	710	1776	179	345	45	569	588	852	80	1520	390	188	424	1002	4867
Apprch %	4.4	55.6	40		31.5	60.6	7.9		38.7	56.1	5.3		38.9	18.8	42.3		
Total %	1.6	20.3	14.6	36.5	3.7	7.1	0.9	11.7	12.1	17.5	1.6	31.2	8	3.9	8.7	20.6	

	Magnolia Avenue Southbound				Mast Boulevard Westbound				Magnolia Avenue Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**14**	140	**101**	**255**	**50**	**70**	**14**	**134**	82	112	**16**	210	46	**38**	62	146	745
07:45 AM	9	**162**	83	254	34	54	5	93	68	88	11	167	55	18	55	128	642
08:00 AM	9	105	100	214	11	45	2	58	**116**	136	10	262	59	29	53	141	675
08:15 AM	10	139	88	237	13	42	6	61	89	**201**	9	**299**	**86**	31	**71**	**188**	**785**
Total Volume	42	546	372	960	108	211	27	346	355	537	46	938	246	116	241	603	2847
% App. Total	4.4	56.9	38.8		31.2	61	7.8		37.8	57.2	4.9		40.8	19.2	40		
PHF	.750	.843	.921	.941	.540	.754	.482	.646	.765	.668	.719	.784	.715	.763	.849	.802	.907

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City of Santee
N/S: Magnolia Avenue
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File Name : 04_STE_Mag_Mast AM
Site Code : 23624260
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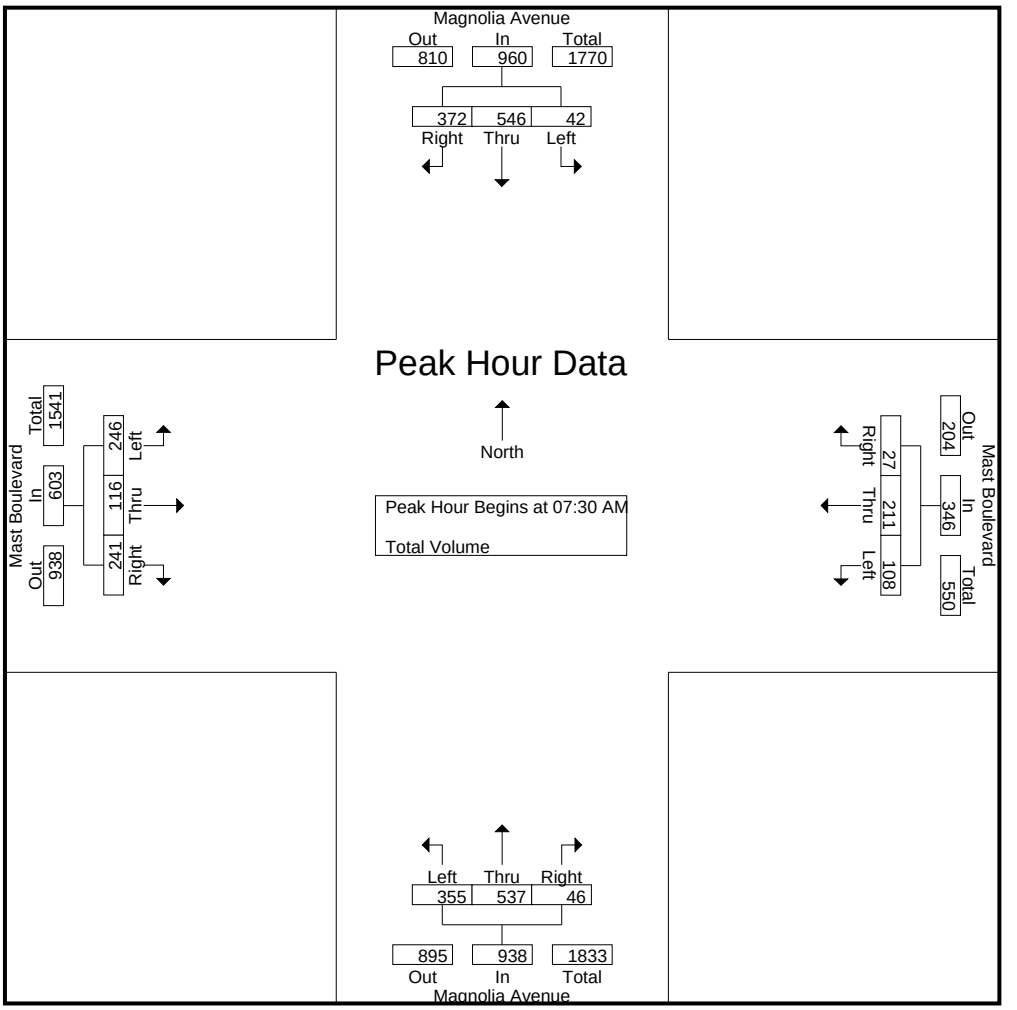

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:30 AM				07:30 AM			
+0 mins.	**14**	140	**101**	**255**	23	35	1	59	82	112	**16**	210	46	**38**	62	146
+15 mins.	9	**162**	83	254	18	52	9	79	68	88	11	167	55	18	55	128
+30 mins.	9	105	100	214	**50**	**70**	**14**	**134**	**116**	136	10	262	59	29	53	141
+45 mins.	10	139	88	237	34	54	5	93	89	**201**	9	**299**	**86**	31	**71**	**188**
Total Volume	42	546	372	960	125	211	29	365	355	537	46	938	246	116	241	603
% App. Total	4.4	56.9	38.8		34.2	57.8	7.9		37.8	57.2	4.9		40.8	19.2	40	
PHF	.750	.843	.921	.941	.625	.754	.518	.681	.765	.668	.719	.784	.715	.763	.849	.802

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City of Santee
N/S: Magnolia Avenue
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Weather: Clear

File Name : 04_STE_Mag_Mast PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Magnolia Avenue Southbound				Mast Boulevard Westbound				Magnolia Avenue Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	19	98	68	185	8	20	5	33	69	109	34	212	100	52	61	213	643
04:15 PM	8	77	58	143	20	43	8	71	68	119	36	223	86	50	64	200	637
04:30 PM	15	87	68	170	13	24	8	45	88	116	37	241	72	60	58	190	646
04:45 PM	16	85	72	173	22	19	7	48	74	129	27	230	102	61	70	233	684
Total	58	347	266	671	63	106	28	197	299	473	134	906	360	223	253	836	2610
05:00 PM	8	86	52	146	16	18	5	39	65	102	30	197	109	51	75	235	617
05:15 PM	7	78	66	151	8	37	6	51	92	118	24	234	93	39	75	207	643
05:30 PM	8	94	70	172	15	20	8	43	56	101	24	181	84	43	67	194	590
05:45 PM	15	90	84	189	15	24	4	43	69	108	21	198	90	47	47	184	614
Total	38	348	272	658	54	99	23	176	282	429	99	810	376	180	264	820	2464
Grand Total	96	695	538	1329	117	205	51	373	581	902	233	1716	736	403	517	1656	5074
Apprch %	7.2	52.3	40.5		31.4	55	13.7		33.9	52.6	13.6		44.4	24.3	31.2		
Total %	1.9	13.7	10.6	26.2	2.3	4	1	7.4	11.5	17.8	4.6	33.8	14.5	7.9	10.2	32.6	

	Magnolia Avenue Southbound				Mast Boulevard Westbound				Magnolia Avenue Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**19**	**98**	68	**185**	8	20	5	33	69	109	34	212	100	52	61	213	643
04:15 PM	8	77	58	143	20	**43**	**8**	**71**	68	119	36	223	86	50	64	200	637
04:30 PM	15	87	68	170	13	24	8	45	**88**	116	**37**	**241**	72	60	58	190	646
04:45 PM	16	85	**72**	173	**22**	19	7	48	74	**129**	27	230	**102**	**61**	**70**	**233**	**684**
Total Volume	58	347	266	671	63	106	28	197	299	473	134	906	360	223	253	836	2610
% App. Total	8.6	51.7	39.6		32	53.8	14.2		33	52.2	14.8		43.1	26.7	30.3		
PHF	.763	.885	.924	.907	.716	.616	.875	.694	.849	.917	.905	.940	.882	.914	.904	.897	.954

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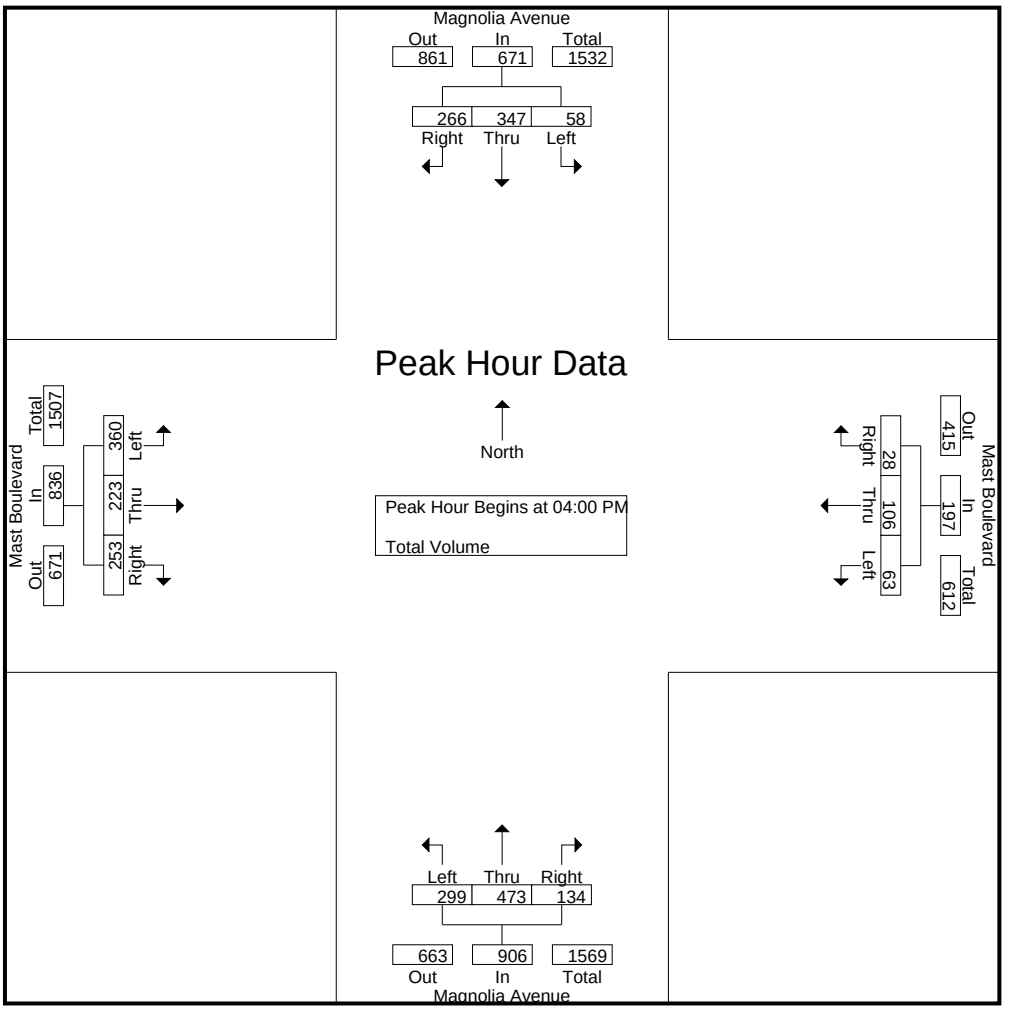
Site Code : 23624260
Start Date : 3/21/2024



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:00 PM				04:45 PM			
+0 mins.	**19**	**98**	68	**185**	20	**43**	**8**	**71**	69	109	34	212	102	**61**	70	233
+15 mins.	8	77	58	143	13	24	8	45	68	119	36	223	**109**	51	**75**	**235**
+30 mins.	15	87	68	170	**22**	19	7	48	**88**	116	**37**	**241**	93	39	75	207
+45 mins.	16	85	**72**	173	16	18	5	39	74	**129**	27	230	84	43	67	194
Total Volume	58	347	266	671	71	104	28	203	299	473	134	906	388	194	287	869
% App. Total	8.6	51.7	39.6		35	51.2	13.8		33	52.2	14.8		44.6	22.3	33	
PHF	.763	.885	.924	.907	.807	.605	.875	.715	.849	.917	.905	.940	.890	.795	.957	.924

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City of Santee
N/S: Magnolia Avenue
E/W: Park Center Drive
Weather: Clear

File Name : 05_STE_Mag_PC AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Magnolia Avenue Southbound				Gated Driveway Westbound				Magnolia Avenue Northbound				Park Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	168	2	171	0	0	0	0	5	96	0	101	5	0	4	9	281
07:15 AM	0	238	0	238	0	0	0	0	3	205	0	208	3	0	2	5	451
07:30 AM	2	297	0	299	0	0	0	0	4	221	0	225	4	0	0	4	528
07:45 AM	5	321	2	328	0	0	0	0	6	151	0	157	2	0	0	2	487
Total	8	1024	4	1036	0	0	0	0	18	673	0	691	14	0	6	20	1747
08:00 AM	1	214	1	216	0	0	0	0	6	230	0	236	1	0	2	3	455
08:15 AM	0	246	1	247	0	0	0	0	4	281	0	285	0	0	1	1	533
08:30 AM	0	271	1	272	0	0	0	0	3	190	0	193	1	0	4	5	470
08:45 AM	2	179	2	183	0	0	0	0	1	154	0	155	3	0	2	5	343
Total	3	910	5	918	0	0	0	0	14	855	0	869	5	0	9	14	1801
Grand Total	11	1934	9	1954	0	0	0	0	32	1528	0	1560	19	0	15	34	3548
Apprch %	0.6	99	0.5		0	0	0		2.1	97.9	0		55.9	0	44.1		
Total %	0.3	54.5	0.3	55.1	0	0	0	0	0.9	43.1	0	44	0.5	0	0.4	1	

	Magnolia Avenue Southbound				Gated Driveway Westbound				Magnolia Avenue Northbound				Park Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	2	297	0	299	0	0	0	0	4	221	0	225	**4**	0	0	**4**	528
07:45 AM	**5**	**321**	**2**	**328**	0	0	0	0	**6**	151	0	157	2	0	0	2	487
08:00 AM	1	214	1	216	0	0	0	0	6	230	0	236	1	0	**2**	3	455
08:15 AM	0	246	1	247	0	0	0	0	4	**281**	0	**285**	0	0	1	1	**533**
Total Volume	8	1078	4	1090	0	0	0	0	20	883	0	903	7	0	3	10	2003
% App. Total	0.7	98.9	0.4		0	0	0		2.2	97.8	0		70	0	30		
PHF	.400	.840	.500	.831	.000	.000	.000	.000	.833	.786	.000	.792	.438	.000	.375	.625	.939

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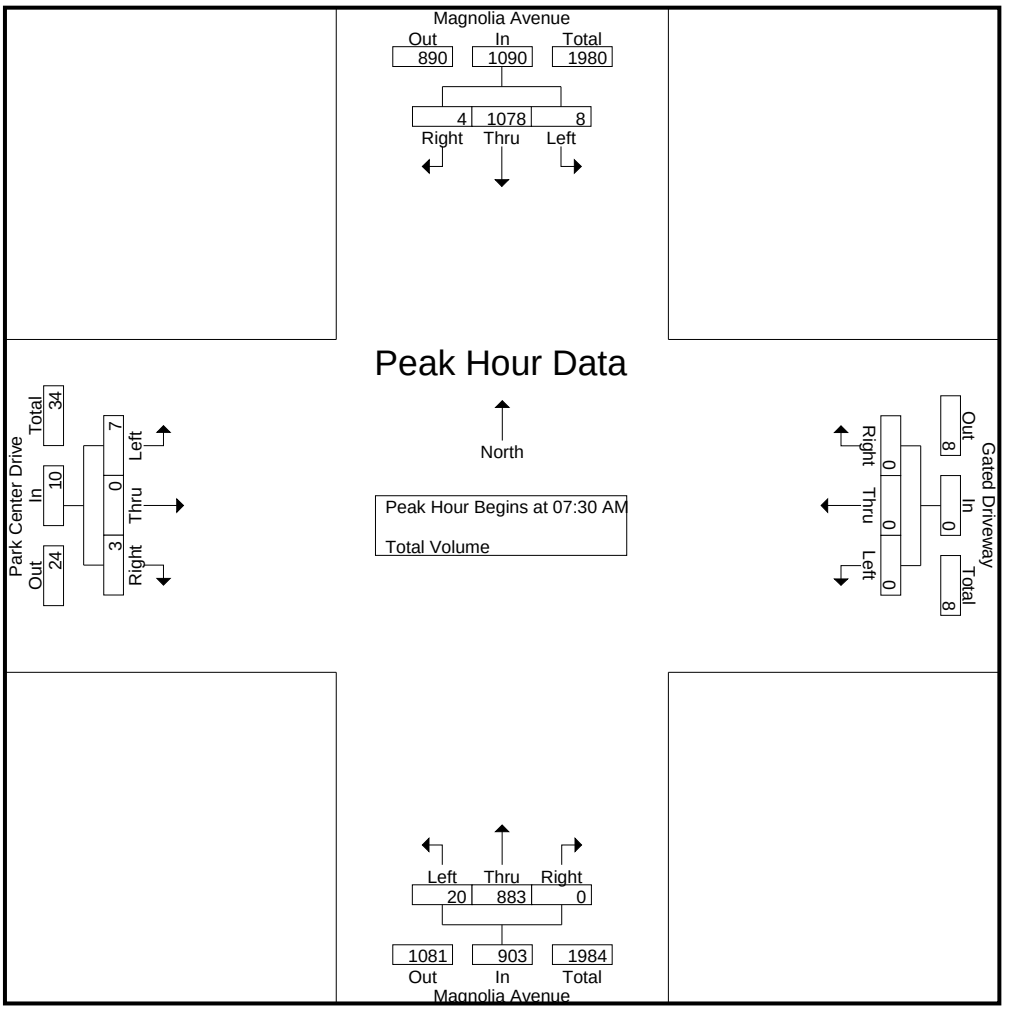
City of Santee
N/S: Magnolia Avenue
E/W: Park Center Drive
Weather: Clear

File Name : 05_STE_Mag_PC AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:30 AM				07:00 AM			
+0 mins.	2	297	0	299	0	0	0	0	4	221	0	225	**5**	0	**4**	**9**
+15 mins.	**5**	**321**	**2**	**328**	0	0	0	0	**6**	151	0	157	3	0	2	5
+30 mins.	1	214	1	216	0	0	0	0	6	230	0	236	4	0	0	4
+45 mins.	0	246	1	247	0	0	0	0	4	**281**	0	**285**	2	0	0	2
Total Volume	8	1078	4	1090	0	0	0	0	20	883	0	903	14	0	6	20
% App. Total	0.7	98.9	0.4		0	0	0		2.2	97.8	0		70	0	30	
PHF	.400	.840	.500	.831	.000	.000	.000	.000	.833	.786	.000	.792	.700	.000	.375	.556

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City of Santee
N/S: Magnolia Avenue
E/W: Park Center Drive
Weather: Clear

File Name : 05_STE_Mag_PC PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Magnolia Avenue Southbound				Gated Driveway Westbound				Magnolia Avenue Northbound				Park Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	197	1	198	0	0	0	0	3	252	0	255	0	0	4	4	457
04:15 PM	0	179	0	179	0	0	0	0	2	247	0	249	2	0	3	5	433
04:30 PM	1	161	0	162	0	0	0	0	3	271	0	274	0	0	1	1	437
04:45 PM	0	196	2	198	0	0	0	0	3	259	0	262	1	0	4	5	465
Total	1	733	3	737	0	0	0	0	11	1029	0	1040	3	0	12	15	1792
05:00 PM	0	132	1	133	0	0	0	0	0	233	0	233	0	0	3	3	369
05:15 PM	0	171	2	173	0	0	0	0	3	266	0	269	0	0	2	2	444
05:30 PM	0	182	1	183	0	0	0	0	0	197	0	197	0	0	5	5	385
05:45 PM	0	176	1	177	0	0	0	0	2	214	0	216	1	0	3	4	397
Total	0	661	5	666	0	0	0	0	5	910	0	915	1	0	13	14	1595
Grand Total	1	1394	8	1403	0	0	0	0	16	1939	0	1955	4	0	25	29	3387
Apprch %	0.1	99.4	0.6		0	0	0		0.8	99.2	0		13.8	0	86.2		
Total %	0	41.2	0.2	41.4	0	0	0	0	0.5	57.2	0	57.7	0.1	0	0.7	0.9	

	Magnolia Avenue Southbound				Gated Driveway Westbound				Magnolia Avenue Northbound				Park Center Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**197**	1	**198**	0	0	0	0	**3**	252	0	255	0	0	**4**	4	457
04:15 PM	0	179	0	179	0	0	0	0	2	247	0	249	**2**	0	3	**5**	433
04:30 PM	**1**	161	0	162	0	0	0	0	3	**271**	0	**274**	0	0	1	1	437
04:45 PM	0	196	**2**	198	0	0	0	0	3	259	0	262	1	0	4	5	**465**
Total Volume	1	733	3	737	0	0	0	0	11	1029	0	1040	3	0	12	15	1792
% App. Total	0.1	99.5	0.4		0	0	0		1.1	98.9	0		20	0	80		
PHF	.250	.930	.375	.931	.000	.000	.000	.000	.917	.949	.000	.949	.375	.000	.750	.750	.963

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City of Santee
N/S: Magnolia Avenue
E/W: Park Center Drive
Weather: Clear

File Name : 05_STE_Mag_PC PM
Site Code : 23624260
Start Date : 3/21/2024
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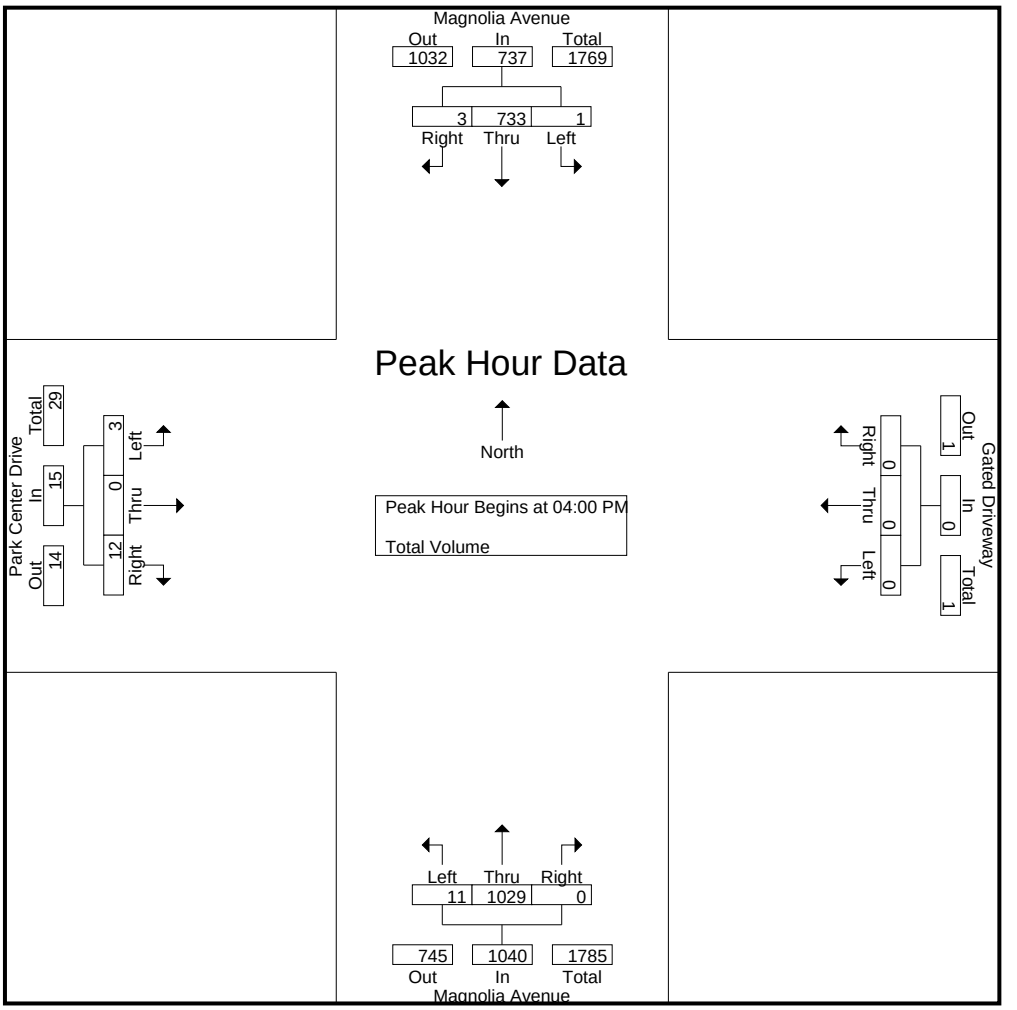

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	**197**	1	**198**	0	0	0	0	**3**	252	0	255	0	0	**4**	4
+15 mins.	0	179	0	179	0	0	0	0	2	247	0	249	**2**	0	3	**5**
+30 mins.	**1**	161	0	162	0	0	0	0	3	**271**	0	**274**	0	0	1	1
+45 mins.	0	196	**2**	198	0	0	0	0	3	259	0	262	1	0	4	5
Total Volume	1	733	3	737	0	0	0	0	11	1029	0	1040	3	0	12	15
% App. Total	0.1	99.5	0.4		0	0	0		1.1	98.9	0		20	0	80	
PHF	.250	.930	.375	.931	.000	.000	.000	.000	.917	.949	.000	.949	.375	.000	.750	.750

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City of Santee
N/S: Magnolia Avenue
E/W: Mission Gorge Road/Woodside Avenue
Weather: Clear

File Name : 06_STE_Mag_MG AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Magnolia Avenue Southbound				Woodside Avenue Westbound				Magnolia Avenue Northbound				Mission Gorge Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	26	133	20	179	70	88	14	172	18	95	69	182	13	33	22	68	601
07:15 AM	47	165	26	238	64	155	39	258	44	153	82	279	24	37	19	80	855
07:30 AM	43	205	48	296	90	140	46	276	40	161	92	293	32	55	28	115	980
07:45 AM	69	223	46	338	67	151	34	252	49	139	115	303	22	57	28	107	1000
Total	185	726	140	1051	291	534	133	958	151	548	358	1057	91	182	97	370	3436
08:00 AM	48	154	27	229	90	175	49	314	43	174	71	288	27	60	45	132	963
08:15 AM	43	176	25	244	78	130	64	272	41	190	54	285	36	72	29	137	938
08:30 AM	46	198	32	276	63	125	39	227	42	137	72	251	30	72	39	141	895
08:45 AM	27	158	33	218	75	131	20	226	37	143	49	229	22	59	41	122	795
Total	164	686	117	967	306	561	172	1039	163	644	246	1053	115	263	154	532	3591
Grand Total	349	1412	257	2018	597	1095	305	1997	314	1192	604	2110	206	445	251	902	7027
Apprch %	17.3	70	12.7		29.9	54.8	15.3		14.9	56.5	28.6		22.8	49.3	27.8		
Total %	5	20.1	3.7	28.7	8.5	15.6	4.3	28.4	4.5	17	8.6	30	2.9	6.3	3.6	12.8	

	Magnolia Avenue Southbound				Woodside Avenue Westbound				Magnolia Avenue Northbound				Mission Gorge Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	43	205	**48**	296	**90**	140	46	276	40	161	92	293	32	55	28	115	980
07:45 AM	**69**	**223**	46	**338**	67	151	34	252	**49**	139	**115**	**303**	22	57	28	107	**1000**
08:00 AM	48	154	27	229	90	**175**	49	**314**	43	174	71	288	27	60	**45**	132	963
08:15 AM	43	176	25	244	78	130	**64**	272	41	**190**	54	285	**36**	**72**	29	**137**	938
Total Volume	203	758	146	1107	325	596	193	1114	173	664	332	1169	117	244	130	491	3881
% App. Total	18.3	68.5	13.2		29.2	53.5	17.3		14.8	56.8	28.4		23.8	49.7	26.5		
PHF	.736	.850	.760	.819	.903	.851	.754	.887	.883	.874	.722	.965	.813	.847	.722	.896	.970

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City of Santee
N/S: Magnolia Avenue
E/W: Mission Gorge Road/Woodside Avenue
Weather: Clear

File Name : 06_STE_Mag_MG AM
Site Code : 23624260
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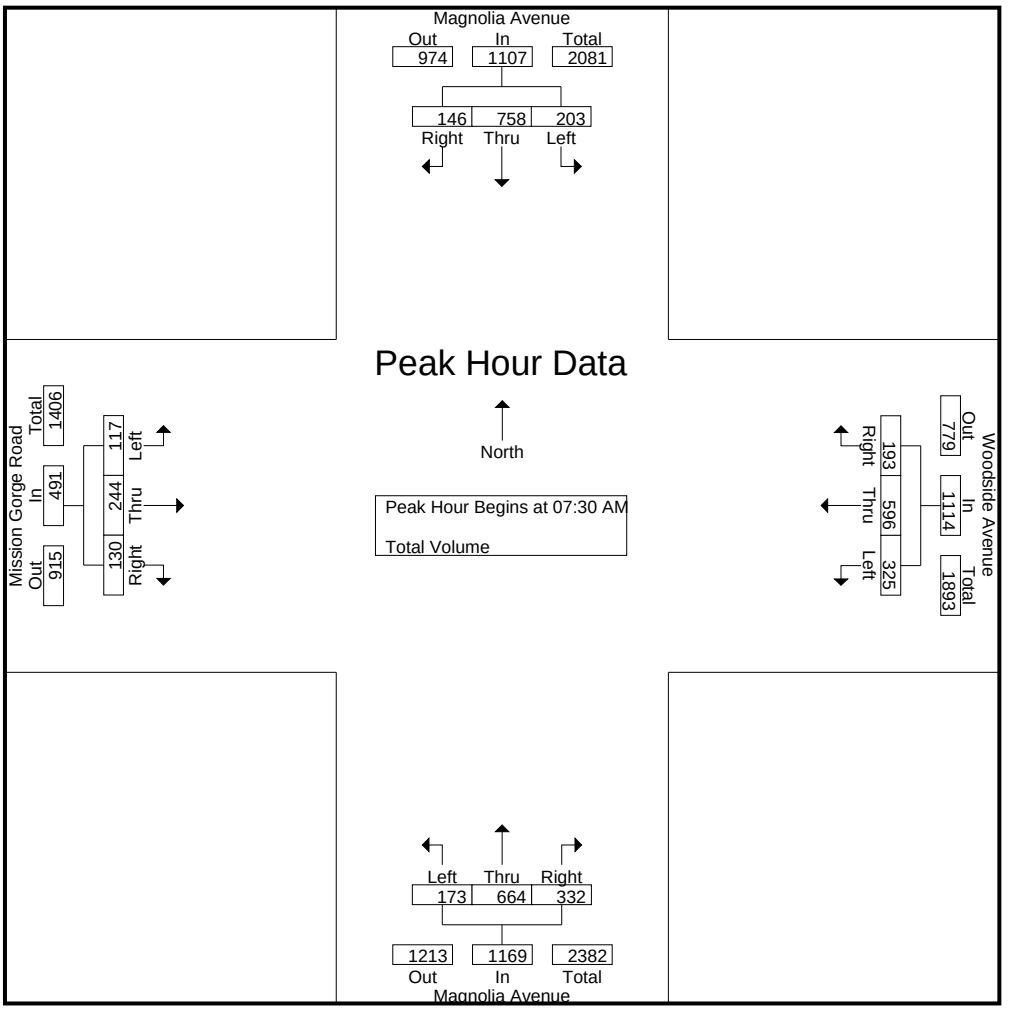

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				08:00 AM			
+0 mins.	43	205	**48**	296	**90**	140	46	276	40	161	92	293	27	60	**45**	132
+15 mins.	**69**	**223**	46	**338**	67	151	34	252	**49**	139	**115**	**303**	**36**	**72**	29	137
+30 mins.	48	154	27	229	90	**175**	49	**314**	43	174	71	288	30	72	39	**141**
+45 mins.	43	176	25	244	78	130	**64**	272	41	**190**	54	285	22	59	41	122
Total Volume	203	758	146	1107	325	596	193	1114	173	664	332	1169	115	263	154	532
% App. Total	18.3	68.5	13.2		29.2	53.5	17.3		14.8	56.8	28.4		21.6	49.4	28.9	
PHF	.736	.850	.760	.819	.903	.851	.754	.887	.883	.874	.722	.965	.799	.913	.856	.943

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City of Santee
N/S: Magnolia Avenue
E/W: Mission Gorge Road/Woodside Avenue
Weather: Clear

File Name : 06_STE_Mag_MG PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Magnolia Avenue Southbound				Woodside Avenue Westbound				Magnolia Avenue Northbound				Mission Gorge Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	46	163	39	248	129	155	30	314	57	186	114	357	68	157	74	299	1218
04:15 PM	41	151	28	220	65	134	29	228	70	200	97	367	49	155	84	288	1103
04:30 PM	22	143	28	193	111	145	35	291	47	215	83	345	63	173	86	322	1151
04:45 PM	49	171	35	255	68	142	28	238	54	187	104	345	50	164	83	297	1135
Total	158	628	130	916	373	576	122	1071	228	788	398	1414	230	649	327	1206	4607
05:00 PM	44	139	37	220	151	128	33	312	47	187	99	333	60	151	91	302	1167
05:15 PM	37	147	31	215	76	115	44	235	57	197	100	354	57	184	78	319	1123
05:30 PM	36	126	35	197	88	117	17	222	39	140	89	268	45	190	59	294	981
05:45 PM	44	135	49	228	64	100	37	201	37	158	69	264	42	161	69	272	965
Total	161	547	152	860	379	460	131	970	180	682	357	1219	204	686	297	1187	4236
Grand Total	319	1175	282	1776	752	1036	253	2041	408	1470	755	2633	434	1335	624	2393	8843
Apprch %	18	66.2	15.9		36.8	50.8	12.4		15.5	55.8	28.7		18.1	55.8	26.1		
Total %	3.6	13.3	3.2	20.1	8.5	11.7	2.9	23.1	4.6	16.6	8.5	29.8	4.9	15.1	7.1	27.1	

	Magnolia Avenue Southbound				Woodside Avenue Westbound				Magnolia Avenue Northbound				Mission Gorge Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	46	163	**39**	248	**129**	**155**	30	**314**	57	186	**114**	357	**68**	157	74	299	**1218**
04:15 PM	41	151	28	220	65	134	29	228	**70**	200	97	**367**	49	155	84	288	1103
04:30 PM	22	143	28	193	111	145	**35**	291	47	**215**	83	345	63	**173**	**86**	**322**	1151
04:45 PM	**49**	**171**	35	**255**	68	142	28	238	54	187	104	345	50	164	83	297	1135
Total Volume	158	628	130	916	373	576	122	1071	228	788	398	1414	230	649	327	1206	4607
% App. Total	17.2	68.6	14.2		34.8	53.8	11.4		16.1	55.7	28.1		19.1	53.8	27.1		
PHF	.806	.918	.833	.898	.723	.929	.871	.853	.814	.916	.873	.963	.846	.938	.951	.936	.946

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City of Santee
N/S: Magnolia Avenue
E/W: Mission Gorge Road/Woodside Avenue
Weather: Clear

File Name : 06_STE_Mag_MG PM
Site Code : 23624260
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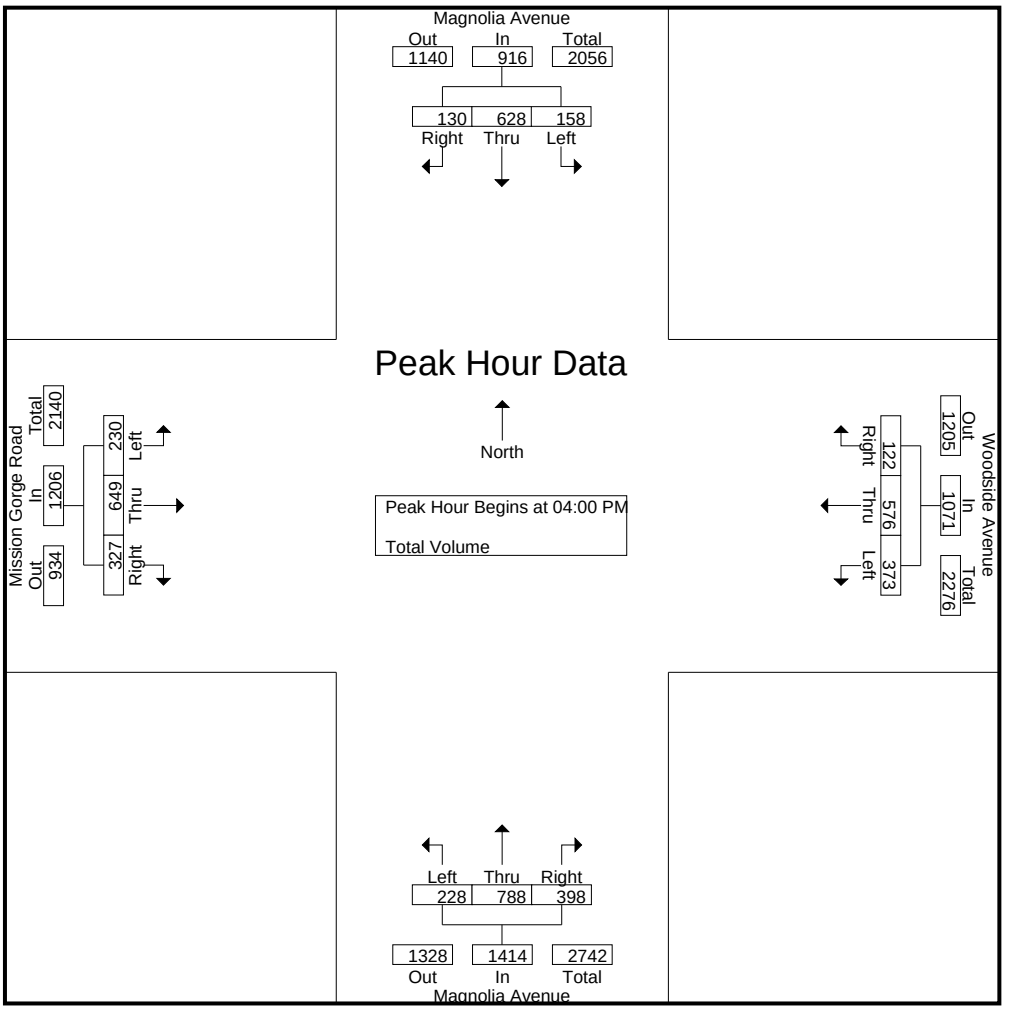

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	46	163	**39**	248	111	**145**	35	291	57	186	**114**	357	**63**	173	86	**322**
+15 mins.	41	151	28	220	68	142	28	238	**70**	200	97	**367**	50	164	83	297
+30 mins.	22	143	28	193	**151**	128	33	**312**	47	**215**	83	345	60	151	**91**	302
+45 mins.	**49**	**171**	35	**255**	76	115	**44**	235	54	187	104	345	57	**184**	78	319
Total Volume	158	628	130	916	406	530	140	1076	228	788	398	1414	230	672	338	1240
% App. Total	17.2	68.6	14.2		37.7	49.3	13		16.1	55.7	28.1		18.5	54.2	27.3	
PHF	.806	.918	.833	.898	.672	.914	.795	.862	.814	.916	.873	.963	.913	.913	.929	.963

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City of Santee
N/S: Cuyamaca Street
E/W: Mast Boulevard
Weather: Clear

File Name : 09_STE_Cuy_Mast AM
Site Code : 23624260
Start Date : 3/21/2024
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Groups Printed- Total Volume

	Cuyamaca Street Southbound				Mast Boulevard Westbound				Cuyamaca Street Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	41	84	129	38	161	1	200	34	11	22	67	12	52	27	91	487
07:15 AM	1	43	91	135	45	213	4	262	36	20	15	71	15	68	30	113	581
07:30 AM	1	50	83	134	60	180	1	241	37	20	30	87	18	75	39	132	594
07:45 AM	1	63	91	155	78	161	0	239	42	17	38	97	20	98	35	153	644
Total	7	197	349	553	221	715	6	942	149	68	105	322	65	293	131	489	2306
08:00 AM	1	64	73	138	64	171	0	235	71	27	58	156	16	76	63	155	684
08:15 AM	3	54	73	130	76	146	2	224	82	38	84	204	24	85	78	187	745
08:30 AM	0	30	44	74	56	116	8	180	61	25	50	136	21	78	51	150	540
08:45 AM	3	30	41	74	47	94	2	143	37	23	39	99	15	59	48	122	438
Total	7	178	231	416	243	527	12	782	251	113	231	595	76	298	240	614	2407
Grand Total	14	375	580	969	464	1242	18	1724	400	181	336	917	141	591	371	1103	4713
Apprch %	1.4	38.7	59.9		26.9	72	1		43.6	19.7	36.6		12.8	53.6	33.6		
Total %	0.3	8	12.3	20.6	9.8	26.4	0.4	36.6	8.5	3.8	7.1	19.5	3	12.5	7.9	23.4	

	Cuyamaca Street Southbound				Mast Boulevard Westbound				Cuyamaca Street Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	50	83	134	60	**180**	1	**241**	37	20	30	87	18	75	39	132	594
07:45 AM	1	63	**91**	**155**	**78**	161	0	239	42	17	38	97	20	**98**	35	153	644
08:00 AM	1	**64**	73	138	64	171	0	235	71	27	58	156	16	76	63	155	684
08:15 AM	**3**	54	73	130	76	146	**2**	224	**82**	**38**	**84**	**204**	**24**	85	**78**	**187**	**745**
Total Volume	6	231	320	557	278	658	3	939	232	102	210	544	78	334	215	627	2667
% App. Total	1.1	41.5	57.5		29.6	70.1	0.3		42.6	18.8	38.6		12.4	53.3	34.3		
PHF	.500	.902	.879	.898	.891	.914	.375	.974	.707	.671	.625	.667	.813	.852	.689	.838	.895

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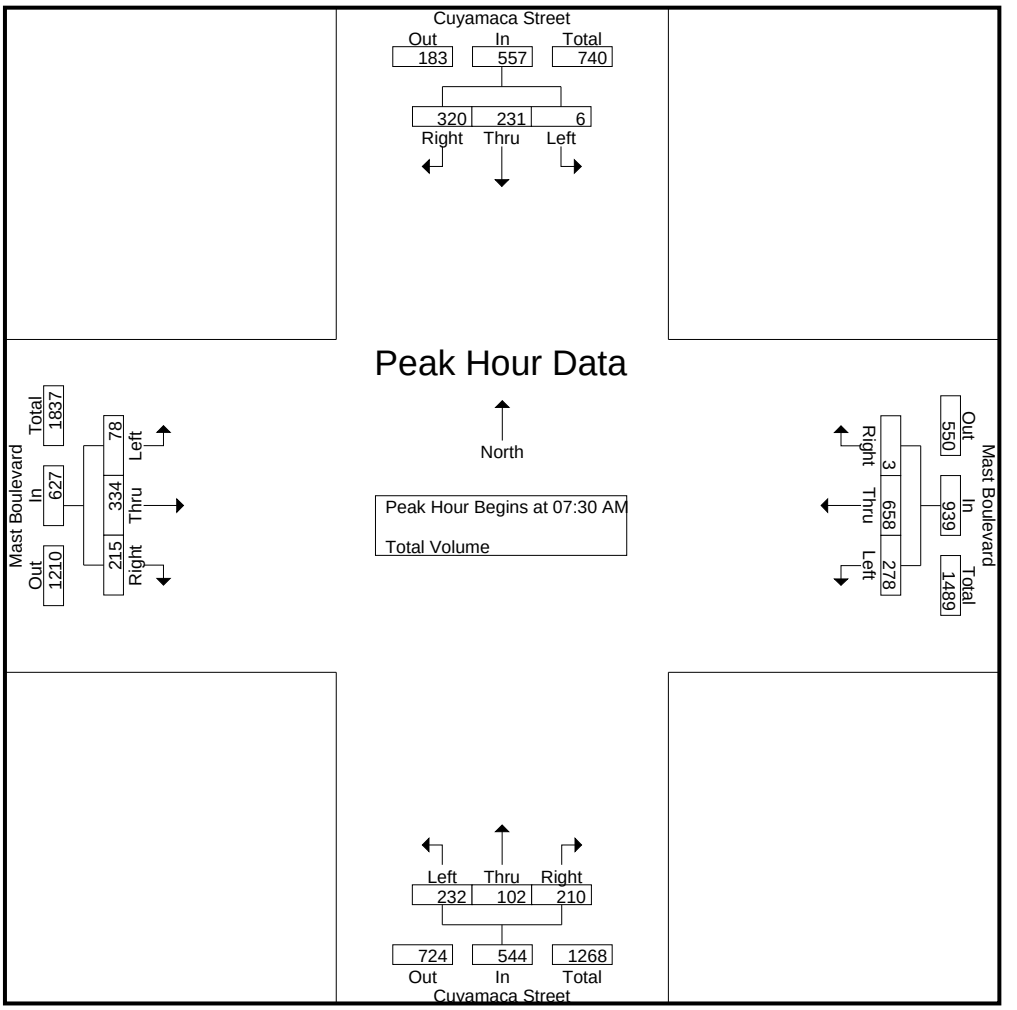
City of Santee
N/S: Cuyamaca Street
E/W: Mast Boulevard
Weather: Clear

File Name : 09_STE_Cuy_Mast AM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				08:00 AM				07:45 AM			
+0 mins.	**1**	43	**91**	135	45	**213**	**4**	**262**	71	27	58	156	20	**98**	35	153
+15 mins.	1	50	83	134	60	180	1	241	**82**	**38**	**84**	**204**	16	76	63	155
+30 mins.	1	63	91	**155**	**78**	161	0	239	61	25	50	136	**24**	85	**78**	**187**
+45 mins.	1	**64**	73	138	64	171	0	235	37	23	39	99	21	78	51	150
Total Volume	4	220	338	562	247	725	5	977	251	113	231	595	81	337	227	645
% App. Total	0.7	39.1	60.1		25.3	74.2	0.5		42.2	19	38.8		12.6	52.2	35.2	
PHF	1.000	.859	.929	.906	.792	.851	.313	.932	.765	.743	.688	.729	.844	.860	.728	.862

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City of Santee
N/S: Cuyamaca Street
E/W: Mast Boulevard
Weather: Clear

File Name : 09_STE_Cuy_Mast PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 1

Groups Printed- Total Volume

	Cuyamaca Street Southbound				Mast Boulevard Westbound				Cuyamaca Street Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	43	24	69	69	68	4	141	51	37	111	199	38	120	64	222	631
04:15 PM	2	46	24	72	75	77	2	154	65	51	97	213	49	132	68	249	688
04:30 PM	2	44	26	72	65	62	1	128	53	47	99	199	50	142	69	261	660
04:45 PM	5	43	30	78	77	73	6	156	57	63	94	214	45	176	64	285	733
Total	11	176	104	291	286	280	13	579	226	198	401	825	182	570	265	1017	2712
05:00 PM	4	32	32	68	69	68	3	140	78	46	113	237	34	132	66	232	677
05:15 PM	3	35	29	67	77	85	1	163	46	54	104	204	46	137	51	234	668
05:30 PM	4	27	26	57	78	83	8	169	49	60	102	211	36	118	52	206	643
05:45 PM	6	40	37	83	71	69	6	146	58	50	105	213	39	135	72	246	688
Total	17	134	124	275	295	305	18	618	231	210	424	865	155	522	241	918	2676
Grand Total	28	310	228	566	581	585	31	1197	457	408	825	1690	337	1092	506	1935	5388
Apprch %	4.9	54.8	40.3		48.5	48.9	2.6		27	24.1	48.8		17.4	56.4	26.1		
Total %	0.5	5.8	4.2	10.5	10.8	10.9	0.6	22.2	8.5	7.6	15.3	31.4	6.3	20.3	9.4	35.9	

	Cuyamaca Street Southbound				Mast Boulevard Westbound				Cuyamaca Street Northbound				Mast Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	2	**46**	24	72	75	**77**	2	154	65	51	97	213	49	132	68	249	688
04:30 PM	2	44	26	72	65	62	1	128	53	47	99	199	**50**	142	**69**	261	660
04:45 PM	**5**	43	30	**78**	**77**	73	**6**	**156**	57	**63**	94	214	45	**176**	64	**285**	**733**
05:00 PM	4	32	**32**	68	69	68	3	140	**78**	46	**113**	**237**	34	132	66	232	677
Total Volume	13	165	112	290	286	280	12	578	253	207	403	863	178	582	267	1027	2758
% App. Total	4.5	56.9	38.6		49.5	48.4	2.1		29.3	24	46.7		17.3	56.7	26		
PHF	.650	.897	.875	.929	.929	.909	.500	.926	.811	.821	.892	.910	.890	.827	.967	.901	.941

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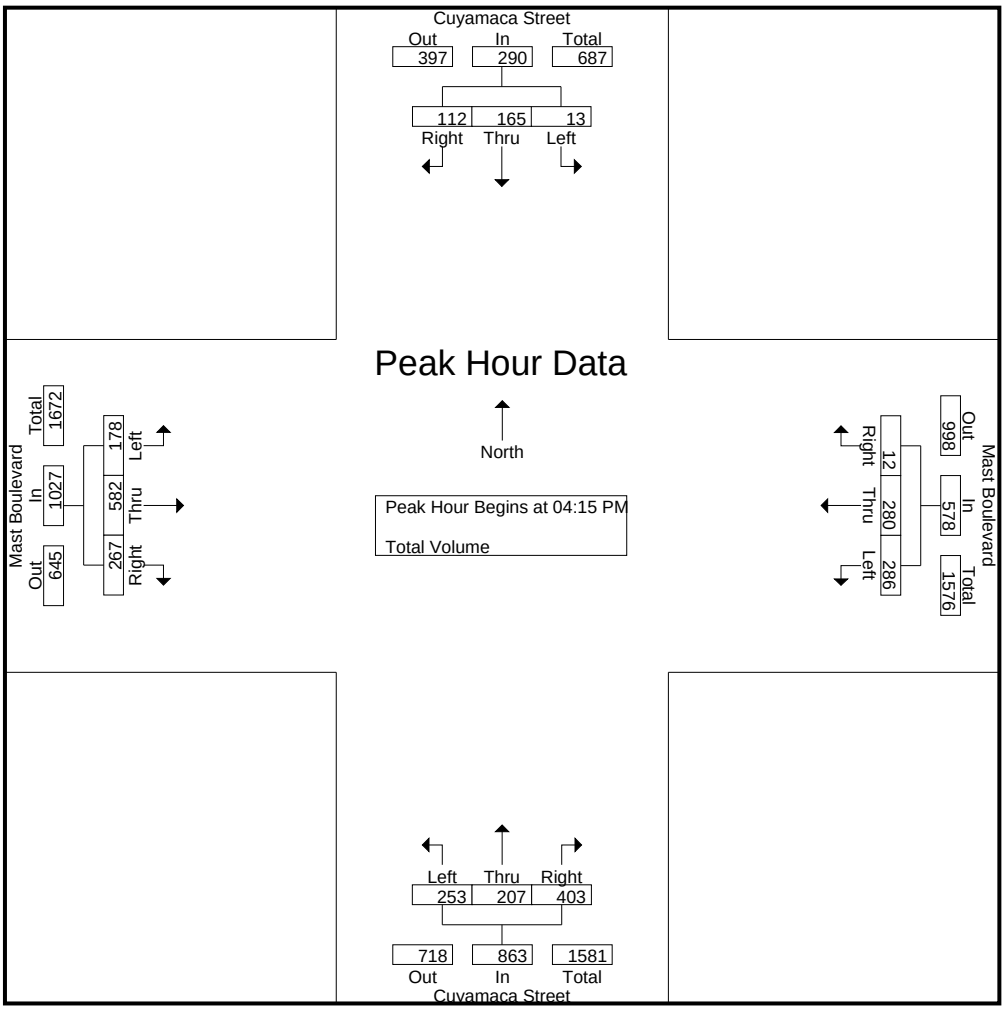
City of Santee
N/S: Cuyamaca Street
E/W: Mast Boulevard
Weather: Clear

File Name : 09_STE_Cuy_Mast PM
Site Code : 23624260
Start Date : 3/21/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:45 PM				04:15 PM			
+0 mins.	2	43	24	69	77	73	6	156	57	**63**	94	214	49	132	68	249
+15 mins.	2	**46**	24	72	69	68	3	140	**78**	46	**113**	**237**	**50**	142	**69**	261
+30 mins.	2	44	26	72	77	**85**	1	163	46	54	104	204	45	**176**	64	**285**
+45 mins.	**5**	43	**30**	**78**	**78**	83	**8**	**169**	49	60	102	211	34	132	66	232
Total Volume	11	176	104	291	301	309	18	628	230	223	413	866	178	582	267	1027
% App. Total	3.8	60.5	35.7		47.9	49.2	2.9		26.6	25.8	47.7		17.3	56.7	26	
PHF	.550	.957	.867	.933	.965	.909	.563	.929	.737	.885	.914	.914	.890	.827	.967	.901

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City of Santee
Magnolia Avenue
N/ Mission Gorge Road
24 Hour Directional Volume Count

STE005
Site Code: 236-24260

Start Time	3/21/24 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		27	153			8	166				
12:15		23	175			12	162				
12:30		22	137			7	166				
12:45		12	164	84	629	5	161	32	655	116	1284
01:00		12	184			8	127				
01:15		11	181			5	154				
01:30		14	193			4	213				
01:45		9	195	46	753	10	235	27	729	73	1482
02:00		8	211			5	211				
02:15		5	202			8	234				
02:30		10	239			4	239				
02:45		2	222	25	874	2	**290**	19	974	44	1848
03:00		11	**286**			2	**238**				
03:15		6	**318**			8	**224**				
03:30		9	**275**			21	**286**				
03:45		11	**300**	37	1179	14	263	45	1011	82	2190
04:00		9	284			28	248				
04:15		11	278			25	220				
04:30		21	313			38	193				
04:45		28	265	69	1140	50	255	141	916	210	2056
05:00		33	280			61	220				
05:15		42	298			69	215				
05:30		36	202			111	197				
05:45		65	237	176	1017	109	228	350	860	526	1877
06:00		64	238			126	210				
06:15		66	230			135	218				
06:30		76	184			146	169				
06:45		100	200	306	852	174	176	581	773	887	1625
07:00		122	184			179	163				
07:15		216	173			238	129				
07:30		**239**	131			**296**	150				
07:45		**195**	164	772	652	**338**	160	1051	602	1823	1254
08:00		**250**	135			**229**	134				
08:15		**290**	133			**244**	128				
08:30		206	141			276	102				
08:45		185	114	931	523	218	60	967	424	1898	947
09:00		185	120			179	74				
09:15		157	87			213	53				
09:30		122	87			190	45				
09:45		119	89	583	383	163	47	745	219	1328	602
10:00		107	82			154	35				
10:15		111	57			135	35				
10:30		147	52			174	36				
10:45		123	60	488	251	167	26	630	132	1118	383
11:00		152	37			166	27				
11:15		127	41			154	21				
11:30		142	24			153	38				
11:45		167	20	588	122	170	18	643	104	1231	226
Total		4105	8375	4105	8375	5231	7399	5231	7399	9336	15774
Combined Total		12480		12480		12630		12630		25110	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	974	-	-	-	1107	-	-	-	-	-
P.H.F.		0.840				0.819					
PM Peak	-	-	03:00	-	-	-	02:45	-	-	-	-
Vol.	-	-	1179	-	-	-	1038	-	-	-	-
P.H.F.			0.927				0.895				
Percentage		32.9%	67.1%			41.4%	58.6%				
ADT/AADT		ADT 25,110		AADT 25,110							

Counts Unlimited, Inc.

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City of Santee
Magnolia Avenue
S/ Mast Boulevard
24 Hour Directional Volume Count

STE004
Site Code: 236-24260

Start Time	3/21/24 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		18	124			5	127				
12:15		20	131			7	127				
12:30		18	105			7	139				
12:45		12	130	68	490	6	123	25	516	93	1006
01:00		7	108			6	119				
01:15		9	160			2	127				
01:30		13	124			3	161				
01:45		3	161	32	553	6	186	17	593	49	1146
02:00		7	171			2	150				
02:15		4	173			5	164				
02:30		6	198			3	240				
02:45		1	193	18	735	1	**195**	11	749	29	1484
03:00		8	206			4	**207**				
03:15		6	**267**			8	**165**				
03:30		7	**260**			16	**278**				
03:45		11	**263**	32	996	11	188	39	838	71	1834
04:00		5	**212**			11	167				
04:15		8	223			18	161				
04:30		13	241			26	158				
04:45		13	230	39	906	34	177	89	663	128	1569
05:00		20	197			54	177				
05:15		18	234			45	161				
05:30		26	181			79	176				
05:45		34	198	98	810	72	152	250	666	348	1476
06:00		45	195			72	167				
06:15		56	168			81	178				
06:30		60	161			104	183				
06:45		94	159	255	683	126	159	383	687	638	1370
07:00		99	137			130	110				
07:15		159	157			179	120				
07:30		**210**	93			**252**	138				
07:45		**167**	121	635	508	**251**	144	812	512	1447	1020
08:00		**262**	107			**169**	120				
08:15		**299**	119			**223**	105				
08:30		178	103			230	76				
08:45		146	92	885	421	157	67	779	368	1664	789
09:00		175	83			157	59				
09:15		144	70			166	46				
09:30		101	65			144	40				
09:45		114	62	534	280	107	39	574	184	1108	464
10:00		100	55			123	34				
10:15		87	39			117	33				
10:30		109	38			136	27				
10:45		107	48	403	180	110	18	486	112	889	292
11:00		112	34			103	24				
11:15		99	37			93	16				
11:30		115	21			120	29				
11:45		127	14	453	106	132	9	448	78	901	184
Total		3452	6668	3452	6668	3913	5966	3913	5966	7365	12634
Combined Total		10120		10120		9879		9879		19999	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	938	-	-	-	895	-	-	-	-	-
P.H.F.		0.784				0.888					
PM Peak	-	-	03:15	-	-	-	02:45	-	-	-	-
Vol.	-	-	1002	-	-	-	845	-	-	-	-
P.H.F.			0.938				0.760				
Percentage		34.1%	65.9%			39.6%	60.4%				

ADT/AADT	ADT 19,999	AADT 19,999

Counts Unlimited, Inc.

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City of Santee
Mast Boulevard
E/ Cuyamaca Street
24 Hour Directional Volume Count

STE007
Site Code: 236-24260

Start Time	3/21/24 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		14	126			8	119				
12:15		16	132			10	105				
12:30		13	148			10	108				
12:45		5	119	48	525	4	122	32	454	80	979
01:00		9	167			1	123				
01:15		5	157			2	120				
01:30		6	160			6	133				
01:45		3	145	23	629	1	172	10	548	33	1177
02:00		6	180			2	175				
02:15		3	208			3	141				
02:30		5	232			2	147				
02:45		1	224	15	844	4	173	11	636	26	1480
03:00		3	221			3	157				
03:15		2	224			2	129				
03:30		7	274			11	**183**				
03:45		4	222	16	941	13	**167**	29	636	45	1577
04:00		6	233			14	**141**				
04:15		2	231			27	**154**				
04:30		8	**243**			27	128				
04:45		21	**275**	37	982	41	156	109	579	146	1561
05:00		14	**249**			47	140				
05:15		9	**244**			63	163				
05:30		15	224			93	169				
05:45		27	246	65	963	97	146	300	618	365	1581
06:00		21	212			102	148				
06:15		31	194			119	141				
06:30		39	197			165	154				
06:45		79	214	170	817	192	124	578	567	748	1384
07:00		78	195			200	130				
07:15		84	183			**262**	113				
07:30		106	180			**241**	113				
07:45		**137**	166	405	724	**239**	86	942	442	1347	1166
08:00		**135**	134			**235**	96				
08:15		**172**	104			224	58				
08:30		**128**	125			180	64				
08:45		101	109	536	472	143	66	782	284	1318	756
09:00		100	101			140	51				
09:15		102	78			144	33				
09:30		109	60			148	32				
09:45		92	64	403	303	144	22	576	138	979	441
10:00		95	44			131	31				
10:15		87	48			109	26				
10:30		74	39			105	20				
10:45		117	28	373	159	119	17	464	94	837	253
11:00		116	26			129	13				
11:15		104	25			124	11				
11:30		144	21			136	15				
11:45		142	24	506	96	133	8	522	47	1028	143
Total		2597	7455	2597	7455	4355	5043	4355	5043	6952	12498
Combined Total		10052		10052		9398		9398		19450	
AM Peak	-	07:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	572	-	-	-	977	-	-	-	-	-
P.H.F.		0.831				0.932					
PM Peak	-	-	04:30	-	-	-	03:30	-	-	-	-
Vol.	-	-	1011	-	-	-	645	-	-	-	-
P.H.F.			0.919				0.881				
Percentage		25.8%	74.2%			46.3%	53.7%				
ADT/AADT		ADT 19,450		AADT 19,450							

Counts Unlimited, Inc.

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City of Santee
Mast Boulevard
W/ Magnolia Avenue
24 Hour Directional Volume Count

STE003
Site Code: 236-24260

Start Time	3/21/24 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		11	120			8	117				
12:15		12	122			13	110				
12:30		9	139			12	102				
12:45		11	123	43	504	5	103	38	432	81	936
01:00		11	135			2	101				
01:15		5	128			3	108				
01:30		6	138			6	131				
01:45		2	111	24	512	1	150	12	490	36	1002
02:00		1	130			3	192				
02:15		3	149			1	129				
02:30		6	188			4	167				
02:45		2	**189**	12	656	2	185	10	673	22	1329
03:00		2	**213**			2	128				
03:15		3	**222**			3	165				
03:30		3	**261**			13	**188**				
03:45		6	187	14	883	15	**205**	33	686	47	1569
04:00		2	213			12	**157**				
04:15		4	200			18	**169**				
04:30		10	190			26	180				
04:45		16	233	32	836	38	165	94	671	126	1507
05:00		8	235			46	135				
05:15		18	207			61	195				
05:30		17	194			73	146				
05:45		28	184	71	820	78	177	258	653	329	1473
06:00		29	178			93	165				
06:15		40	200			112	194				
06:30		45	198			133	147				
06:45		69	183	183	759	166	127	504	633	687	1392
07:00		81	160			169	140				
07:15		86	150			207	122				
07:30		**146**	169			**253**	107				
07:45		**128**	160	441	639	**205**	115	834	484	1275	1123
08:00		**141**	119			**261**	85				
08:15		**188**	108			**219**	71				
08:30		137	95			177	57				
08:45		95	84	561	406	152	64	809	277	1370	683
09:00		103	84			134	52				
09:15		101	55			147	48				
09:30		85	41			122	35				
09:45		89	45	378	225	138	31	541	166	919	391
10:00		87	39			118	28				
10:15		91	47			101	22				
10:30		82	41			110	27				
10:45		92	28	352	155	129	25	458	102	810	257
11:00		88	25			122	13				
11:15		96	23			123	16				
11:30		113	28			129	13				
11:45		115	21	412	97	122	10	496	52	908	149
Total		2523	6492	2523	6492	4087	5319	4087	5319	6610	11811
Combined Total		9015		9015		9406		9406		18421	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	603	-	-	-	938	-	-	-	-	-
P.H.F.		0.802				0.898					
PM Peak	-	-	02:45	-	-	-	03:30	-	-	-	-
Vol.	-	-	885	-	-	-	719	-	-	-	-
P.H.F.			0.848				0.877				
Percentage		28.0%	72.0%			43.5%	56.5%				
ADT/AADT		ADT 18,421		AADT 18,421							

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City of Santee
Park Center Drive
B/ Magnolia Avenue - Chubb Lane
24 Hour Directional Volume Count

STE006
Site Code: 236-24260

Start	3/21/2024	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	3			0	2				
12:15		0	3			1	4				
12:30		0	6			0	3				
12:45		0	6	0	18	0	7	1	16	1	34
01:00		0	4			0	2				
01:15		0	9			0	1				
01:30		0	8			0	4				
01:45		0	1	0	22	0	3	0	10	0	32
02:00		0	4			0	4				
02:15		0	2			0	6				
02:30		0	4			0	**3**				
02:45		0	**18**	0	28	0	**9**	0	22	0	50
03:00		0	**12**			0	**4**				
03:15		0	**7**			0	**7**				
03:30		0	**6**			0	1				
03:45		0	4	0	29	0	2	0	14	0	43
04:00		0	4			0	4				
04:15		0	5			1	2				
04:30		0	1			0	3				
04:45		1	5	1	15	1	5	2	14	3	29
05:00		0	3			1	1				
05:15		2	2			1	5				
05:30		2	5			2	1				
05:45		1	4	5	14	2	3	6	10	11	24
06:00		4	1			4	6				
06:15		2	2			**8**	6				
06:30		1	2			**6**	4				
06:45		7	3	14	8	**13**	3	31	19	45	27
07:00		9	3			**7**	4				
07:15		5	2			3	0				
07:30		4	2			4	4				
07:45		2	0	20	7	8	3	22	11	42	18
08:00		3	0			7	2				
08:15		1	1			5	5				
08:30		5	4			4	1				
08:45		5	0	14	5	3	1	19	9	33	14
09:00		3	0			4	2				
09:15		6	0			1	0				
09:30		2	0			2	1				
09:45		**5**	0	16	0	5	1	12	4	28	4
10:00		**5**	1			1	1				
10:15		**10**	0			6	1				
10:30		**8**	0			8	1				
10:45		5	2	28	3	7	2	22	5	50	8
11:00		5	0			3	0				
11:15		4	0			7	0				
11:30		8	0			4	0				
11:45		3	0	20	0	7	0	21	0	41	0
Total		118	149	118	149	136	134	136	134	254	283
Combined Total		267		267		270		270		537	
AM Peak	-	09:45	-	-	-	06:15	-	-	-	-	-
Vol.	-	28	-	-	-	34	-	-	-	-	-
P.H.F.		0.700				0.654					
PM Peak	-	-	02:45	-	-	-	02:30	-	-	-	-
Vol.	-	-	43	-	-	-	23	-	-	-	-
P.H.F.			0.597				0.639				
Percentage		44.2%	55.8%			50.4%	49.6%				
ADT/AADT		ADT 537		AADT 537							

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City of Santee
Park Center Drive
B/ Riverwalk Drive - Mast Boulevard
24 Hour Directional Volume Count

STE002
Site Code: 236-24260

Start Time	3/21/24 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	15			0	11				
12:15		0	25			1	7				
12:30		0	23			1	10				
12:45		0	13	2	76	0	15	2	43	4	119
01:00		1	14			0	7				
01:15		0	14			0	7				
01:30		0	9			1	12				
01:45		0	16	1	53	0	15	1	41	2	94
02:00		0	14			0	27				
02:15		0	39			0	19				
02:30		0	32			0	32				
02:45		0	**60**	0	145	0	36	0	114	0	259
03:00		0	**43**			0	18				
03:15		2	**36**			0	18				
03:30		0	**64**			0	30				
03:45		1	23	3	166	2	**36**	2	102	5	268
04:00		0	31			1	**46**				
04:15		0	31			0	**32**				
04:30		0	20			2	**33**				
04:45		4	28	4	110	3	34	6	145	10	255
05:00		1	44			7	19				
05:15		2	24			6	34				
05:30		4	21			9	30				
05:45		5	44	12	133	15	31	37	114	49	247
06:00		8	39			10	35				
06:15		6	35			13	41				
06:30		14	46			15	24				
06:45		14	45	42	165	41	15	79	115	121	280
07:00		14	25			14	16				
07:15		17	30			6	9				
07:30		16	22			17	13				
07:45		12	26	59	103	**20**	10	57	48	116	151
08:00		**22**	33			**44**	13				
08:15		**45**	22			**63**	9				
08:30		**26**	10			**22**	4				
08:45		**21**	12	114	77	19	5	148	31	262	108
09:00		11	4			20	6				
09:15		15	6			18	4				
09:30		10	7			22	3				
09:45		17	4	53	21	14	5	74	18	127	39
10:00		16	15			13	2				
10:15		11	11			10	2				
10:30		23	10			8	6				
10:45		14	9	64	45	12	9	43	19	107	64
11:00		21	3			15	3				
11:15		16	7			16	5				
11:30		12	18			9	0				
11:45		13	2	62	30	15	1	55	9	117	39
Total		416	1124	416	1124	504	799	504	799	920	1923
Combined Total		1540		1540		1303		1303		2843	
AM Peak	-	08:00	-	-	-	07:45	-	-	-	-	-
Vol.	-	114	-	-	-	149	-	-	-	-	-
P.H.F.		0.633				0.591					
PM Peak	-	-	02:45	-	-	-	03:45	-	-	-	-
Vol.	-	-	203	-	-	-	147	-	-	-	-
P.H.F.			0.793				0.799				
Percentage		27.0%	73.0%			38.7%	61.3%				
ADT/AADT		ADT 2,843		AADT 2,843							

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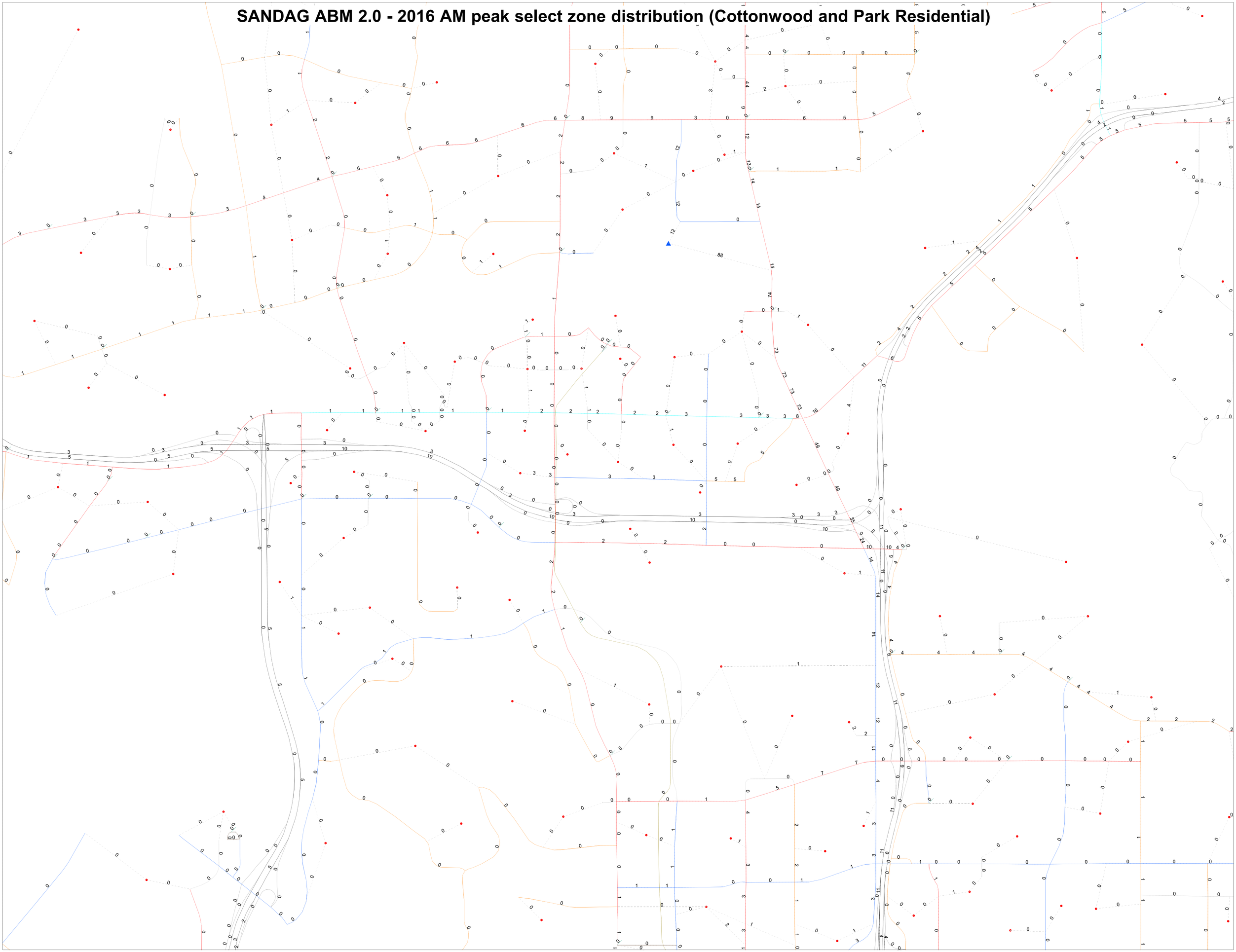
City of Santee
Park Center Drive
B/ Town Center Park East - Riverwalk Drive
24 Hour Directional Volume Count

STE001
Site Code: 236-24260

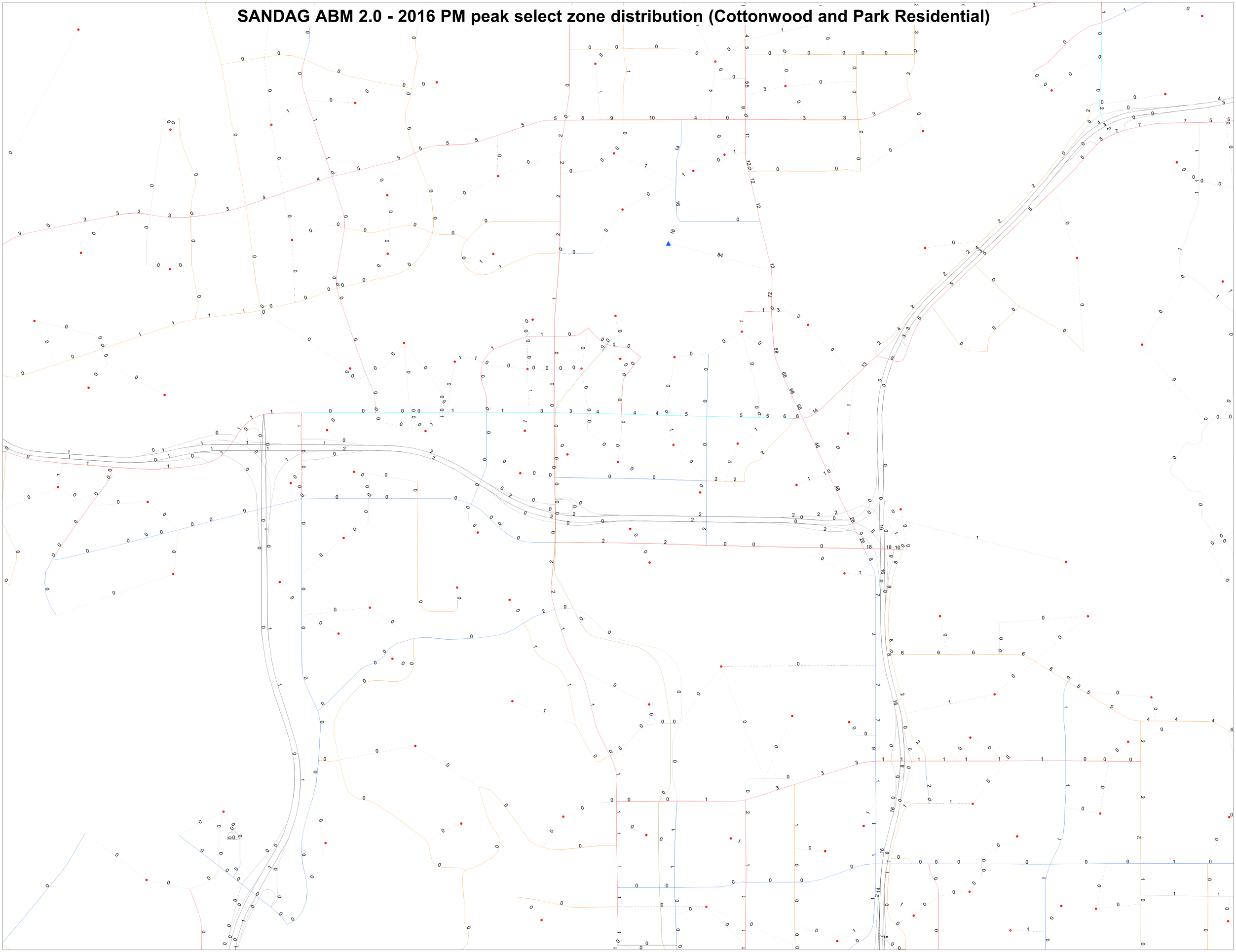
Start Time	3/21/24 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	2			0	3				
12:15		0	3			0	4				
12:30		0	7			0	6				
12:45		0	7	0	19	0	3	0	16	0	35
01:00		0	1			0	3				
01:15		0	2			0	3				
01:30		0	1			0	3				
01:45		0	6	0	10	0	3	0	12	0	22
02:00		0	3			0	6				
02:15		0	7			0	5				
02:30		0	8			0	6				
02:45		0	2	0	20	0	4	0	21	0	41
03:00		0	2			0	4				
03:15		0	2			0	3				
03:30		0	9			1	12				
03:45		1	11	1	24	0	5	1	24	2	48
04:00		0	4			0	10				
04:15		0	7			0	8				
04:30		0	4			0	10				
04:45		0	3	0	18	0	11	0	39	0	57
05:00		0	5			0	8				
05:15		0	4			1	8				
05:30		0	5			1	**19**				
05:45		1	6	1	20	3	**19**	5	54	6	74
06:00		0	**8**			1	**13**				
06:15		2	**13**			1	**22**				
06:30		6	**24**			5	8				
06:45		1	**19**	9	64	2	9	9	52	18	116
07:00		0	7			4	3				
07:15		1	11			1	6				
07:30		3	5			3	6				
07:45		2	7	6	30	4	9	12	24	18	54
08:00		4	25			**10**	8				
08:15		3	22			**4**	3				
08:30		4	0			**5**	1				
08:45		6	0	17	47	**7**	0	26	12	43	59
09:00		4	0			1	0				
09:15		5	0			7	0				
09:30		1	0			5	1				
09:45		3	1	13	1	4	1	17	2	30	3
10:00		**4**	0			3	0				
10:15		**8**	9			4	0				
10:30		**6**	4			1	0				
10:45		**5**	0	23	13	5	0	13	0	36	13
11:00		2	1			3	1				
11:15		2	0			4	1				
11:30		3	0			6	0				
11:45		5	0	12	1	2	0	15	2	27	3
Total		82	267	82	267	98	258	98	258	180	525
Combined Total		349		349		356		356		705	
AM Peak	-	10:00	-	-	-	08:00	-	-	-	-	-
Vol.	-	23	-	-	-	26	-	-	-	-	-
P.H.F.		0.719				0.650					
PM Peak	-	-	06:00	-	-	-	05:30	-	-	-	-
Vol.	-	-	64	-	-	-	73	-	-	-	-
P.H.F.			0.667				0.830				
Percentage		23.5%	76.5%			27.5%	72.5%				

ADT/AADT	ADT 705	AADT 705

SANDAG ABM 2.0 - 2016 AM peak select zone distribution (Cottonwood and Park Residential)

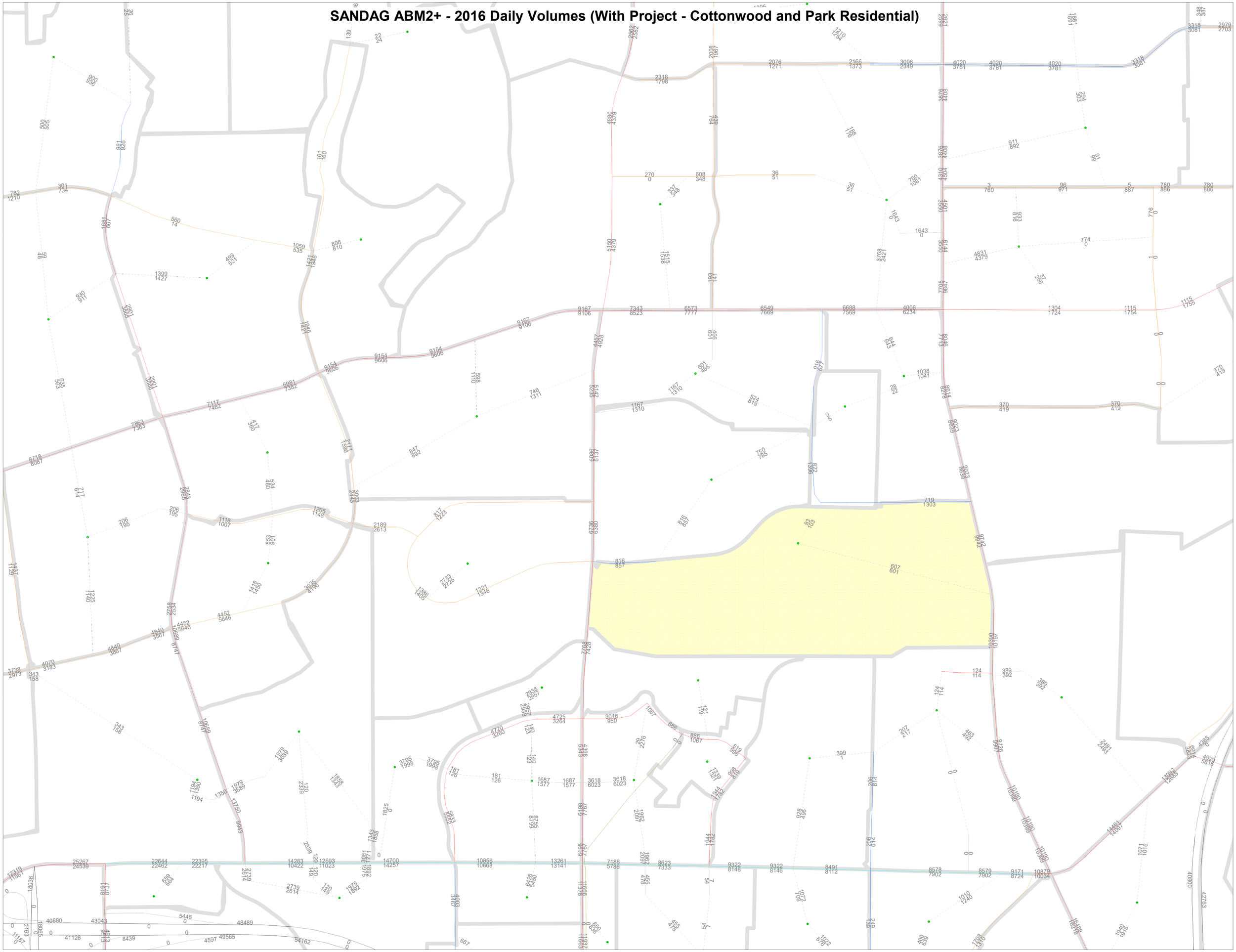


SANDAG ABM 2.0 - 2016 PM peak select zone distribution (Cottonwood and Park Residential)



SANDAG ABM2+ - 2016 Daily Volumes (No Project - Cottonwood and Park Residential)

SANDAG ABM2+ - 2016 Daily Volumes (With Project - Cottonwood and Park Residential)



APPENDIX C

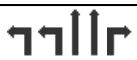
HCM ANALYSIS WORKSHEETS

EXISTING TRAFFIC CONDITION

Intersection Level Of Service Report
Intersection 1: Cuyamaca St/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.654

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	170.00	100.00	120.00	115.00	100.00	100.00	80.00	100.00	70.00	195.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	232	102	210	6	231	320	78	334	215	278	658	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	102	210	6	231	320	78	334	215	278	658	3
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	28	59	2	65	89	22	93	60	78	184	1
Total Analysis Volume [veh/h]	259	114	235	7	258	358	87	373	240	311	735	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Maximum Green [s]	30	30	30	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	21.0	0.0	21.0	0.0	0.0	24.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12.0	30.0	30.0	12.0	30.0	0.0	10.0	33.0	0.0	15.0	38.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.0	46.9	61.0	0.8	38.8	38.8	5.6	16.2	16.2	10.0	20.7	20.7
g / C, Green / Cycle	0.10	0.52	0.68	0.01	0.43	0.43	0.06	0.18	0.18	0.11	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.03	0.15	0.00	0.14	0.22	0.05	0.10	0.15	0.09	0.19	0.19
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1615	3514	1900	1897
c, Capacity [veh/h]	351	1885	1093	17	818	696	112	652	291	391	437	436
d1, Uniform Delay [s]	39.36	10.66	5.50	44.32	16.88	18.74	41.62	33.72	35.52	38.98	33.13	33.13
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.14	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.03	0.06	0.45	14.56	1.01	2.71	13.94	0.79	5.85	3.69	4.57	4.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.06	0.21	0.41	0.32	0.51	0.78	0.57	0.82	0.79	0.85	0.85
d, Delay for Lane Group [s/veh]	42.39	10.72	5.95	58.87	17.89	21.45	55.56	34.51	41.37	42.68	37.70	37.71
Lane Group LOS	D	B	A	E	B	C	E	C	D	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.86	0.54	1.50	0.22	3.55	5.64	2.27	3.64	5.31	3.42	7.85	7.84
50th-Percentile Queue Length [ft/ln]	71.47	13.42	37.48	5.55	88.72	140.95	56.79	91.01	132.76	85.54	196.29	196.03
95th-Percentile Queue Length [veh/ln]	5.15	0.97	2.70	0.40	6.39	9.53	4.09	6.55	9.09	6.16	12.45	12.43
95th-Percentile Queue Length [ft/ln]	128.64	24.16	67.47	9.99	159.70	238.31	102.22	163.82	227.25	153.96	311.18	310.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.39	10.72	5.95	58.87	17.89	21.45	55.56	34.51	41.37	42.68	37.70	37.71
Movement LOS	D	B	A	E	B	C	E	C	D	D	D	D
d_A, Approach Delay [s/veh]	22.37			20.39			39.48			39.18		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	31.89											
Intersection LOS	C											
Intersection V/C	0.654											

Emissions

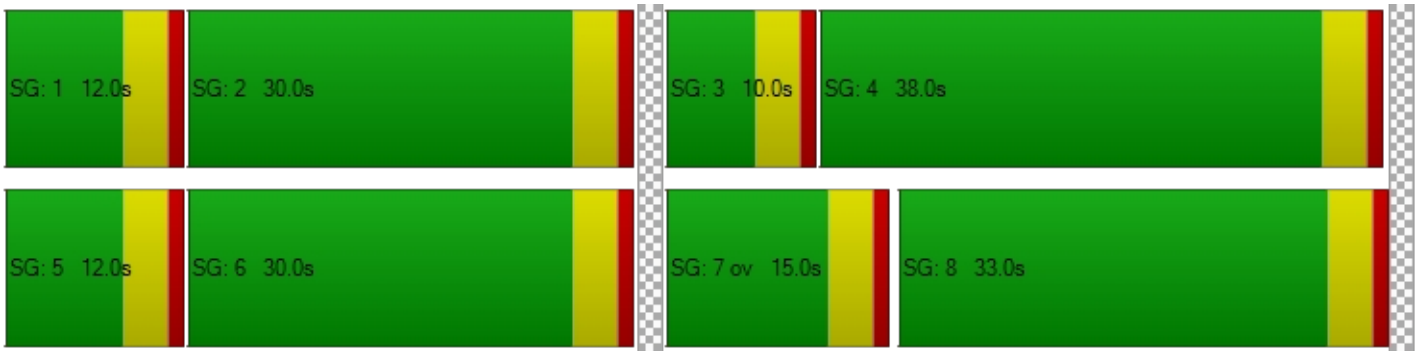
Vehicle Miles Traveled [mph]	14.49	6.38	13.15	0.41	15.00	20.82	4.81	20.64	13.28	19.23	22.83	22.80
Stops [stops/h]	228.69	42.95	59.97	8.88	141.96	225.52	90.86	291.24	212.42	273.72	314.06	313.65
Fuel consumption [US gal/h]	4.51	0.81	1.24	0.17	2.58	4.05	2.05	6.22	4.58	6.08	6.74	6.73
CO [g/h]	314.99	56.96	86.44	11.62	180.25	283.27	143.20	434.78	320.35	424.88	470.83	470.21
NOx [g/h]	61.29	11.08	16.82	2.26	35.07	55.11	27.86	84.59	62.33	82.67	91.61	91.49
VOC [g/h]	73.00	13.20	20.03	2.69	41.77	65.65	33.19	100.76	74.24	98.47	109.12	108.98

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	578	644	756
d_b, Bicycle Delay [s]	22.76	22.76	20.67	17.42
l_b,int, Bicycle LOS Score for Intersection	2.061	2.074	2.137	2.425
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Cuyamaca St/Riverwalk Dr

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	95.00	95.00	100.00	100.00	25.00	100.00	100.00	60.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			10.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	159	522	95	100	630	4	1	1	4	81	1	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	522	95	100	630	4	1	1	4	81	1	77
Peak Hour Factor	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	168	31	32	203	1	0	0	1	26	0	25
Total Analysis Volume [veh/h]	205	674	123	129	813	5	1	1	5	105	1	99
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	21.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12.0	17.0	0.0	15.0	20.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8.6	27.5	27.5	5.7	24.6	24.6	1.2	1.2	9.7	9.7
g / C, Green / Cycle	0.14	0.46	0.46	0.09	0.41	0.41	0.02	0.02	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.08	0.07	0.22	0.00	0.00	0.00	0.06	0.06
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1656	1810	1617
c, Capacity [veh/h]	258	1652	738	171	1479	660	37	34	292	261
d1, Uniform Delay [s]	24.88	10.88	9.59	26.48	13.52	10.51	28.79	28.88	22.40	22.49
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.54	0.75	0.49	6.53	1.47	0.02	0.29	2.40	0.75	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.41	0.17	0.75	0.55	0.01	0.03	0.18	0.36	0.38
d, Delay for Lane Group [s/veh]	30.42	11.63	10.07	33.01	14.99	10.53	29.07	31.28	23.15	23.42
Lane Group LOS	C	B	B	C	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	2.62	0.89	1.98	3.83	0.04	0.02	0.11	1.32	1.27
50th-Percentile Queue Length [ft/ln]	74.52	65.56	22.19	49.39	95.69	0.94	0.43	2.73	33.06	31.84
95th-Percentile Queue Length [veh/ln]	5.37	4.72	1.60	3.56	6.89	0.07	0.03	0.20	2.38	2.29
95th-Percentile Queue Length [ft/ln]	134.14	118.01	39.95	88.90	172.25	1.69	0.78	4.92	59.51	57.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.42	11.63	10.07	33.01	14.99	10.53	29.07	31.28	31.28	23.15	23.42	23.42
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	15.28			17.42			30.96			23.28		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.03											
Intersection LOS	B											
Intersection V/C	0.504											

Emissions

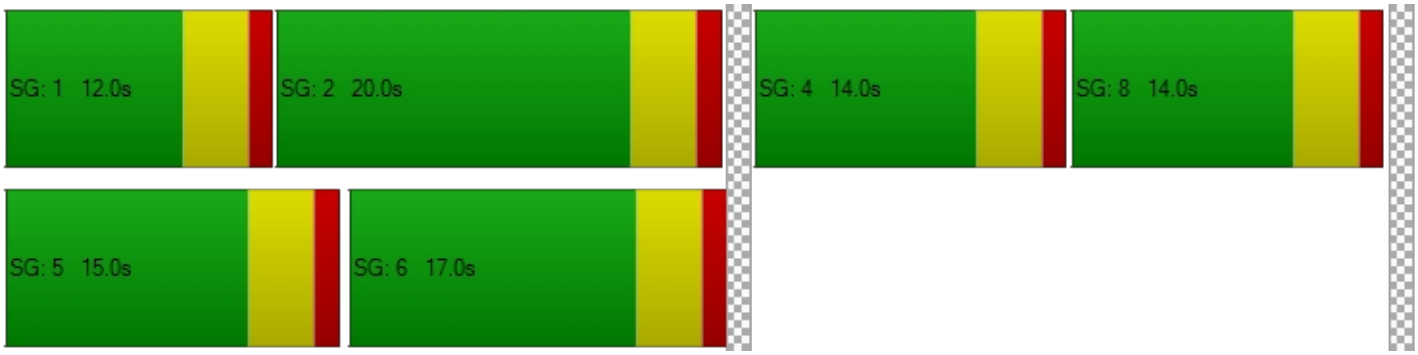
Vehicle Miles Traveled [mph]	18.20	59.83	10.92	20.15	126.97	0.78	0.02	0.10	48.42	46.12
Stops [stops/h]	178.85	314.68	53.26	118.54	459.33	2.25	1.04	6.56	79.35	76.42
Fuel consumption [US gal/h]	3.31	6.24	1.07	2.53	10.77	0.06	0.01	0.05	2.98	2.84
CO [g/h]	231.21	436.38	74.72	176.56	753.14	4.01	0.53	3.39	208.06	198.76
NOx [g/h]	44.99	84.90	14.54	34.35	146.53	0.78	0.10	0.66	40.48	38.67
VOC [g/h]	53.59	101.14	17.32	40.92	174.55	0.93	0.12	0.79	48.22	46.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	533	333	333
d_b, Bicycle Delay [s]	18.41	16.13	20.83	20.83
l_b,int, Bicycle LOS Score for Intersection	2.386	2.341	1.571	1.898
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Park Center Dr/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	6.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

Intersection Setup

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	105.00	90.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Base Volume Input [veh/h]	18	36	553	36	110	814
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	36	553	36	110	814
Peak Hour Factor	0.8490	0.8490	0.8490	0.8490	0.8490	0.8490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	11	163	11	32	240
Total Analysis Volume [veh/h]	21	42	651	42	130	959
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Flashing Yellow Arrow						
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Walk [s]	5.0	0.0	5.0	0.0	0.0	5.0
Pedestrian Clearance [s]	17.0	0.0	10.0	0.0	0.0	10.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	0.0	19.0	0.0	15.0	34.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3.3	3.3	39.0	39.0	5.7	48.7
g / C, Green / Cycle	0.06	0.06	0.65	0.65	0.10	0.81
(v / s)_i Volume / Saturation Flow Rate	0.01	0.03	0.18	0.03	0.07	0.27
s, saturation flow rate [veh/h]	1810	1615	3618	1615	1810	3618
c, Capacity [veh/h]	102	91	2344	1046	173	2930
d1, Uniform Delay [s]	27.01	27.41	4.54	3.82	26.44	1.47
k, delay calibration	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.98	3.56	0.30	0.07	6.44	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.46	0.28	0.04	0.75	0.33
d, Delay for Lane Group [s/veh]	27.99	30.97	4.83	3.89	32.88	1.77
Lane Group LOS	C	C	A	A	C	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.30	0.64	1.09	0.13	1.95	0.12
50th-Percentile Queue Length [ft/ln]	7.52	16.12	27.29	3.23	48.84	3.04
95th-Percentile Queue Length [veh/ln]	0.54	1.16	1.97	0.23	3.52	0.22
95th-Percentile Queue Length [ft/ln]	13.54	29.02	49.13	5.81	87.91	5.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.99	30.97	4.83	3.89	32.88	1.77
Movement LOS	C	C	A	A	C	A
d_A, Approach Delay [s/veh]	29.98		4.78		5.48	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.05					
Intersection LOS	A					
Intersection V/C	0.349					

Emissions

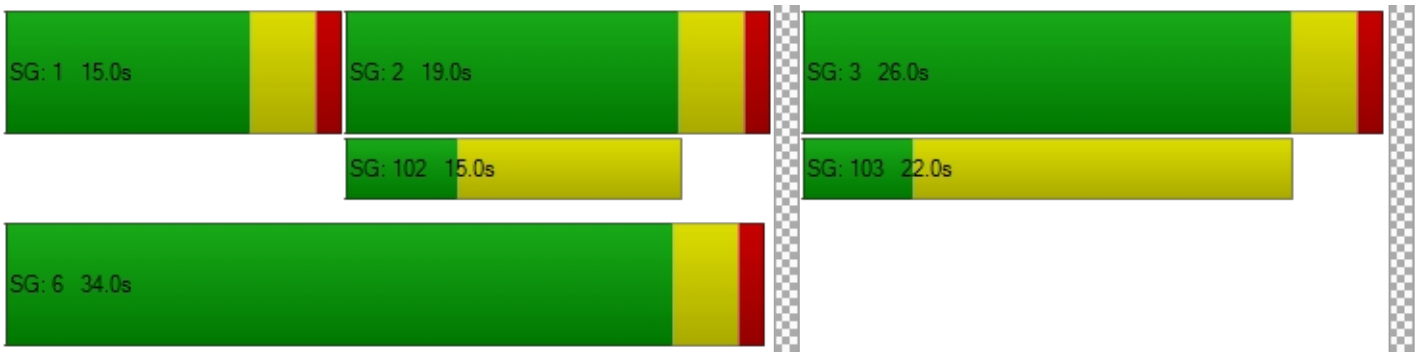
Vehicle Miles Traveled [mph]	1.97	3.95	253.91	16.38	32.06	236.54
Stops [stops/h]	18.06	38.70	131.01	7.74	117.21	14.58
Fuel consumption [US gal/h]	0.30	0.64	11.02	0.70	3.17	8.96
CO [g/h]	21.02	44.81	770.47	48.66	221.57	626.43
NOx [g/h]	4.09	8.72	149.90	9.47	43.11	121.88
VOC [g/h]	4.87	10.39	178.56	11.28	51.35	145.18

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	0.00	21.68
l_p,int, Pedestrian LOS Score for Intersectio	1.997	0.000	2.744
Crosswalk LOS	A	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	500	1000
d_b, Bicycle Delay [s]	12.03	16.88	7.50
l_b,int, Bicycle LOS Score for Intersection	1.560	2.131	2.458
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Magnolia Ave/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	120.00	165.00	100.00	160.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	355	537	46	42	546	372	246	116	241	108	211	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	355	537	46	42	546	372	246	116	241	108	211	27
Peak Hour Factor	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	148	13	12	150	103	68	32	66	30	58	7
Total Analysis Volume [veh/h]	391	592	51	46	602	410	271	128	266	119	233	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	24.0	0.0	0.0	21.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	11.0	16.0	0.0	9.0	14.0	0.0	14.0	14.0	0.0	21.0	21.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.1	23.9	23.9	2.7	17.5	17.5	6.7	12.1	12.1	5.2	10.7	10.7
g / C, Green / Cycle	0.15	0.40	0.40	0.04	0.29	0.29	0.11	0.20	0.20	0.09	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.11	0.17	0.17	0.03	0.17	0.25	0.08	0.04	0.16	0.07	0.06	0.02
s, saturation flow rate [veh/h]	3514	1900	1848	1810	3618	1615	3514	3618	1615	1810	3618	1615
c, Capacity [veh/h]	530	755	734	82	1056	471	391	731	326	160	649	290
d1, Uniform Delay [s]	24.34	13.15	13.15	28.06	18.05	20.17	25.67	19.80	22.86	26.67	21.59	20.58
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.03	1.80	1.85	5.92	2.24	19.23	2.21	0.11	4.95	6.61	0.34	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.43	0.43	0.56	0.57	0.87	0.69	0.18	0.81	0.74	0.36	0.10
d, Delay for Lane Group [s/veh]	26.37	14.95	15.00	33.98	20.29	39.40	27.88	19.91	27.81	33.29	21.93	20.74
Lane Group LOS	C	B	B	C	C	D	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.48	2.92	2.85	0.73	3.38	7.17	1.81	0.67	3.62	1.84	1.35	0.34
50th-Percentile Queue Length [ft/ln]	61.91	72.97	71.23	18.21	84.57	179.17	45.13	16.80	90.48	45.89	33.67	8.39
95th-Percentile Queue Length [veh/ln]	4.46	5.25	5.13	1.31	6.09	11.56	3.25	1.21	6.51	3.30	2.42	0.60
95th-Percentile Queue Length [ft/ln]	111.44	131.35	128.21	32.78	152.23	288.93	81.24	30.24	162.86	82.60	60.61	15.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.37	14.97	15.00	33.98	20.29	39.40	27.88	19.91	27.81	33.29	21.93	20.74
Movement LOS	C	B	B	C	C	D	C	B	C	C	C	C
d_A, Approach Delay [s/veh]	19.28			28.29			26.32			25.37		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	24.55											
Intersection LOS	C											
Intersection V/C	0.812											

Emissions

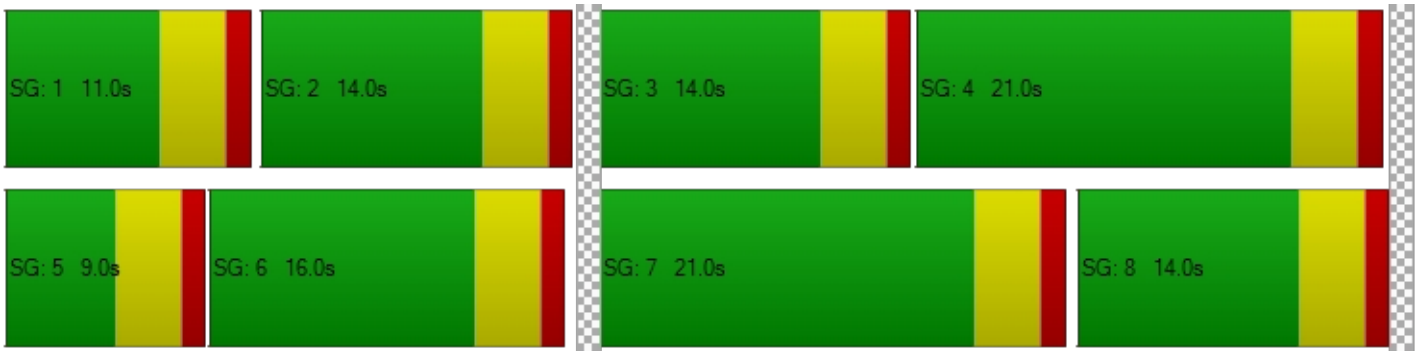
Vehicle Miles Traveled [mph]	161.37	134.54	130.84	2.33	30.48	20.76	66.84	31.57	65.61	10.33	20.23	2.61
Stops [stops/h]	297.19	175.13	170.94	43.70	405.94	430.01	216.64	80.64	217.15	110.13	161.64	20.14
Fuel consumption [US gal/h]	11.32	7.78	7.58	0.83	7.57	8.26	6.06	2.44	5.99	2.03	3.03	0.38
CO [g/h]	791.61	543.89	529.71	58.08	528.80	577.04	423.62	170.68	418.63	141.78	211.56	26.38
NOx [g/h]	154.02	105.82	103.06	11.30	102.89	112.27	82.42	33.21	81.45	27.59	41.16	5.13
VOC [g/h]	183.46	126.05	122.76	13.46	122.55	133.73	98.18	39.56	97.02	32.86	49.03	6.11

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	333	333	567
d_b, Bicycle Delay [s]	19.20	20.83	20.83	15.41
l_b,int, Bicycle LOS Score for Intersection	2.413	2.432	2.108	1.875
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	3.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	120.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0	0
Exit Pocket Length [ft]	0.00	100.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	20	883	8	1078	4	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	883	8	1078	4	7	3
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	235	2	287	1	2	1
Total Analysis Volume [veh/h]	21	940	9	1148	4	7	3
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Overlap
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							1,3
Maximum Green [s]	30	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	18.0	33.0	21.0	36.0	0.0	26.0	18.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	No
Maximum Recall	No	No	No	No		No	No
Pedestrian Recall	No	No	No	No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	1.9	66.0	0.9	65.1	65.1	1.0	6.9
g / C, Green / Cycle	0.02	0.83	0.01	0.81	0.81	0.01	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.26	0.00	0.30	0.30	0.00	0.00
s, saturation flow rate [veh/h]	1810	3618	1810	1900	1898	1810	1615
c, Capacity [veh/h]	43	2982	22	1544	1542	24	141
d1, Uniform Delay [s]	38.56	1.67	39.23	2.02	2.02	39.08	33.38
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.20	0.28	11.83	0.69	0.69	6.29	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.32	0.41	0.37	0.37	0.29	0.02
d, Delay for Lane Group [s/veh]	46.76	1.94	51.06	2.71	2.71	45.37	33.44
Lane Group LOS	D	A	D	A	A	D	C
Critical Lane Group	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.48	0.32	0.24	0.78	0.78	0.18	0.05
50th-Percentile Queue Length [ft/ln]	12.09	7.90	5.96	19.44	19.43	4.41	1.37
95th-Percentile Queue Length [veh/ln]	0.87	0.57	0.43	1.40	1.40	0.32	0.10
95th-Percentile Queue Length [ft/ln]	21.77	14.23	10.73	34.99	34.97	7.94	2.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.76	1.94	51.06	2.71	2.71	45.37	33.44
Movement LOS	D	A	D	A	A	D	C
d_A, Approach Delay [s/veh]	2.92		3.08			41.79	
Approach LOS	A		A			D	
d_I, Intersection Delay [s/veh]	3.19						
Intersection LOS	A						
Intersection V/C	0.364						

Emissions

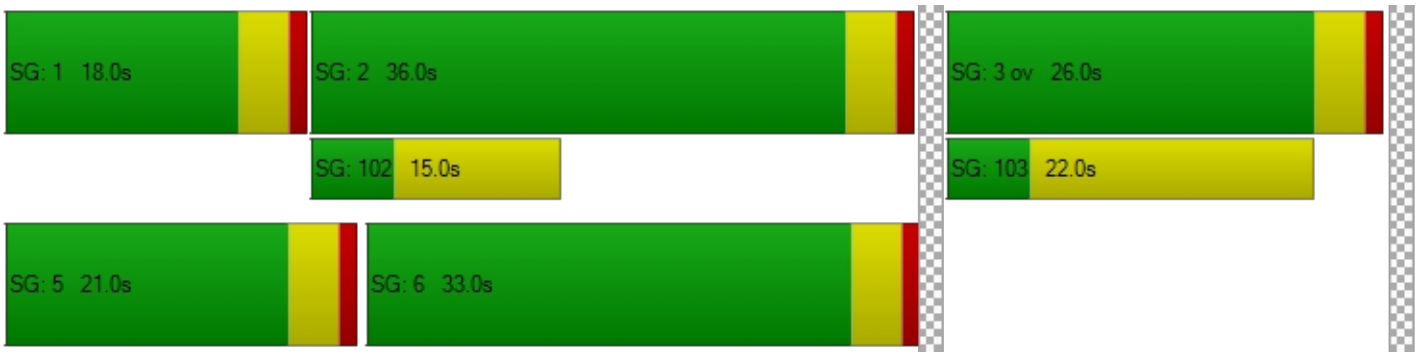
Vehicle Miles Traveled [mph]	16.26	727.78	3.71	237.87	237.59	0.61	0.26
Stops [stops/h]	21.77	28.46	10.73	34.99	34.97	7.94	2.46
Fuel consumption [US gal/h]	1.03	25.67	0.35	8.91	8.90	0.13	0.04
CO [g/h]	71.84	1794.48	24.76	622.55	621.84	9.34	3.13
NOx [g/h]	13.98	349.14	4.82	121.13	120.99	1.82	0.61
VOC [g/h]	16.65	415.89	5.74	144.28	144.12	2.16	0.73

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	2.963	0.000	1.947
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	725	800	550
d_b, Bicycle Delay [s]	16.26	14.40	21.03
l_b,int, Bicycle LOS Score for Intersection	2.352	2.517	1.560
Bicycle LOS	B	B	A

Sequence

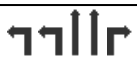
Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Magnolia Ave/Mission Gorge Rd

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Mission Gorge Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	245.00	100.00	100.00	220.00	100.00	135.00	175.00	100.00	610.00	135.00	100.00	130.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Mission Gorge Road		
Base Volume Input [veh/h]	173	664	332	203	758	146	117	244	130	325	596	193
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	173	664	332	203	758	146	117	244	130	325	596	193
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	171	86	52	195	38	30	63	34	84	154	50
Total Analysis Volume [veh/h]	178	685	342	209	781	151	121	252	134	335	614	199
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Maximum Green [s]	30	30	30	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	24.0	24.0	0.0	24.0	0.0	0.0	24.0	24.0	0.0	24.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	14.0	14.0	20.0	24.0	0.0	9.0	14.0	14.0	12.0	17.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5.4	20.3	32.3	5.7	20.6	20.6	4.3	10.0	19.4	8.0	13.6	13.6
g / C, Green / Cycle	0.09	0.34	0.54	0.09	0.34	0.34	0.07	0.17	0.32	0.13	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.19	0.21	0.06	0.22	0.09	0.03	0.07	0.08	0.10	0.17	0.12
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	3514	3618	1615	3514	3618	1615
c, Capacity [veh/h]	317	1221	868	337	1242	554	254	602	522	469	822	367
d1, Uniform Delay [s]	26.15	16.24	8.14	26.07	16.50	14.27	26.73	22.41	14.98	24.91	21.57	20.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.20	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.55	1.86	1.34	1.86	2.42	1.21	1.38	0.46	0.48	2.05	1.38	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.56	0.39	0.62	0.63	0.27	0.48	0.42	0.26	0.71	0.75	0.54
d, Delay for Lane Group [s/veh]	27.70	18.10	9.48	27.93	18.92	15.49	28.11	22.87	15.46	26.96	22.95	21.67
Lane Group LOS	C	B	A	C	B	B	C	C	B	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.18	3.56	2.21	1.37	4.09	1.42	0.81	1.47	1.23	2.15	3.60	2.24
50th-Percentile Queue Length [ft/ln]	29.42	89.08	55.29	34.17	102.33	35.39	20.21	36.71	30.75	53.69	90.01	56.01
95th-Percentile Queue Length [veh/ln]	2.12	6.41	3.98	2.46	7.37	2.55	1.45	2.64	2.21	3.87	6.48	4.03
95th-Percentile Queue Length [ft/ln]	52.96	160.35	99.52	61.51	184.19	63.71	36.37	66.08	55.35	96.65	162.01	100.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.70	18.10	9.48	27.93	18.92	15.49	28.11	22.87	15.46	26.96	22.95	21.67
Movement LOS	C	B	A	C	B	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	17.07			20.12			22.16			23.90		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	20.54											
Intersection LOS	C											
Intersection V/C	0.642											

Emissions

Vehicle Miles Traveled [mph]	18.20	70.03	34.96	161.81	604.67	116.91	18.27	38.06	20.24	33.61	61.60	19.97
Stops [stops/h]	141.23	427.59	132.69	164.03	491.16	84.95	97.00	176.21	73.81	257.72	432.03	134.43
Fuel consumption [US gal/h]	3.04	9.23	3.22	8.77	29.84	5.54	2.30	4.27	1.87	6.19	10.35	3.23
CO [g/h]	212.67	645.34	224.77	613.30	2085.93	387.21	160.74	298.28	130.82	432.98	723.53	226.03
NOx [g/h]	41.38	125.56	43.73	119.33	405.85	75.34	31.27	58.03	25.45	84.24	140.77	43.98
VOC [g/h]	49.29	149.56	52.09	142.14	483.43	89.74	37.25	69.13	30.32	100.35	167.68	52.38

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	667	333	433
d_b, Bicycle Delay [s]	20.83	13.33	20.83	18.41
l_b,int, Bicycle LOS Score for Intersection	2.554	2.501	1.978	2.507
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Park Center Dr/Riverwalk Dr

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Park Center Drive			Park Center Drive			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			10.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Park Center Drive			Park Center Drive			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	7	10	0	13	14	121	101	10	12	0	3	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	10	0	13	14	121	101	10	12	0	3	3
Peak Hour Factor	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	0	5	5	45	38	4	4	0	1	1
Total Analysis Volume [veh/h]	10	15	0	19	21	181	151	15	18	0	4	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	771	919	794	829
Degree of Utilization, x	0.03	0.24	0.23	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.94	0.90	0.03
95th-Percentile Queue Length [ft]	2.51	23.50	22.38	0.73
Approach Delay [s/veh]	7.83	8.16	8.90	7.38
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.44			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Park Center Dr/Park Dwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Park Center Drive	Park Driveway
Approach	Southbound	Eastbound
Lane Configuration		
Turning Movement	Right	Left
Lane Width [ft]	12.00	12.00
No. of Lanes in Entry Pocket	0	0
Entry Pocket Length [ft]	100.00	100.00
No. of Lanes in Exit Pocket	0	0
Exit Pocket Length [ft]	0.00	0.00
Speed [mph]	30.00	30.00
Grade [%]	0.00	0.00
Crosswalk	Yes	Yes

Volumes

Name	Park Center Drive	Park Driveway
Base Volume Input [veh/h]	26	17
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	26	17
Peak Hour Factor	0.6680	0.6680
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	6
Total Analysis Volume [veh/h]	39	25
Pedestrian Volume [ped/h]	0	0

Intersection Settings

Priority Scheme	Free	Free
Flared Lane		
Storage Area [veh]	0	0
Two-Stage Gap Acceptance		
Number of Storage Spaces in Median	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00
Movement LOS	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00
d_A, Approach Delay [s/veh]	0.00	0.00
Approach LOS	A	A
d_I, Intersection Delay [s/veh]	0.00	
Intersection LOS	A	

Intersection Level Of Service Report
Intersection 9: Cottonwood Ave/Park Center Dr

Control Type:	Two-way stop	Delay (sec / veh):	7.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Cottonwood Avenue		Cottonwood Avenue		Park Center Drive	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Cottonwood Avenue		Cottonwood Avenue		Park Center Drive	
Base Volume Input [veh/h]	0	5	5	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	5	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	0	0
Total Analysis Volume [veh/h]	0	5	5	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.57	8.31
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.23	0.23	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.22		8.44	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.61					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Cottonwood/River Bluff Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Cottonwood Avenue		Cottonwood Avenue		River Bluff Drive	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Cottonwood Avenue		Cottonwood Avenue		River Bluff Drive	
Base Volume Input [veh/h]	0	0	0	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	0	0	0	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

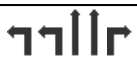
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.20	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.35	0.35
d_A, Approach Delay [s/veh]	0.00		3.60		8.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.32					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Cuyamaca St/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	170.00	100.00	120.00	115.00	100.00	100.00	80.00	100.00	70.00	195.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	253	207	403	13	165	112	178	582	267	286	280	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	207	403	13	165	112	178	582	267	286	280	12
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	55	107	3	44	30	47	155	71	76	74	3
Total Analysis Volume [veh/h]	269	220	428	14	175	119	189	618	284	304	298	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Maximum Green [s]	30	30	30	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	21.0	0.0	21.0	0.0	0.0	24.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12.0	32.0	32.0	10.0	30.0	0.0	22.0	33.0	0.0	15.0	26.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.2	42.4	57.4	1.5	34.7	34.7	11.3	19.1	19.1	11.0	18.8	18.8
g / C, Green / Cycle	0.10	0.47	0.64	0.02	0.39	0.39	0.13	0.21	0.21	0.12	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.27	0.01	0.08	0.09	0.10	0.17	0.18	0.09	0.08	0.08
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1654	1810	3618	1615	3514	1900	1872
c, Capacity [veh/h]	358	1701	1029	31	733	638	228	769	343	430	397	391
d1, Uniform Delay [s]	39.32	13.45	8.07	43.80	18.46	18.57	38.38	33.65	33.86	37.96	30.71	30.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.12	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.21	0.16	1.24	9.84	0.64	0.80	7.51	2.02	5.46	2.16	0.64	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.13	0.42	0.45	0.21	0.22	0.83	0.80	0.83	0.71	0.39	0.40
d, Delay for Lane Group [s/veh]	42.53	13.60	9.31	53.64	19.11	19.37	45.88	35.68	39.32	40.11	31.34	31.36
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.98	1.22	3.82	0.39	2.16	2.04	4.38	6.31	6.16	3.22	2.87	2.84
50th-Percentile Queue Length [ft/ln]	74.41	30.55	95.48	9.70	54.08	50.89	109.60	157.78	153.91	80.62	71.86	70.99
95th-Percentile Queue Length [veh/ln]	5.36	2.20	6.87	0.70	3.89	3.66	7.82	10.43	10.23	5.80	5.17	5.11
95th-Percentile Queue Length [ft/ln]	133.94	54.99	171.87	17.46	97.34	91.59	195.44	260.78	255.65	145.12	129.35	127.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.53	13.60	9.31	53.64	19.14	19.37	45.88	35.68	39.32	40.11	31.35	31.36
Movement LOS	D	B	A	D	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	20.09			20.80			38.39			35.68		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.25											
Intersection LOS	C											
Intersection V/C	0.604											

Emissions

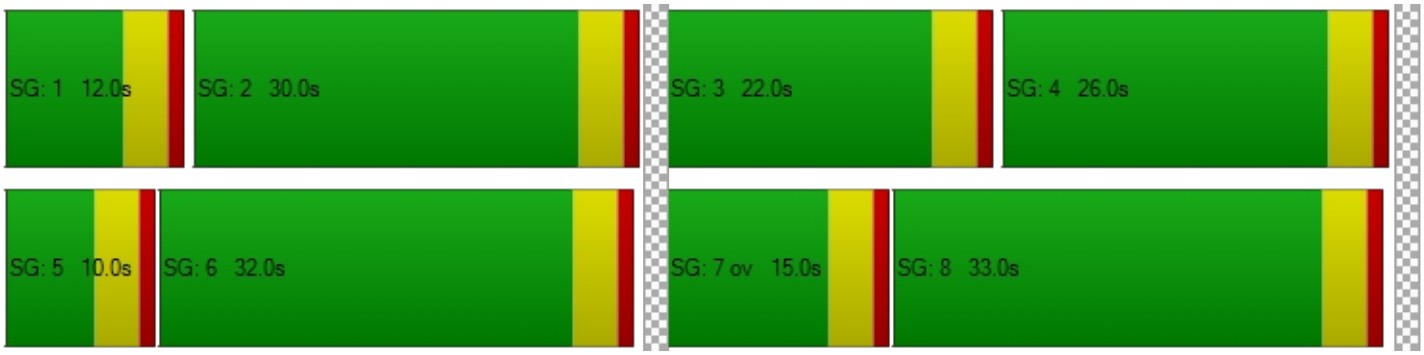
Vehicle Miles Traveled [mph]	15.05	12.31	23.95	0.81	8.87	8.22	10.46	34.20	15.72	18.79	9.67	9.55
Stops [stops/h]	238.11	97.76	152.77	15.52	86.52	81.42	175.36	504.89	246.26	257.98	114.98	113.59
Fuel consumption [US gal/h]	4.69	1.81	2.87	0.30	1.58	1.48	3.86	10.67	5.25	5.69	2.47	2.44
CO [g/h]	328.00	126.76	200.81	21.01	110.61	103.67	269.95	745.94	367.28	397.66	172.95	170.83
NOx [g/h]	63.82	24.66	39.07	4.09	21.52	20.17	52.52	145.13	71.46	77.37	33.65	33.24
VOC [g/h]	76.02	29.38	46.54	4.87	25.63	24.03	62.56	172.88	85.12	92.16	40.08	39.59

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	578	644	489
d_b, Bicycle Delay [s]	21.36	22.76	20.67	25.69
l_b,int, Bicycle LOS Score for Intersection	2.316	1.814	2.460	2.067
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Cuyamaca St/Riverwalk Dr

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	95.00	95.00	100.00	100.00	25.00	100.00	100.00	60.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			10.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	37	790	121	86	670	2	7	1	16	100	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	790	121	86	670	2	7	1	16	100	0	48
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	202	31	22	172	1	2	0	4	26	0	12
Total Analysis Volume [veh/h]	38	809	124	88	686	2	7	1	16	102	0	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	21.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	9.0	14.0	0.0	28.0	33.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2.6	36.2	36.2	4.6	38.2	38.2	3.8	3.8	9.5	9.5
g / C, Green / Cycle	0.04	0.52	0.52	0.07	0.55	0.55	0.05	0.05	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.08	0.05	0.19	0.00	0.00	0.01	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1629	1810	1615
c, Capacity [veh/h]	68	1867	833	120	1970	879	98	88	245	219
d1, Uniform Delay [s]	33.11	10.56	8.88	32.09	8.96	7.27	31.45	31.65	27.73	26.99
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	0.74	0.38	8.45	0.49	0.00	0.31	1.06	1.13	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.43	0.15	0.74	0.35	0.00	0.07	0.19	0.42	0.22
d, Delay for Lane Group [s/veh]	40.11	11.29	9.26	40.54	9.45	7.27	31.75	32.71	28.86	27.50
Lane Group LOS	D	B	A	D	A	A	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.74	3.46	0.93	1.67	2.56	0.01	0.12	0.31	1.61	0.75
50th-Percentile Queue Length [ft/ln]	18.45	86.51	23.26	41.86	64.02	0.32	3.09	7.70	40.17	18.66
95th-Percentile Queue Length [veh/ln]	1.33	6.23	1.67	3.01	4.61	0.02	0.22	0.55	2.89	1.34
95th-Percentile Queue Length [ft/ln]	33.21	155.72	41.86	75.34	115.24	0.57	5.57	13.85	72.31	33.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.11	11.29	9.26	40.54	9.45	7.27	31.75	32.71	32.71	28.86	27.50	27.50
Movement LOS	D	B	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.16			12.97			32.43			28.42		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.02											
Intersection LOS	B											
Intersection V/C	0.409											

Emissions

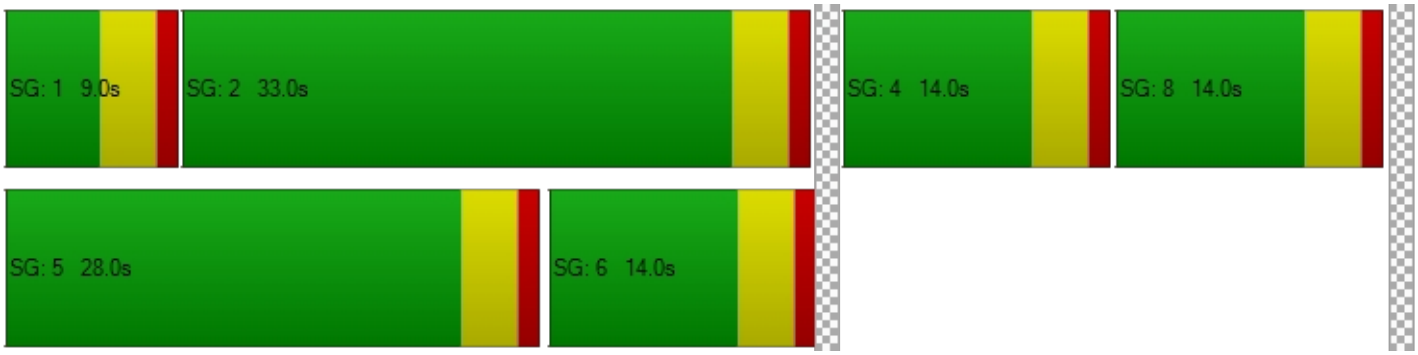
Vehicle Miles Traveled [mph]	3.37	71.82	11.01	13.74	107.13	0.31	0.12	0.29	47.04	22.60
Stops [stops/h]	37.95	355.94	47.84	86.11	263.41	0.65	6.36	15.83	82.64	38.39
Fuel consumption [US gal/h]	0.72	7.27	1.01	1.90	7.38	0.02	0.06	0.14	3.03	1.44
CO [g/h]	50.62	508.46	70.81	132.63	516.11	1.38	3.94	9.83	211.89	100.49
NOx [g/h]	9.85	98.93	13.78	25.80	100.42	0.27	0.77	1.91	41.23	19.55
VOC [g/h]	11.73	117.84	16.41	30.74	119.61	0.32	0.91	2.28	49.11	23.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	286	829	286	286
d_b, Bicycle Delay [s]	25.71	12.01	25.71	25.71
l_b,int, Bicycle LOS Score for Intersection	2.361	2.200	1.599	1.809
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Park Center Dr/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	7.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	105.00	90.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Base Volume Input [veh/h]	21	86	889	22	105	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	86	889	22	105	566
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	23	234	6	28	149
Total Analysis Volume [veh/h]	22	91	937	23	111	596
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Flashing Yellow Arrow						
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Walk [s]	5.0	0.0	5.0	0.0	0.0	5.0
Pedestrian Clearance [s]	17.0	0.0	10.0	0.0	0.0	10.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	0.0	19.0	0.0	15.0	34.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4.7	4.7	38.4	38.4	4.9	47.3
g / C, Green / Cycle	0.08	0.08	0.64	0.64	0.08	0.79
(v / s)_i Volume / Saturation Flow Rate	0.01	0.06	0.26	0.01	0.06	0.16
s, saturation flow rate [veh/h]	1810	1615	3618	1615	1810	3618
c, Capacity [veh/h]	144	128	2310	1031	148	2848
d1, Uniform Delay [s]	25.73	26.94	5.29	3.98	26.93	1.63
k, delay calibration	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	6.99	0.53	0.04	7.30	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.71	0.41	0.02	0.75	0.21
d, Delay for Lane Group [s/veh]	26.22	33.93	5.82	4.02	34.24	1.79
Lane Group LOS	C	C	A	A	C	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.30	1.45	1.86	0.07	1.72	0.14
50th-Percentile Queue Length [ft/ln]	7.43	36.30	46.45	1.84	42.90	3.40
95th-Percentile Queue Length [veh/ln]	0.54	2.61	3.34	0.13	3.09	0.24
95th-Percentile Queue Length [ft/ln]	13.38	65.35	83.61	3.32	77.23	6.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.22	33.93	5.82	4.02	34.24	1.79
Movement LOS	C	C	A	A	C	A
d_A, Approach Delay [s/veh]	32.43		5.78		6.89	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.91					
Intersection LOS	A					
Intersection V/C	0.452					

Emissions

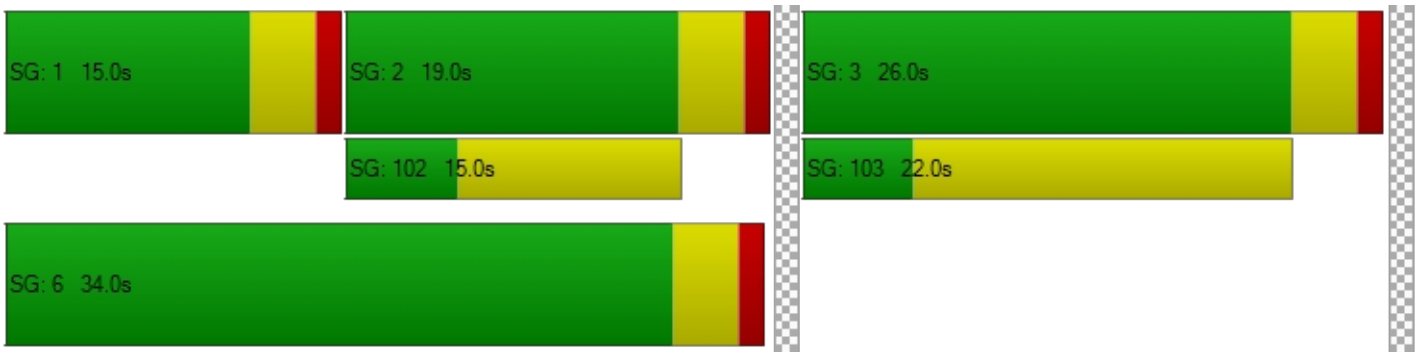
Vehicle Miles Traveled [mph]	2.07	8.55	365.46	8.97	27.38	147.00
Stops [stops/h]	17.83	87.13	222.95	4.42	102.97	16.31
Fuel consumption [US gal/h]	0.30	1.46	16.39	0.38	2.77	5.64
CO [g/h]	21.04	102.19	1145.76	26.81	193.32	394.49
NOx [g/h]	4.09	19.88	222.92	5.22	37.61	76.75
VOC [g/h]	4.88	23.68	265.54	6.21	44.80	91.43

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	0.00	21.68
l_p,int, Pedestrian LOS Score for Intersectio	2.001	0.000	2.732
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	500	1000
d_b, Bicycle Delay [s]	12.03	16.88	7.50
l_b,int, Bicycle LOS Score for Intersection	1.560	2.352	2.143
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Magnolia Ave/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.631

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	120.00	165.00	100.00	160.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	299	473	134	58	347	266	360	223	253	63	106	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	299	473	134	58	347	266	360	223	253	63	106	28
Peak Hour Factor	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	124	35	15	91	70	94	58	66	17	28	7
Total Analysis Volume [veh/h]	313	496	140	61	364	279	377	234	265	66	111	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	24.0	0.0	0.0	21.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	15.0	0.0	9.0	14.0	0.0	21.0	14.0	0.0	22.0	15.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7.7	22.9	22.9	3.2	18.4	18.4	8.9	14.5	14.5	3.4	9.0	9.0
g / C, Green / Cycle	0.13	0.38	0.38	0.05	0.31	0.31	0.15	0.24	0.24	0.06	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.17	0.03	0.10	0.17	0.11	0.06	0.16	0.04	0.03	0.02
s, saturation flow rate [veh/h]	3514	1900	1758	1810	3618	1615	3514	3618	1615	1810	3618	1615
c, Capacity [veh/h]	448	723	669	97	1110	495	522	874	390	104	545	243
d1, Uniform Delay [s]	25.08	13.93	13.93	27.82	16.03	17.43	24.37	18.45	20.64	27.66	22.32	22.03
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.99	2.07	2.24	6.62	0.79	4.58	1.92	0.16	2.08	6.25	0.18	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.46	0.46	0.63	0.33	0.56	0.72	0.27	0.68	0.63	0.20	0.12
d, Delay for Lane Group [s/veh]	27.06	16.00	16.17	34.44	16.82	22.01	26.29	18.61	22.72	33.90	22.50	22.25
Lane Group LOS	C	B	B	C	B	C	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.01	3.11	2.91	0.96	1.78	3.40	2.43	1.18	3.17	1.04	0.65	0.34
50th-Percentile Queue Length [ft/ln]	50.23	77.87	72.82	24.08	44.60	85.00	60.80	29.55	79.27	26.11	16.16	8.52
95th-Percentile Queue Length [veh/ln]	3.62	5.61	5.24	1.73	3.21	6.12	4.38	2.13	5.71	1.88	1.16	0.61
95th-Percentile Queue Length [ft/ln]	90.41	140.17	131.08	43.34	80.27	153.01	109.43	53.19	142.69	47.00	29.08	15.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.06	16.05	16.17	34.44	16.82	22.01	26.29	18.61	22.72	33.90	22.50	22.25
Movement LOS	C	B	B	C	B	C	C	B	C	C	C	C
d_A, Approach Delay [s/veh]	19.70			20.40			23.16			26.12		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	21.47											
Intersection LOS	C											
Intersection V/C	0.631											

Emissions

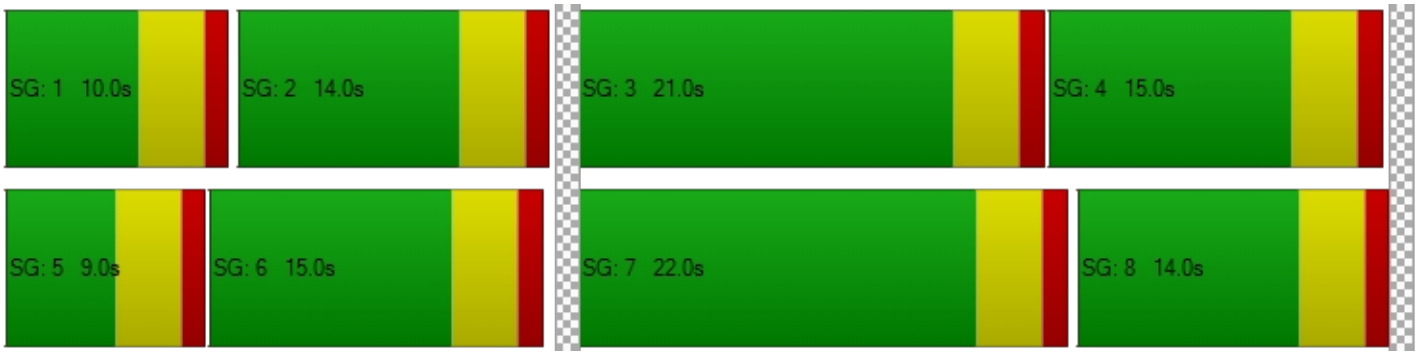
Vehicle Miles Traveled [mph]	129.18	136.34	126.15	3.09	18.43	14.13	92.99	57.72	65.36	5.73	9.64	2.52
Stops [stops/h]	241.10	186.89	174.78	57.78	214.06	204.01	291.82	141.84	190.25	62.67	77.55	20.45
Fuel consumption [US gal/h]	9.15	8.07	7.50	1.11	4.01	3.76	8.21	4.35	5.44	1.15	1.46	0.38
CO [g/h]	639.56	564.29	524.45	77.29	280.24	262.80	574.18	303.85	379.93	80.05	101.98	26.64
NOx [g/h]	124.44	109.79	102.04	15.04	54.52	51.13	111.71	59.12	73.92	15.57	19.84	5.18
VOC [g/h]	148.22	130.78	121.55	17.91	64.95	60.91	133.07	70.42	88.05	18.55	23.63	6.17

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	333	333	367
d_b, Bicycle Delay [s]	20.01	20.83	20.83	20.01
l_b,int, Bicycle LOS Score for Intersection	2.343	2.140	2.282	1.730
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	2.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	120.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	11	1029	1	733	3	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	1029	1	733	3	3	12
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	267	0	190	1	1	3
Total Analysis Volume [veh/h]	11	1069	1	761	3	3	12
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Overlap
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							1,3
Maximum Green [s]	30	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	22.0	35.0	19.0	32.0	0.0	26.0	22.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	No
Maximum Recall	No	No	No	No		No	No
Pedestrian Recall	No	No	No	No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	1.1	66.4	0.1	65.4	65.4	1.5	6.6
g / C, Green / Cycle	0.01	0.83	0.00	0.82	0.82	0.02	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.00	0.20	0.20	0.00	0.01
s, saturation flow rate [veh/h]	1810	3618	1810	1900	1897	1810	1615
c, Capacity [veh/h]	26	3000	4	1552	1550	34	134
d1, Uniform Delay [s]	39.10	1.66	39.85	1.68	1.68	38.58	33.88
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.52	0.33	33.20	0.38	0.38	1.11	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.36	0.26	0.25	0.25	0.09	0.09
d, Delay for Lane Group [s/veh]	49.62	1.99	73.06	2.06	2.06	39.69	34.16
Lane Group LOS	D	A	E	A	A	D	C
Critical Lane Group	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.28	0.30	0.05	0.39	0.39	0.07	0.22
50th-Percentile Queue Length [ft/ln]	6.98	7.47	1.34	9.86	9.86	1.68	5.56
95th-Percentile Queue Length [veh/ln]	0.50	0.54	0.10	0.71	0.71	0.12	0.40
95th-Percentile Queue Length [ft/ln]	12.56	13.45	2.42	17.76	17.74	3.03	10.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.62	1.99	73.06	2.06	2.06	39.69	34.16
Movement LOS	D	A	E	A	A	D	C
d_A, Approach Delay [s/veh]	2.47		2.15			35.27	
Approach LOS	A		A			D	
d_I, Intersection Delay [s/veh]	2.61						
Intersection LOS	A						
Intersection V/C	0.347						

Emissions

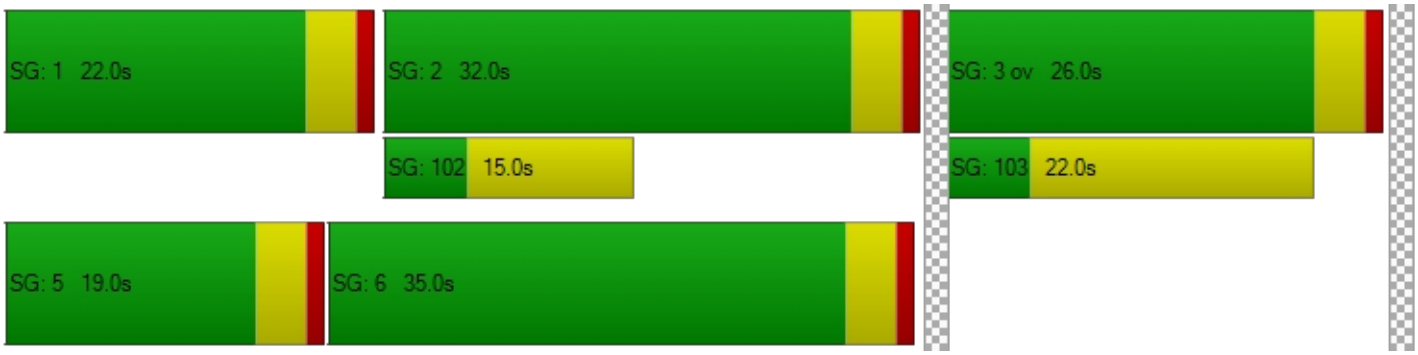
Vehicle Miles Traveled [mph]	8.52	827.65	0.41	157.76	157.56	0.26	1.04
Stops [stops/h]	12.56	26.90	2.42	17.76	17.74	3.03	10.00
Fuel consumption [US gal/h]	0.56	29.14	0.06	5.79	5.78	0.05	0.18
CO [g/h]	39.08	2036.68	4.13	404.62	404.10	3.62	12.70
NOx [g/h]	7.60	396.26	0.80	78.72	78.62	0.70	2.47
VOC [g/h]	9.06	472.02	0.96	93.77	93.65	0.84	2.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	2.838	0.000	1.945
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	775	700	550
d_b, Bicycle Delay [s]	15.01	16.90	21.03
l_b,int, Bicycle LOS Score for Intersection	2.451	2.191	1.560
Bicycle LOS	B	B	A

Sequence

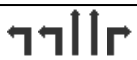
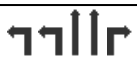
Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Magnolia Ave/Mission Gorge Rd-Woodside Ave

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Woodside Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	245.00	100.00	100.00	220.00	100.00	135.00	175.00	100.00	610.00	135.00	100.00	130.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Woodside Avenue		
Base Volume Input [veh/h]	228	788	398	158	628	130	230	649	327	373	576	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	788	398	158	628	130	230	649	327	373	576	122
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	208	105	42	166	34	61	172	86	99	152	32
Total Analysis Volume [veh/h]	241	833	421	167	664	137	243	686	346	394	609	129
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Maximum Green [s]	30	30	30	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	24.0	24.0	0.0	24.0	0.0	0.0	24.0	24.0	0.0	24.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	14.0	14.0	17.0	21.0	0.0	11.0	17.0	17.0	12.0	18.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6.0	18.2	30.2	4.8	17.0	17.0	6.0	13.0	23.0	8.0	15.0	15.0
g / C, Green / Cycle	0.10	0.30	0.50	0.08	0.28	0.28	0.10	0.22	0.38	0.13	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.26	0.05	0.18	0.08	0.07	0.19	0.21	0.11	0.17	0.08
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	3514	3618	1615	3514	3618	1615
c, Capacity [veh/h]	351	1096	812	282	1025	458	351	784	619	469	905	404
d1, Uniform Delay [s]	26.09	18.93	10.02	26.64	18.87	16.84	26.12	22.72	14.52	25.38	20.28	18.33
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	4.97	2.36	1.97	3.17	1.67	2.46	3.29	3.62	4.15	0.88	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.76	0.52	0.59	0.65	0.30	0.69	0.88	0.56	0.84	0.67	0.32
d, Delay for Lane Group [s/veh]	28.46	23.90	12.38	28.61	22.04	18.51	28.57	26.01	18.14	29.53	21.16	18.78
Lane Group LOS	C	C	B	C	C	B	C	C	B	C	C	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.62	5.23	3.34	1.11	3.86	1.47	1.64	4.47	3.68	2.68	3.38	1.30
50th-Percentile Queue Length [ft/ln]	40.62	130.66	83.45	27.75	96.45	36.67	41.06	111.78	91.95	67.09	84.51	32.57
95th-Percentile Queue Length [veh/ln]	2.92	8.98	6.01	2.00	6.94	2.64	2.96	7.94	6.62	4.83	6.08	2.34
95th-Percentile Queue Length [ft/ln]	73.11	224.39	150.21	49.96	173.62	66.01	73.91	198.48	165.52	120.77	152.11	58.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.46	23.90	12.38	28.61	22.04	18.51	28.57	26.01	18.14	29.53	21.16	18.78
Movement LOS	C	C	B	C	C	B	C	C	B	C	C	B
d_A, Approach Delay [s/veh]	21.39			22.67			24.36			23.80		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	22.98											
Intersection LOS	C											
Intersection V/C	0.790											

Emissions

Vehicle Miles Traveled [mph]	24.64	85.16	43.04	129.30	514.09	106.07	36.70	103.60	52.25	39.53	61.10	12.94
Stops [stops/h]	194.96	627.18	200.28	133.22	462.98	88.02	197.10	536.56	220.69	322.05	405.63	78.16
Fuel consumption [US gal/h]	4.19	13.26	4.57	7.06	26.36	5.25	4.66	12.61	5.32	7.73	9.76	1.91
CO [g/h]	293.14	927.14	319.44	493.54	1842.32	366.71	326.00	881.63	371.65	540.08	682.25	133.41
NOx [g/h]	57.03	180.39	62.15	96.03	358.45	71.35	63.43	171.53	72.31	105.08	132.74	25.96
VOC [g/h]	67.94	214.87	74.03	114.38	426.97	84.99	75.55	204.33	86.13	125.17	158.12	30.92

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	567	433	467
d_b, Bicycle Delay [s]	20.83	15.41	18.41	17.63
l_b,int, Bicycle LOS Score for Intersection	2.793	2.358	2.611	2.494
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 7: Park Center Dr/Riverwalk Dr - H & H Svc Driveway

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.196

Intersection Setup

Name	Park Center Drive			Park Center Drive			Riverwalk			He &		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			10.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Park Center Drive			Park Center Drive			Riverwalk			He &		
Base Volume Input [veh/h]	8	12	0	4	30	80	108	4	23	1	7	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	12	0	4	30	80	108	4	23	1	7	13
Peak Hour Factor	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	0	1	9	24	32	1	7	0	2	4
Total Analysis Volume [veh/h]	10	14	0	5	36	96	130	5	28	1	8	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	791	913	832	890
Degree of Utilization, x	0.03	0.15	0.20	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.09	0.53	0.72	0.09
95th-Percentile Queue Length [ft]	2.35	13.17	18.12	2.17
Approach Delay [s/veh]	7.69	7.64	8.38	7.16
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.95			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Park Center Dr/Park Dwy

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Park Center Drive	Park Driveway
Approach	Southbound	Eastbound
Lane Configuration		
Turning Movement	Right	Left
Lane Width [ft]	12.00	12.00
No. of Lanes in Entry Pocket	0	0
Entry Pocket Length [ft]	100.00	100.00
No. of Lanes in Exit Pocket	0	0
Exit Pocket Length [ft]	0.00	0.00
Speed [mph]	30.00	30.00
Grade [%]	0.00	0.00
Crosswalk	Yes	Yes

Volumes

Name	Park Center Drive	Park Driveway
Base Volume Input [veh/h]	53	20
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	53	20
Peak Hour Factor	0.8330	0.8330
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	6
Total Analysis Volume [veh/h]	64	24
Pedestrian Volume [ped/h]	0	0

Intersection Settings

Priority Scheme	Free	Free
Flared Lane		
Storage Area [veh]	0	0
Two-Stage Gap Acceptance		
Number of Storage Spaces in Median	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00
Movement LOS	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00
d_A, Approach Delay [s/veh]	0.00	0.00
Approach LOS	A	A
d_I, Intersection Delay [s/veh]	0.00	
Intersection LOS	A	

Intersection Level Of Service Report
Intersection 9: Cottonwood Ave/Park Center Dr

Control Type:	Two-way stop	Delay (sec / veh):	7.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Cottonwood Avenue		Cottonwood Avenue		Park Center Drive	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Cottonwood Avenue		Cottonwood Avenue		Park Center Drive	
Base Volume Input [veh/h]	0	8	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	8	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	0	0	0
Total Analysis Volume [veh/h]	0	8	8	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.61	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.37	0.37	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.61					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Cottonwood/River Bluff Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Cottonwood Avenue		Cottonwood Avenue		River Bluff Drive	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Cottonwood Avenue		Cottonwood Avenue		River Bluff Drive	
Base Volume Input [veh/h]	0	0	0	0	0	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	2
Total Analysis Volume [veh/h]	0	0	0	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

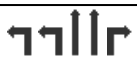
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.20	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.55	0.55
d_A, Approach Delay [s/veh]	0.00		3.60		8.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.32					
Intersection LOS	A					

EXISTING PLUS PROJECT TRAFFIC CONDITIONS (EP)

Intersection Level Of Service Report
Intersection 1: Cuyamaca St/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	170.00	100.00	120.00	115.00	100.00	100.00	80.00	100.00	70.00	195.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	232	102	210	6	231	320	78	334	215	278	658	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	2	0	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	102	210	6	231	320	78	336	215	278	666	3
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	28	59	2	65	89	22	94	60	78	186	1
Total Analysis Volume [veh/h]	259	114	235	7	258	358	87	375	240	311	744	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Maximum Green [s]	9	26	26	11	28	0	12	29	0	8	25	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	21.0	0.0	21.0	0.0	0.0	24.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	13.0	30.0	30.0	15.0	32.0	0.0	16.0	33.0	0.0	12.0	29.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.0	47.0	59.0	0.8	38.9	38.9	5.6	18.1	18.1	8.0	20.5	20.5
g / C, Green / Cycle	0.10	0.52	0.66	0.01	0.43	0.43	0.06	0.20	0.20	0.09	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.03	0.15	0.00	0.14	0.22	0.05	0.10	0.15	0.09	0.20	0.20
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1615	3514	1900	1897
c, Capacity [veh/h]	350	1888	1058	18	821	698	113	730	326	312	433	432
d1, Uniform Delay [s]	39.38	10.63	6.26	44.29	16.80	18.65	41.53	31.99	33.68	40.98	33.39	33.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.13	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.08	0.06	0.49	13.61	1.00	2.69	10.29	0.56	3.25	22.66	6.30	6.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.06	0.22	0.39	0.31	0.51	0.77	0.51	0.74	1.00	0.86	0.86
d, Delay for Lane Group [s/veh]	42.47	10.69	6.75	57.90	17.80	21.34	51.82	32.55	36.93	63.64	39.69	39.70
Lane Group LOS	D	B	A	E	B	C	D	C	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.86	0.54	1.65	0.22	3.54	5.62	2.16	3.53	4.98	4.30	8.19	8.18
50th-Percentile Queue Length [ft/ln]	71.54	13.39	41.34	5.48	88.45	140.48	54.03	88.36	124.51	107.48	204.64	204.38
95th-Percentile Queue Length [veh/ln]	5.15	0.96	2.98	0.39	6.37	9.51	3.89	6.36	8.64	7.70	12.88	12.86
95th-Percentile Queue Length [ft/ln]	128.77	24.10	74.42	9.87	159.20	237.67	97.25	159.05	216.01	192.50	321.95	321.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.47	10.69	6.75	57.90	17.80	21.34	51.82	32.55	36.93	63.64	39.70	39.70
Movement LOS	D	B	A	E	B	C	D	C	D	E	D	D
d_A, Approach Delay [s/veh]	22.70			20.29			36.44			46.73		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.92											
Intersection LOS	C											
Intersection V/C	0.657											

Emissions

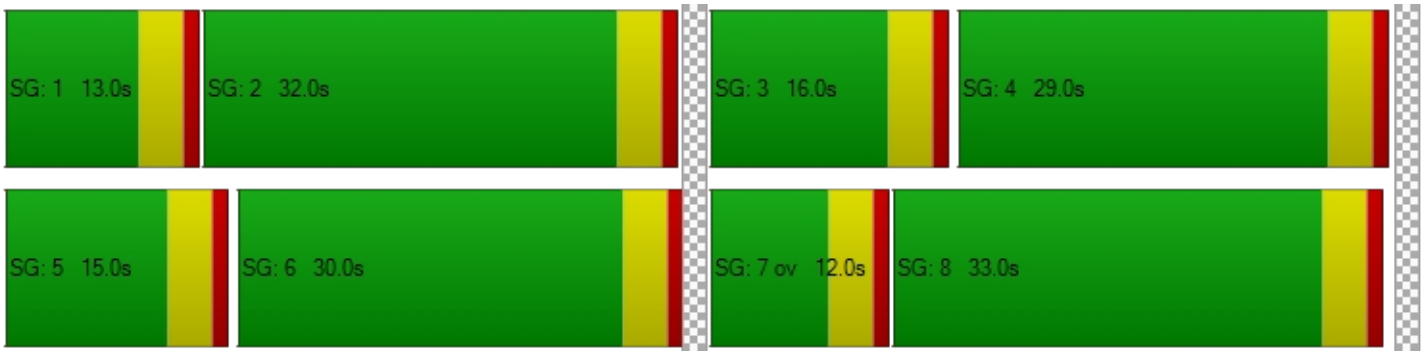
Vehicle Miles Traveled [mph]	14.49	6.38	13.15	0.41	15.00	20.82	4.81	20.75	13.28	19.23	23.11	23.07
Stops [stops/h]	228.93	42.85	66.15	8.77	141.51	224.77	86.44	282.76	199.22	343.95	327.43	327.01
Fuel consumption [US gal/h]	4.51	0.81	1.32	0.16	2.57	4.04	1.94	6.01	4.24	8.09	7.06	7.05
CO [g/h]	315.40	56.85	92.37	11.46	179.71	282.31	135.54	419.77	296.12	565.82	493.71	493.09
NOx [g/h]	61.36	11.06	17.97	2.23	34.96	54.93	26.37	81.67	57.61	110.09	96.06	95.94
VOC [g/h]	73.10	13.18	21.41	2.66	41.65	65.43	31.41	97.28	68.63	131.13	114.42	114.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	622	644	556
d_b, Bicycle Delay [s]	22.76	21.36	20.67	23.47
l_b,int, Bicycle LOS Score for Intersection	2.061	2.074	2.139	2.432
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Cuyamaca St/Riverwalk Dr

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	95.00	95.00	100.00	100.00	25.00	100.00	100.00	60.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			10.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	159	522	95	100	630	4	1	1	4	81	1	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	0	0	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	522	97	100	630	4	1	1	4	89	1	77
Peak Hour Factor	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	168	31	32	203	1	0	0	1	29	0	25
Total Analysis Volume [veh/h]	205	674	125	129	813	5	1	1	5	115	1	99
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	21.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12.0	17.0	0.0	15.0	20.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8.6	27.5	27.5	5.7	24.6	24.6	1.2	1.2	9.7	9.7
g / C, Green / Cycle	0.14	0.46	0.46	0.09	0.41	0.41	0.02	0.02	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.08	0.07	0.22	0.00	0.00	0.00	0.06	0.06
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1656	1810	1617
c, Capacity [veh/h]	258	1649	736	171	1477	659	37	34	293	262
d1, Uniform Delay [s]	24.88	10.92	9.63	26.48	13.55	10.54	28.79	28.88	22.49	22.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.54	0.75	0.50	6.53	1.48	0.02	0.29	2.40	0.85	0.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.41	0.17	0.75	0.55	0.01	0.03	0.18	0.39	0.38
d, Delay for Lane Group [s/veh]	30.42	11.67	10.13	33.01	15.04	10.56	29.07	31.28	23.34	23.36
Lane Group LOS	C	B	B	C	B	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.98	2.63	0.91	1.98	3.84	0.04	0.02	0.11	1.46	1.27
50th-Percentile Queue Length [ft/ln]	74.53	65.71	22.64	49.39	95.91	0.94	0.43	2.73	36.45	31.79
95th-Percentile Queue Length [veh/ln]	5.37	4.73	1.63	3.56	6.91	0.07	0.03	0.20	2.62	2.29
95th-Percentile Queue Length [ft/ln]	134.15	118.29	40.75	88.91	172.63	1.69	0.78	4.92	65.61	57.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.42	11.67	10.13	33.01	15.04	10.56	29.07	31.28	31.28	23.34	23.36	23.36
Movement LOS	C	B	B	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	15.31			17.46			30.96			23.35		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.09											
Intersection LOS	B											
Intersection V/C	0.506											

Emissions

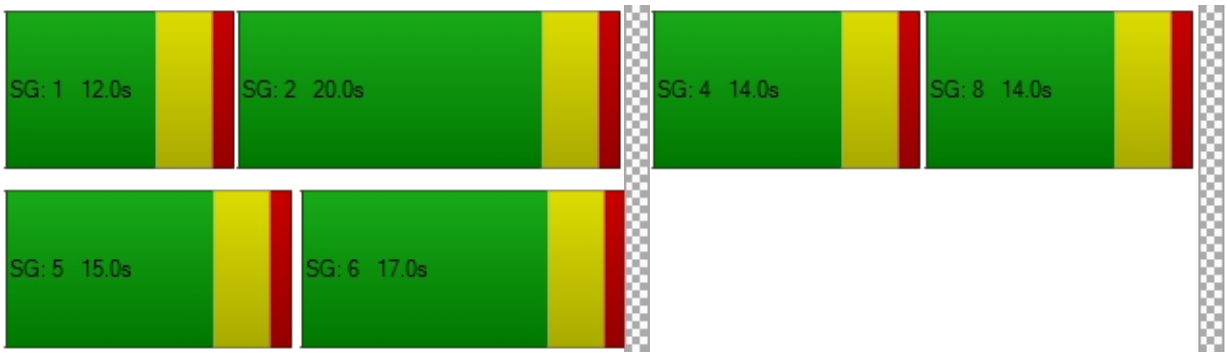
Vehicle Miles Traveled [mph]	18.20	59.83	11.10	20.15	126.97	0.78	0.02	0.10	53.03	46.12
Stops [stops/h]	178.87	315.43	54.34	118.54	460.35	2.26	1.04	6.56	87.48	76.30
Fuel consumption [US gal/h]	3.31	6.25	1.09	2.53	10.79	0.06	0.01	0.05	3.27	2.84
CO [g/h]	231.23	437.12	76.14	176.56	754.21	4.02	0.53	3.39	228.35	198.65
NOx [g/h]	44.99	85.05	14.81	34.35	146.74	0.78	0.10	0.66	44.43	38.65
VOC [g/h]	53.59	101.31	17.65	40.92	174.80	0.93	0.12	0.79	52.92	46.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	533	333	333
d_b, Bicycle Delay [s]	18.41	16.13	20.83	20.83
l_b,int, Bicycle LOS Score for Intersection	2.388	2.341	1.571	1.914
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Park Center Dr/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.401

Intersection Setup

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	105.00	90.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Base Volume Input [veh/h]	18	36	553	36	110	814
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	8	0	2	2	0
Diverted Trips [veh/h]	80	0	0	130	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	44	553	168	112	814
Peak Hour Factor	0.8490	0.8490	0.8490	0.8490	0.8490	0.8490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	13	163	49	33	240
Total Analysis Volume [veh/h]	125	52	651	198	132	959
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Flashing Yellow Arrow						
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Walk [s]	5.0	0.0	5.0	0.0	0.0	5.0
Pedestrian Clearance [s]	17.0	0.0	10.0	0.0	0.0	10.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	0.0	19.0	0.0	15.0	34.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	R	L	C
C, Calculated Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6.0	6.0	36.2	36.2	5.8	46.0
g / C, Green / Cycle	0.10	0.10	0.60	0.60	0.10	0.77
(v / s)_i Volume / Saturation Flow Rate	0.07	0.03	0.18	0.12	0.07	0.27
s, saturation flow rate [veh/h]	1810	1615	3618	1615	1810	3618
c, Capacity [veh/h]	184	164	2177	972	175	2768
d1, Uniform Delay [s]	26.02	25.03	5.80	5.42	26.40	2.25
k, delay calibration	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.39	1.10	0.35	0.47	6.41	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.32	0.30	0.20	0.75	0.35
d, Delay for Lane Group [s/veh]	30.41	26.13	6.15	5.90	32.81	2.59
Lane Group LOS	C	C	A	A	C	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	0.70	1.41	0.87	1.98	0.50
50th-Percentile Queue Length [ft/ln]	46.23	17.51	35.26	21.73	49.51	12.50
95th-Percentile Queue Length [veh/ln]	3.33	1.26	2.54	1.56	3.56	0.90
95th-Percentile Queue Length [ft/ln]	83.21	31.52	63.47	39.11	89.12	22.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.41	26.13	6.15	5.90	32.81	2.59
Movement LOS	C	C	A	A	C	A
d_A, Approach Delay [s/veh]	29.16		6.09		6.25	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	8.10					
Intersection LOS	A					
Intersection V/C	0.401					

Emissions

Vehicle Miles Traveled [mph]	11.75	4.89	253.91	77.23	32.56	236.54
Stops [stops/h]	110.95	42.02	169.26	52.15	118.83	60.00
Fuel consumption [US gal/h]	1.87	0.71	11.57	3.52	3.21	9.57
CO [g/h]	130.74	49.62	808.98	245.78	224.72	668.85
NOx [g/h]	25.44	9.65	157.40	47.82	43.72	130.13
VOC [g/h]	30.30	11.50	187.49	56.96	52.08	155.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	0.00	21.68
l_p,int, Pedestrian LOS Score for Intersectio	2.086	0.000	2.747
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	500	1000
d_b, Bicycle Delay [s]	12.03	16.88	7.50
l_b,int, Bicycle LOS Score for Intersection	1.560	2.260	2.460
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Magnolia Ave/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.772

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	120.00	165.00	100.00	160.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	355	537	46	42	546	372	246	116	241	108	211	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	4	0	0	8	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	355	552	46	42	550	372	246	124	241	108	213	27
Peak Hour Factor	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	152	13	12	152	103	68	34	66	30	59	7
Total Analysis Volume [veh/h]	391	609	51	46	606	410	271	137	266	119	235	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	8	17	0	8	17	0	9	13	0	6	10	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	10.0	0.0	0.0	10.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	14.0	24.0	0.0	15.0	25.0	0.0	16.0	19.0	0.0	12.0	15.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10.0	31.5	31.5	3.0	24.6	24.6	7.5	13.5	13.5	5.9	11.9	11.9
g / C, Green / Cycle	0.14	0.45	0.45	0.04	0.35	0.35	0.11	0.19	0.19	0.08	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.11	0.18	0.18	0.03	0.17	0.25	0.08	0.04	0.16	0.07	0.06	0.02
s, saturation flow rate [veh/h]	3514	1900	1849	1810	3618	1615	3514	3618	1615	1810	3618	1615
c, Capacity [veh/h]	500	854	831	80	1270	567	379	700	313	153	616	275
d1, Uniform Delay [s]	28.97	12.88	12.88	32.82	17.71	19.76	30.18	23.66	27.25	31.40	25.78	24.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.19	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.71	1.35	1.39	6.45	1.29	7.81	2.52	0.14	10.78	8.23	0.39	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.39	0.39	0.58	0.48	0.72	0.71	0.20	0.85	0.78	0.38	0.11
d, Delay for Lane Group [s/veh]	31.68	14.23	14.27	39.27	18.99	27.57	32.70	23.79	38.03	39.62	26.16	24.73
Lane Group LOS	C	B	B	D	B	C	C	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.07	3.21	3.13	0.86	3.60	6.33	2.19	0.89	4.87	2.22	1.67	0.41
50th-Percentile Queue Length [ft/ln]	76.81	80.29	78.36	21.59	90.12	158.23	54.76	22.30	121.67	55.53	41.74	10.28
95th-Percentile Queue Length [veh/ln]	5.53	5.78	5.64	1.55	6.49	10.46	3.94	1.61	8.48	4.00	3.01	0.74
95th-Percentile Queue Length [ft/ln]	138.25	144.52	141.05	38.86	162.21	261.38	98.57	40.14	212.12	99.95	75.13	18.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.68	14.25	14.27	39.27	18.99	27.57	32.70	23.79	38.03	39.62	26.16	24.73
Movement LOS	C	B	B	D	B	C	C	C	D	D	C	C
d_A, Approach Delay [s/veh]	20.74			23.18			32.99			30.22		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.31											
Intersection LOS	C											
Intersection V/C	0.772											

Emissions

Vehicle Miles Traveled [mph]	161.37	138.04	134.35	2.33	30.68	20.76	66.84	33.79	65.61	10.33	20.41	2.61
Stops [stops/h]	316.00	165.17	161.20	44.41	370.77	325.50	225.29	91.74	250.30	114.23	171.73	21.15
Fuel consumption [US gal/h]	11.98	7.75	7.56	0.89	7.08	6.24	6.41	2.77	6.87	2.21	3.32	0.41
CO [g/h]	837.49	542.02	528.10	62.02	495.17	436.26	448.12	193.97	480.05	154.65	232.11	28.61
NOx [g/h]	162.95	105.46	102.75	12.07	96.34	84.88	87.19	37.74	93.40	30.09	45.16	5.57
VOC [g/h]	194.10	125.62	122.39	14.37	114.76	101.11	103.86	44.95	111.26	35.84	53.79	6.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	600	429	314
d_b, Bicycle Delay [s]	17.86	17.15	21.61	24.86
l_b,int, Bicycle LOS Score for Intersection	2.427	2.436	2.116	1.876
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	120.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	20	883	8	1078	4	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	29	0	0	0	4	15	115
Diverted Trips [veh/h]	80	0	0	0	0	0	130
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	883	8	1078	8	22	248
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	235	2	287	2	6	66
Total Analysis Volume [veh/h]	137	940	9	1148	9	23	264
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Overlap
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							1,3
Maximum Green [s]	30	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	19.0	33.0	21.0	35.0	0.0	26.0	19.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	No
Maximum Recall	No	No	No	No		No	No
Pedestrian Recall	No	No	No	No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	12.2	54.5	1.0	43.2	43.2	12.6	28.8
g / C, Green / Cycle	0.15	0.68	0.01	0.54	0.54	0.16	0.36
(v / s)_i Volume / Saturation Flow Rate	0.08	0.26	0.00	0.30	0.30	0.01	0.16
s, saturation flow rate [veh/h]	1810	3618	1810	1900	1895	1810	1615
c, Capacity [veh/h]	277	2460	23	1026	1023	284	581
d1, Uniform Delay [s]	31.06	5.53	39.17	12.17	12.17	28.78	19.59
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.37	0.45	10.08	2.25	2.26	0.12	0.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.38	0.39	0.56	0.56	0.08	0.45
d, Delay for Lane Group [s/veh]	32.43	5.99	49.25	14.42	14.43	28.90	20.14
Lane Group LOS	C	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.37	2.39	0.23	6.19	6.17	0.38	3.67
50th-Percentile Queue Length [ft/ln]	59.17	59.82	5.79	154.68	154.32	9.47	91.71
95th-Percentile Queue Length [veh/ln]	4.26	4.31	0.42	10.27	10.25	0.68	6.60
95th-Percentile Queue Length [ft/ln]	106.51	107.67	10.43	256.66	256.19	17.04	165.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.43	5.99	49.25	14.43	14.43	28.90	20.14
Movement LOS	C	A	D	B	B	C	C
d_A, Approach Delay [s/veh]	9.35		14.69			20.85	
Approach LOS	A		B			C	
d_I, Intersection Delay [s/veh]	13.12						
Intersection LOS	B						
Intersection V/C	0.589						

Emissions

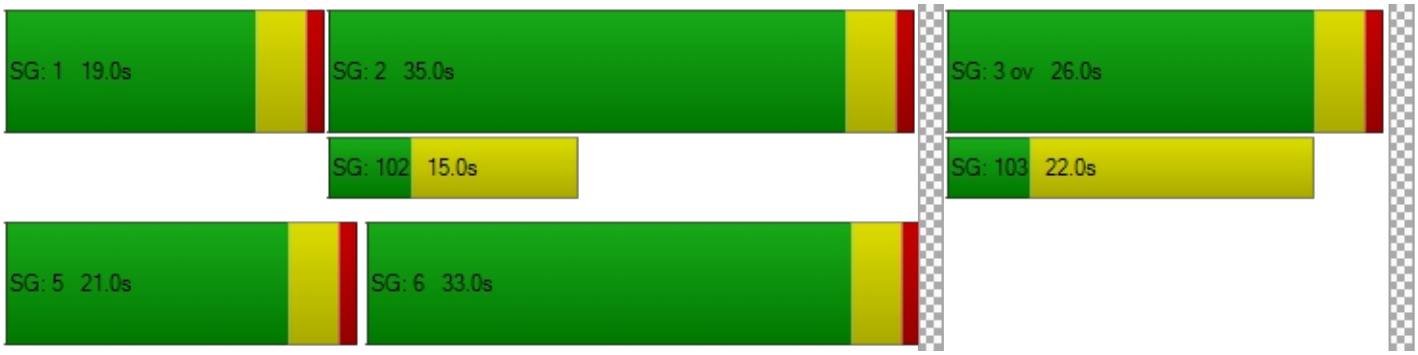
Vehicle Miles Traveled [mph]	106.07	727.78	3.71	239.07	238.45	2.00	22.97
Stops [stops/h]	106.51	215.34	10.43	278.42	277.78	17.04	165.07
Fuel consumption [US gal/h]	5.86	28.77	0.35	13.36	13.32	0.31	2.94
CO [g/h]	409.91	2010.97	24.27	933.65	931.33	21.80	205.50
NOx [g/h]	79.75	391.26	4.72	181.65	181.20	4.24	39.98
VOC [g/h]	95.00	466.06	5.62	216.38	215.85	5.05	47.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	3.024	0.000	2.077
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	725	775	550
d_b, Bicycle Delay [s]	16.26	15.01	21.03
l_b,int, Bicycle LOS Score for Intersection	2.448	2.522	1.560
Bicycle LOS	B	B	A

Sequence

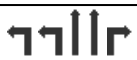
Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Magnolia Ave/Mission Gorge Rd

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.674

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Mission Gorge Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	245.00	100.00	100.00	220.00	100.00	135.00	175.00	100.00	610.00	135.00	100.00	130.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Mission Gorge Road		
Base Volume Input [veh/h]	173	664	332	203	758	146	117	244	130	325	596	193
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	0	23	77	15	4	0	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	173	683	332	226	835	161	121	244	130	325	596	199
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	176	86	58	215	41	31	63	34	84	154	51
Total Analysis Volume [veh/h]	178	704	342	233	861	166	125	252	134	335	614	205
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Maximum Green [s]	30	30	30	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	24.0	24.0	0.0	24.0	0.0	0.0	24.0	24.0	0.0	24.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	14.0	14.0	20.0	24.0	0.0	9.0	14.0	14.0	12.0	17.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5.4	19.8	31.8	6.2	20.6	20.6	4.4	10.0	19.4	8.0	13.6	13.6
g / C, Green / Cycle	0.09	0.33	0.53	0.10	0.34	0.34	0.07	0.17	0.32	0.13	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.19	0.21	0.07	0.24	0.10	0.04	0.07	0.08	0.10	0.17	0.13
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	3514	3618	1615	3514	3618	1615
c, Capacity [veh/h]	317	1193	855	365	1242	554	257	602	522	469	820	366
d1, Uniform Delay [s]	26.15	16.74	8.42	25.80	16.98	14.42	26.72	22.41	14.98	24.91	21.61	20.55
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.20	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.55	2.15	1.39	1.86	3.20	1.38	1.43	0.46	0.48	2.05	1.40	1.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.59	0.40	0.64	0.69	0.30	0.49	0.42	0.26	0.71	0.75	0.56
d, Delay for Lane Group [s/veh]	27.70	18.89	9.81	27.66	20.18	15.80	28.15	22.87	15.46	26.96	23.01	21.90
Lane Group LOS	C	B	A	C	C	B	C	C	B	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.18	3.77	2.28	1.51	4.72	1.58	0.84	1.47	1.23	2.15	3.61	2.33
50th-Percentile Queue Length [ft/ln]	29.42	94.33	56.94	37.87	118.05	39.45	20.89	36.71	30.75	53.69	90.16	58.14
95th-Percentile Queue Length [veh/ln]	2.12	6.79	4.10	2.73	8.29	2.84	1.50	2.64	2.21	3.87	6.49	4.19
95th-Percentile Queue Length [ft/ln]	52.96	169.80	102.49	68.16	207.14	71.02	37.61	66.08	55.35	96.65	162.29	104.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.70	18.89	9.81	27.66	20.18	15.80	28.15	22.87	15.46	26.96	23.01	21.90
Movement LOS	C	B	A	C	C	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	17.63			20.99			22.22			23.96		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	20.98											
Intersection LOS	C											
Intersection V/C	0.674											

Emissions

Vehicle Miles Traveled [mph]	18.20	71.97	34.96	180.40	666.61	128.52	18.88	38.06	20.24	33.61	61.60	20.57
Stops [stops/h]	141.23	452.81	136.66	181.76	566.63	94.69	100.29	176.21	73.81	257.72	432.78	139.55
Fuel consumption [US gal/h]	3.04	9.73	3.28	9.75	33.43	6.12	2.38	4.27	1.87	6.19	10.37	3.35
CO [g/h]	212.67	680.27	229.13	681.86	2336.89	427.56	166.19	298.28	130.82	432.98	724.71	234.42
NOx [g/h]	41.38	132.36	44.58	132.67	454.67	83.19	32.33	58.03	25.45	84.24	141.00	45.61
VOC [g/h]	49.29	157.66	53.10	158.03	541.60	99.09	38.52	69.13	30.32	100.35	167.96	54.33

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	667	333	433
d_b, Bicycle Delay [s]	20.83	13.33	20.83	18.41
l_b,int, Bicycle LOS Score for Intersection	2.569	2.599	1.981	2.512
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Park Center Dr/Riverwalk Dr

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Park Center Drive			Park Center Drive			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			10.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Park Center Drive			Park Center Drive			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	7	10	0	13	14	121	101	10	12	0	3	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	16	0	0	4	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	80	0	0	130	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	106	0	13	148	121	101	10	14	0	3	3
Peak Hour Factor	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	40	0	5	55	45	38	4	5	0	1	1
Total Analysis Volume [veh/h]	22	159	0	19	222	181	151	15	21	0	4	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	721	808	664	670
Degree of Utilization, x	0.25	0.52	0.28	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.99	3.08	1.15	0.04
95th-Percentile Queue Length [ft]	24.75	77.04	28.82	0.91
Approach Delay [s/veh]	9.65	12.22	10.53	8.43
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	11.20			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 8: Park Center Dr-Project Dwy #1/Project Dwy #2

Control Type:	Roundabout	Delay (sec / veh):	4.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Park Center Drive		Park Center Drive		Project Driveway #2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Park Center Drive		Park Center Drive		Project Driveway #2	
Base Volume Input [veh/h]	10	65	4	16	16	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	0	1	5	0	5
Diverted Trips [veh/h]	0	0	130	0	0	80
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	65	135	21	16	87
Peak Hour Factor	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	24	51	8	6	33
Total Analysis Volume [veh/h]	43	97	202	31	24	130
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	202		24		43	
Exiting Flow Rate [veh/h]	55		173		299	
Demand Flow Rate [veh/h]	29	65	135	21	16	87
Adjusted Demand Flow Rate [veh/h]	43	97	202	31	24	130

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	140	233	154
Capacity of Entry and Bypass Lanes [veh/h]	1124	1347	1321
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1124	1347	1321
X, volume / capacity	0.12	0.17	0.12

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.43	0.62	0.39
95th-Percentile Queue Length [ft]	10.64	15.62	9.87
Approach Delay [s/veh]	4.28	4.10	3.67
Approach LOS	A	A	A
Intersection Delay [s/veh]	4.02		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 9: Cottonwood Ave/Project Dwy #3-Park Center Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #3			Park Center Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #3			Park Center Drive		
Base Volume Input [veh/h]	0	0	5	5	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	65	0	0	0	0	65	0	17	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	130	0	0	80	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	70	5	0	0	0	195	0	17	97	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	18	1	0	0	0	49	0	4	24	0
Total Analysis Volume [veh/h]	0	0	70	5	0	0	0	195	0	17	97	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.16	11.50	9.61	11.70	11.19	8.79	7.39	0.00	0.00	7.61	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.27	0.03	0.03	0.03	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	6.70	6.70	6.70	0.70	0.70	0.70	0.00	0.00	0.00	0.71	0.71	0.71
d_A, Approach Delay [s/veh]	9.61			11.70			0.00			1.13		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.24											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 10: Cottonwood Ave/Project Dwy #4-River Bluff Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #4			River Bluff Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #4			River Bluff Drive		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	17	65	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	17	65	0	0	0	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	4	16	0	0	0	0	1
Total Analysis Volume [veh/h]	0	0	0	0	0	17	65	0	0	0	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	7.20	0.00	0.00	8.82	9.29	8.58	8.56	9.10	8.32
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.21	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	5.16	5.16	5.16	0.35	0.35	0.35
d_A, Approach Delay [s/veh]	2.41			0.00			8.82			8.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.07											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 1: Cuyamaca St/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	170.00	100.00	120.00	115.00	100.00	100.00	80.00	100.00	70.00	195.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	253	207	403	13	165	112	178	582	267	286	280	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	8	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	207	403	13	165	112	178	590	267	286	284	12
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	55	107	3	44	30	47	157	71	76	75	3
Total Analysis Volume [veh/h]	269	220	428	14	175	119	189	627	284	304	302	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Maximum Green [s]	30	30	30	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	21.0	0.0	21.0	0.0	0.0	24.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	22.0	25.0	25.0	21.0	24.0	0.0	28.0	32.0	0.0	22.0	26.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10.1	46.1	65.5	1.6	37.6	37.6	12.5	20.9	20.9	15.4	23.8	23.8
g / C, Green / Cycle	0.10	0.46	0.66	0.02	0.38	0.38	0.12	0.21	0.21	0.15	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.27	0.01	0.08	0.09	0.10	0.17	0.18	0.09	0.08	0.08
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1654	1810	3618	1615	3514	1900	1873
c, Capacity [veh/h]	356	1664	1058	30	713	621	226	754	337	544	453	447
d1, Uniform Delay [s]	43.73	15.52	8.11	48.72	21.21	21.33	42.78	37.89	38.01	39.10	31.62	31.63
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.14	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.28	0.16	1.15	10.62	0.69	0.85	8.03	2.46	7.38	0.90	0.46	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.13	0.40	0.46	0.21	0.23	0.84	0.83	0.84	0.56	0.35	0.35
d, Delay for Lane Group [s/veh]	47.00	15.69	9.26	59.34	21.90	22.18	50.81	40.36	45.39	40.00	32.08	32.10
Lane Group LOS	D	B	A	E	C	C	D	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.34	1.43	4.11	0.43	2.50	2.35	4.93	7.33	7.12	3.42	3.14	3.10
50th-Percentile Queue Length [ft/ln]	83.62	35.69	102.67	10.77	62.38	58.65	123.28	183.24	177.91	85.56	78.51	77.56
95th-Percentile Queue Length [veh/ln]	6.02	2.57	7.39	0.78	4.49	4.22	8.57	11.77	11.49	6.16	5.65	5.58
95th-Percentile Queue Length [ft/ln]	150.52	64.24	184.81	19.39	112.29	105.56	214.32	294.24	287.28	154.01	141.32	139.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.00	15.69	9.26	59.34	21.93	22.18	50.81	40.36	45.39	40.00	32.09	32.10
Movement LOS	D	B	A	E	C	C	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	21.87			23.73			43.45			35.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.10											
Intersection LOS	C											
Intersection V/C	0.582											

Emissions

Vehicle Miles Traveled [mph]	15.05	12.31	23.95	0.81	8.87	8.22	10.46	34.70	15.72	18.79	9.80	9.68
Stops [stops/h]	240.84	102.78	147.85	15.51	89.83	84.45	177.52	527.73	256.19	246.42	113.06	111.69
Fuel consumption [US gal/h]	4.96	1.94	2.83	0.32	1.69	1.59	4.07	11.58	5.70	5.57	2.50	2.47
CO [g/h]	346.54	135.92	197.89	22.14	118.40	110.92	284.69	809.16	398.64	389.24	174.49	172.37
NOx [g/h]	67.42	26.45	38.50	4.31	23.04	21.58	55.39	157.43	77.56	75.73	33.95	33.54
VOC [g/h]	80.31	31.50	45.86	5.13	27.44	25.71	65.98	187.53	92.39	90.21	40.44	39.95

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	420	400	560	440
d_b, Bicycle Delay [s]	31.21	32.00	25.92	30.42
l_b,int, Bicycle LOS Score for Intersection	2.316	1.814	2.467	2.070
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Cuyamaca St/Riverwalk Dr

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.413

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	95.00	95.00	100.00	100.00	25.00	100.00	100.00	60.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			10.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	37	790	121	86	670	2	7	1	16	100	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	0	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	790	129	86	670	2	7	1	16	104	0	48
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	202	33	22	172	1	2	0	4	27	0	12
Total Analysis Volume [veh/h]	38	809	132	88	686	2	7	1	16	107	0	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	21.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16.0	24.0	0.0	16.0	24.0	0.0	0.0	14.0	0.0	0.0	16.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2.6	36.2	36.2	4.5	38.1	38.1	3.8	3.8	9.5	9.5
g / C, Green / Cycle	0.04	0.52	0.52	0.06	0.54	0.54	0.05	0.05	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.08	0.05	0.19	0.00	0.00	0.01	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1629	1810	1615
c, Capacity [veh/h]	69	1869	834	117	1964	877	98	88	247	220
d1, Uniform Delay [s]	33.06	10.54	8.91	32.18	9.03	7.32	31.45	31.65	27.75	26.93
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.57	0.73	0.41	9.30	0.49	0.00	0.31	1.06	1.20	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.43	0.16	0.75	0.35	0.00	0.07	0.19	0.43	0.22
d, Delay for Lane Group [s/veh]	39.63	11.27	9.31	41.49	9.52	7.33	31.75	32.71	28.96	27.43
Lane Group LOS	D	B	A	D	A	A	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.73	3.46	1.00	1.70	2.57	0.01	0.12	0.31	1.69	0.75
50th-Percentile Queue Length [ft/ln]	18.30	86.49	24.90	42.44	64.29	0.32	3.09	7.70	42.26	18.64
95th-Percentile Queue Length [veh/ln]	1.32	6.23	1.79	3.06	4.63	0.02	0.22	0.55	3.04	1.34
95th-Percentile Queue Length [ft/ln]	32.94	155.67	44.81	76.39	115.72	0.57	5.57	13.85	76.07	33.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.63	11.27	9.31	41.49	9.52	7.33	31.75	32.71	32.71	28.96	27.43	27.43
Movement LOS	D	B	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.11			13.14			32.43			28.48		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.09											
Intersection LOS	B											
Intersection V/C	0.413											

Emissions

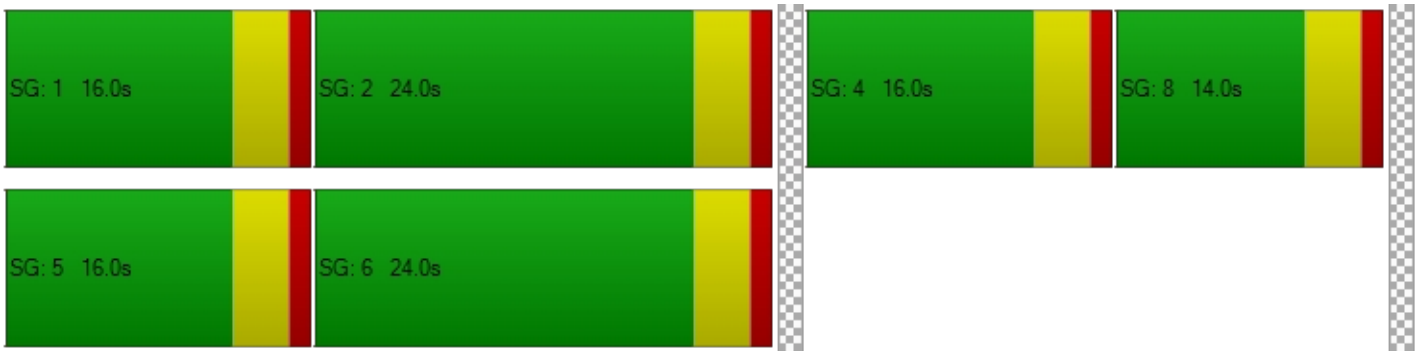
Vehicle Miles Traveled [mph]	3.37	71.82	11.72	13.74	107.13	0.31	0.12	0.29	49.34	22.60
Stops [stops/h]	37.65	355.83	51.21	87.30	264.49	0.65	6.36	15.83	86.94	38.34
Fuel consumption [US gal/h]	0.72	7.27	1.08	1.92	7.40	0.02	0.06	0.14	3.18	1.44
CO [g/h]	50.20	508.13	75.64	134.44	517.37	1.38	3.94	9.83	222.49	100.43
NOx [g/h]	9.77	98.86	14.72	26.16	100.66	0.27	0.77	1.91	43.29	19.54
VOC [g/h]	11.63	117.76	17.53	31.16	119.91	0.32	0.91	2.28	51.56	23.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	571	286	343
d_b, Bicycle Delay [s]	17.86	17.86	25.71	24.03
l_b,int, Bicycle LOS Score for Intersection	2.367	2.200	1.599	1.817
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Park Center Dr/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.474

Intersection Setup

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	105.00	90.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Base Volume Input [veh/h]	21	86	889	22	105	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	4	0	8	8	0
Diverted Trips [veh/h]	130	0	0	80	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	90	889	110	113	566
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	24	234	29	30	149
Total Analysis Volume [veh/h]	163	95	937	116	119	596
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Flashing Yellow Arrow						
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Walk [s]	5.0	0.0	5.0	0.0	0.0	5.0
Pedestrian Clearance [s]	17.0	0.0	10.0	0.0	0.0	10.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	0.0	32.0	0.0	22.0	54.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	R	L	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.5	9.5	51.7	51.7	6.9	62.5
g / C, Green / Cycle	0.12	0.12	0.65	0.65	0.09	0.78
(v / s)_i Volume / Saturation Flow Rate	0.09	0.06	0.26	0.07	0.07	0.16
s, saturation flow rate [veh/h]	1810	1615	3618	1615	1810	3618
c, Capacity [veh/h]	215	192	2333	1042	156	2826
d1, Uniform Delay [s]	34.14	33.01	6.80	5.43	35.75	2.29
k, delay calibration	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.42	1.98	0.52	0.22	7.47	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.50	0.40	0.11	0.76	0.21
d, Delay for Lane Group [s/veh]	39.57	34.98	7.32	5.65	43.21	2.46
Lane Group LOS	D	C	A	A	D	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.32	1.79	3.04	0.63	2.49	0.61
50th-Percentile Queue Length [ft/ln]	82.91	44.79	75.88	15.74	62.15	15.18
95th-Percentile Queue Length [veh/ln]	5.97	3.22	5.46	1.13	4.47	1.09
95th-Percentile Queue Length [ft/ln]	149.25	80.62	136.58	28.33	111.87	27.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.57	34.98	7.32	5.65	43.21	2.46
Movement LOS	D	C	A	A	D	A
d_A, Approach Delay [s/veh]	37.88		7.13		9.24	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	11.79					
Intersection LOS	B					
Intersection V/C	0.474					

Emissions

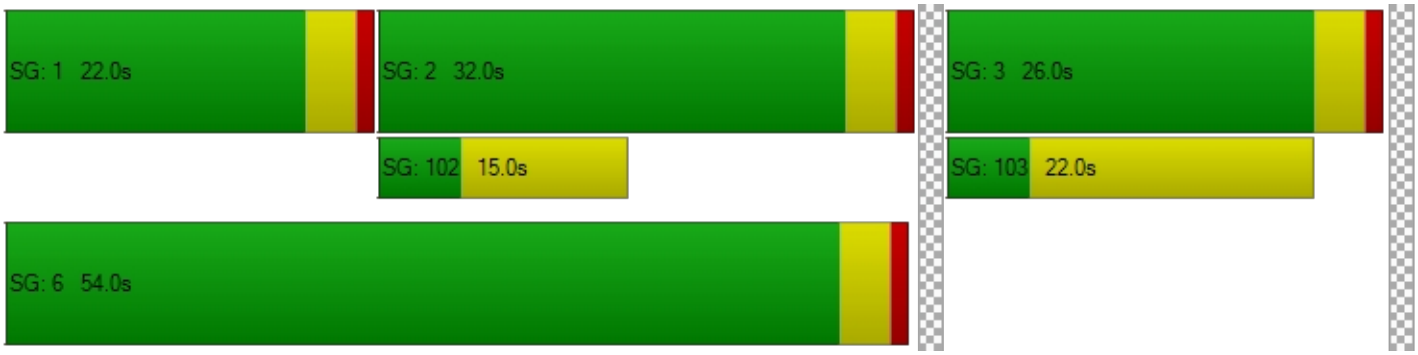
Vehicle Miles Traveled [mph]	15.32	8.93	365.46	45.24	29.35	147.00
Stops [stops/h]	149.25	80.62	273.16	28.33	111.87	54.66
Fuel consumption [US gal/h]	2.77	1.49	17.17	2.03	3.20	6.10
CO [g/h]	193.47	104.11	1200.19	142.05	223.46	426.48
NOx [g/h]	37.64	20.26	233.51	27.64	43.48	82.98
VOC [g/h]	44.84	24.13	278.15	32.92	51.79	98.84

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	2.096	0.000	2.750
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	700	1250
d_b, Bicycle Delay [s]	21.03	16.90	5.63
l_b,int, Bicycle LOS Score for Intersection	1.560	2.428	2.149
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Magnolia Ave/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.631

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	120.00	165.00	100.00	160.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	299	473	134	58	347	266	360	223	253	63	106	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	17	0	0	4	0	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	299	480	134	58	364	266	360	227	253	63	114	28
Peak Hour Factor	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	126	35	15	95	70	94	59	66	17	30	7
Total Analysis Volume [veh/h]	313	503	140	61	382	279	377	238	265	66	119	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	24.0	0.0	0.0	21.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	13.0	20.0	0.0	12.0	19.0	0.0	14.0	18.0	0.0	10.0	14.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7.5	23.2	23.2	3.2	19.0	19.0	8.4	14.2	14.2	3.4	9.2	9.2
g / C, Green / Cycle	0.12	0.39	0.39	0.05	0.32	0.32	0.14	0.24	0.24	0.06	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.18	0.03	0.11	0.17	0.11	0.07	0.16	0.04	0.03	0.02
s, saturation flow rate [veh/h]	3514	1900	1759	1810	3618	1615	3514	3618	1615	1810	3618	1615
c, Capacity [veh/h]	437	733	679	99	1142	510	494	857	383	102	553	247
d1, Uniform Delay [s]	25.25	13.73	13.73	27.76	15.70	16.98	24.83	18.70	20.90	27.73	22.27	21.93
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.13	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.20	2.04	2.20	6.20	0.79	4.18	2.49	0.17	2.73	6.74	0.19	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.46	0.46	0.62	0.33	0.55	0.76	0.28	0.69	0.65	0.22	0.12
d, Delay for Lane Group [s/veh]	27.45	15.77	15.93	33.96	16.49	21.16	27.32	18.87	23.63	34.47	22.46	22.14
Lane Group LOS	C	B	B	C	B	C	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.03	3.11	2.91	0.95	1.85	3.31	2.49	1.22	3.26	1.06	0.69	0.34
50th-Percentile Queue Length [ft/ln]	50.71	77.79	72.80	23.86	46.17	82.78	62.29	30.39	81.59	26.39	17.31	8.49
95th-Percentile Queue Length [veh/ln]	3.65	5.60	5.24	1.72	3.32	5.96	4.48	2.19	5.87	1.90	1.25	0.61
95th-Percentile Queue Length [ft/ln]	91.28	140.03	131.04	42.95	83.11	149.00	112.11	54.69	146.87	47.49	31.15	15.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.45	15.83	15.93	33.96	16.49	21.16	27.32	18.87	23.63	34.47	22.46	22.14
Movement LOS	C	B	B	C	B	C	C	B	C	C	C	C
d_A, Approach Delay [s/veh]	19.65			19.77			23.93			26.12		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.54											
Intersection LOS	C											
Intersection V/C	0.631											

Emissions

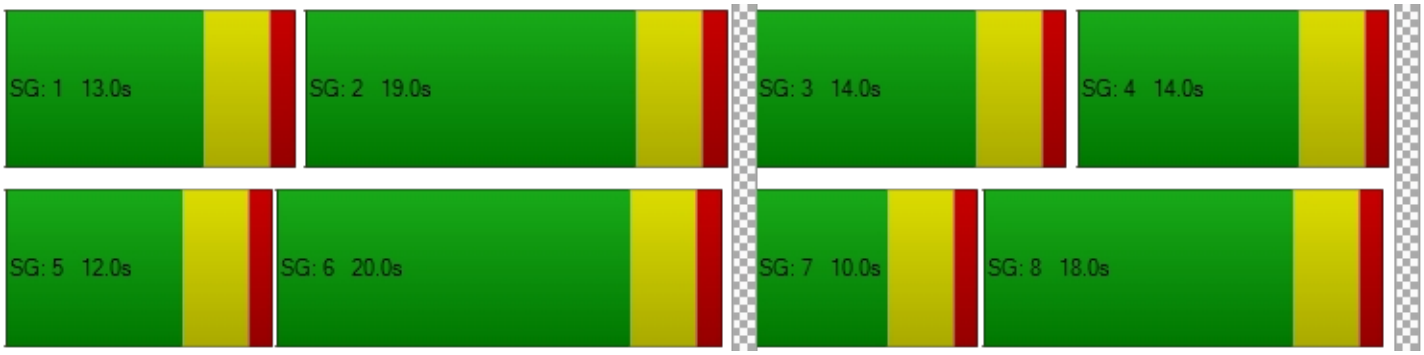
Vehicle Miles Traveled [mph]	129.18	137.79	127.59	3.09	19.34	14.13	92.99	58.70	65.36	5.73	10.33	2.52
Stops [stops/h]	243.42	186.71	174.72	57.26	221.64	198.66	298.97	145.85	195.82	63.33	83.08	20.37
Fuel consumption [US gal/h]	9.20	8.12	7.55	1.09	4.15	3.66	8.36	4.45	5.54	1.16	1.56	0.38
CO [g/h]	643.31	567.31	527.64	76.52	290.26	255.77	584.64	311.04	387.21	80.92	109.23	26.55
NOx [g/h]	125.16	110.38	102.66	14.89	56.47	49.76	113.75	60.52	75.34	15.74	21.25	5.17
VOC [g/h]	149.09	131.48	122.29	17.73	67.27	59.28	135.50	72.09	89.74	18.75	25.31	6.15

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	500	467	333
d_b, Bicycle Delay [s]	16.13	16.88	17.63	20.83
l_b,int, Bicycle LOS Score for Intersection	2.348	2.155	2.286	1.736
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	120.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	11	1029	1	733	3	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	126	0	0	0	17	7	53
Diverted Trips [veh/h]	130	0	0	0	0	0	80
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	267	1029	1	733	20	10	145
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	267	0	190	5	3	38
Total Analysis Volume [veh/h]	277	1069	1	761	21	10	151
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Overlap
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							1,3
Maximum Green [s]	30	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	25.0	35.0	19.0	29.0	0.0	26.0	25.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	No
Maximum Recall	No	No	No	No		No	No
Pedestrian Recall	No	No	No	No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	14.8	60.2	0.2	45.6	45.6	7.6	26.4
g / C, Green / Cycle	0.18	0.75	0.00	0.57	0.57	0.10	0.33
(v / s)_i Volume / Saturation Flow Rate	0.15	0.30	0.00	0.21	0.21	0.01	0.09
s, saturation flow rate [veh/h]	1810	3618	1810	1900	1882	1810	1615
c, Capacity [veh/h]	334	2718	5	1082	1072	173	534
d1, Uniform Delay [s]	31.39	3.51	39.80	9.35	9.35	32.88	19.78
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.27	0.43	17.61	0.95	0.95	0.14	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.39	0.20	0.36	0.36	0.06	0.28
d, Delay for Lane Group [s/veh]	36.67	3.94	57.40	10.29	10.30	33.02	20.06
Lane Group LOS	D	A	E	B	B	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	5.25	1.63	0.04	3.25	3.23	0.18	2.04
50th-Percentile Queue Length [ft/ln]	131.24	40.81	1.09	81.31	80.64	4.49	51.04
95th-Percentile Queue Length [veh/ln]	9.01	2.94	0.08	5.85	5.81	0.32	3.67
95th-Percentile Queue Length [ft/ln]	225.18	73.47	1.96	146.35	145.16	8.09	91.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.67	3.94	57.40	10.30	10.30	33.02	20.06
Movement LOS	D	A	E	B	B	C	C
d_A, Approach Delay [s/veh]	10.68		10.36			20.87	
Approach LOS	B		B			C	
d_I, Intersection Delay [s/veh]	11.28						
Intersection LOS	B						
Intersection V/C	0.496						

Emissions

Vehicle Miles Traveled [mph]	214.46	827.65	0.41	162.11	160.64	0.87	13.14
Stops [stops/h]	236.24	146.93	1.96	146.35	145.16	8.09	91.87
Fuel consumption [US gal/h]	12.36	31.05	0.05	8.20	8.13	0.15	1.66
CO [g/h]	863.64	2170.68	3.51	573.12	568.10	10.32	116.38
NOx [g/h]	168.03	422.33	0.68	111.51	110.53	2.01	22.64
VOC [g/h]	200.16	503.07	0.81	132.83	131.66	2.39	26.97

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	2.956	0.000	2.085
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	775	625	550
d_b, Bicycle Delay [s]	15.01	18.91	21.03
l_b,int, Bicycle LOS Score for Intersection	2.670	2.206	1.560
Bicycle LOS	B	B	A

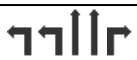
Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Magnolia Ave/Mission Gorge Rd-Woodside Ave

Control Type:	Signalized	Delay (sec / veh):	26.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Woodside Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	245.00	100.00	100.00	220.00	100.00	135.00	175.00	100.00	610.00	135.00	100.00	130.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Woodside Avenue		
Base Volume Input [veh/h]	228	788	398	158	628	130	230	649	327	373	576	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	84	0	11	35	7	17	0	0	0	0	25
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	872	398	169	663	137	247	649	327	373	576	147
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	230	105	45	175	36	65	172	86	99	152	39
Total Analysis Volume [veh/h]	241	922	421	179	701	145	261	686	346	394	609	155
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Maximum Green [s]	30	30	30	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	24.0	24.0	0.0	24.0	0.0	0.0	24.0	24.0	0.0	24.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	14.0	24.0	24.0	11.0	21.0	0.0	15.0	20.0	20.0	15.0	20.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10.6	22.3	37.3	5.4	17.1	17.1	7.3	15.3	29.9	11.0	19.0	19.0
g / C, Green / Cycle	0.15	0.32	0.53	0.08	0.24	0.24	0.10	0.22	0.43	0.16	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.07	0.25	0.26	0.05	0.19	0.09	0.07	0.19	0.21	0.11	0.17	0.10
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	3514	3618	1615	3514	3618	1615
c, Capacity [veh/h]	529	1149	859	275	887	396	373	791	688	552	975	435
d1, Uniform Delay [s]	27.12	21.88	10.38	31.34	24.73	21.91	30.21	26.37	14.67	28.00	22.45	20.65
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.61	5.97	2.00	2.61	7.11	2.60	2.39	3.06	2.61	1.73	0.66	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.80	0.49	0.65	0.79	0.37	0.70	0.87	0.50	0.71	0.62	0.36
d, Delay for Lane Group [s/veh]	27.73	27.84	12.37	33.95	31.84	24.51	32.60	29.43	17.28	29.73	23.11	21.15
Lane Group LOS	C	C	B	C	C	C	C	C	B	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.75	7.09	3.75	1.45	5.71	2.06	2.11	5.36	3.93	2.98	3.98	1.88
50th-Percentile Queue Length [ft/ln]	43.68	177.19	93.77	36.37	142.87	51.48	52.67	133.91	98.36	74.45	99.40	46.99
95th-Percentile Queue Length [veh/ln]	3.15	11.45	6.75	2.62	9.64	3.71	3.79	9.15	7.08	5.36	7.16	3.38
95th-Percentile Queue Length [ft/ln]	78.63	286.35	168.79	65.46	240.88	92.67	94.81	228.80	177.04	134.01	178.92	84.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.73	27.84	12.37	33.95	31.84	24.51	32.60	29.43	17.28	29.73	23.11	21.15
Movement LOS	C	C	B	C	C	C	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	23.72			31.17			26.82			25.10		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.34											
Intersection LOS	C											
Intersection V/C	0.788											

Emissions

Vehicle Miles Traveled [mph]	24.64	94.26	43.04	138.59	542.74	112.26	39.42	103.60	52.25	39.53	61.10	15.55
Stops [stops/h]	179.73	729.03	192.91	149.63	587.79	105.91	216.72	550.94	202.33	306.31	408.97	96.67
Fuel consumption [US gal/h]	4.01	15.76	4.50	7.85	30.45	5.89	5.27	13.23	5.08	7.55	10.04	2.40
CO [g/h]	280.18	1101.80	314.33	548.54	2128.73	411.58	368.53	924.94	354.81	527.58	702.05	167.90
NOx [g/h]	54.51	214.37	61.16	106.73	414.17	80.08	71.70	179.96	69.03	102.65	136.59	32.67
VOC [g/h]	64.93	255.35	72.85	127.13	493.35	95.39	85.41	214.36	82.23	122.27	162.71	38.91

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	486	457	457
d_b, Bicycle Delay [s]	17.86	20.06	20.83	20.83
l_b,int, Bicycle LOS Score for Intersection	2.866	2.405	2.626	2.515
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 7: Park Center Dr/Riverwalk Dr - H & H Svc Driveway

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.310

Intersection Setup

Name	Project Driveway #1			Park Center Drive			Riverwalk			He &		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			10.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Driveway #1			Park Center Drive			Riverwalk			He &		
Base Volume Input [veh/h]	8	12	0	4	30	80	108	4	23	1	7	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	8	0	0	16	0	0	0	8	0	0	0
Diverted Trips [veh/h]	0	130	0	0	80	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	150	0	4	126	80	108	4	31	1	7	13
Peak Hour Factor	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	45	0	1	38	24	32	1	9	0	2	4
Total Analysis Volume [veh/h]	14	180	0	5	151	96	130	5	37	1	8	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	762	813	721	746
Degree of Utilization, x	0.25	0.31	0.24	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.01	1.32	0.93	0.10
95th-Percentile Queue Length [ft]	25.25	33.09	23.18	2.60
Approach Delay [s/veh]	9.33	9.41	9.55	7.99
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.37			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Park Center Dr/Project Dwy #1-Project Dwy #2

Control Type:	Roundabout	Delay (sec / veh):	4.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Park Center Drive		Project Driveway #1		Project Driveway #2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Park Center Drive		Project Driveway #1		Project Driveway #2	
Base Volume Input [veh/h]	16	30	2	10	71	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	24	0	0	12
Diverted Trips [veh/h]	0	0	80	0	0	130
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	30	106	10	71	146
Peak Hour Factor	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	9	32	3	21	44
Total Analysis Volume [veh/h]	19	36	127	12	85	175
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	127		85		19	
Exiting Flow Rate [veh/h]	97		194		163	
Demand Flow Rate [veh/h]	16	30	106	10	71	146
Adjusted Demand Flow Rate [veh/h]	19	36	127	12	85	175

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	55	139	260
Capacity of Entry and Bypass Lanes [veh/h]	1213	1266	1354
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1213	1266	1354
X, volume / capacity	0.05	0.11	0.19

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.37	0.71
95th-Percentile Queue Length [ft]	3.56	9.23	17.74
Approach Delay [s/veh]	3.34	3.74	4.25
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.99		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 9: Cottonwood Ave/Park Center Dr-Project Dwy #3

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #2			Park Center Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #2			Park Center Drive		
Base Volume Input [veh/h]	0	0	8	8	0	0	0	34	0	0	55	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	30	0	0	0	0	30	0	72	72	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	80	0	0	130	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	38	8	0	0	0	144	0	72	257	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	10	2	0	0	0	36	0	18	64	0
Total Analysis Volume [veh/h]	0	0	38	8	0	0	0	144	0	72	257	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	13.62	13.69	9.13	14.26	13.71	9.76	7.73	0.00	0.00	7.56	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.06	0.06	0.06	0.00	0.00	0.00	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	3.27	3.27	3.27	1.54	1.54	1.54	0.00	0.00	0.00	3.12	3.12	3.12
d_A, Approach Delay [s/veh]	9.13			14.26			0.00			1.66		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	1.94											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Cottonwood/River Bluff Dr-Project Dwy #4

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #4			River Bluff Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #4			River Bluff Drive		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	72	30	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	72	30	0	0	0	0	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	18	8	0	0	0	0	2
Total Analysis Volume [veh/h]	0	0	0	0	0	72	30	0	0	0	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	7.20	0.00	0.00	8.86	9.30	8.57	8.72	9.40	8.32
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.55	0.55	0.55
d_A, Approach Delay [s/veh]	2.45			0.00			8.86			8.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.02											
Intersection LOS	A											

NEAR-TERM PLUS PROJECT TRAFFIC CONDITIONS (NTP)

Intersection Level Of Service Report
Intersection 1: Cuyamaca St/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	32.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.676

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	170.00	100.00	120.00	115.00	100.00	100.00	80.00	100.00	70.00	195.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	232	102	210	6	231	320	78	334	215	278	658	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	7	6	0	11	0	0	4	11	10	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	246	111	220	6	247	326	80	345	230	294	680	3
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	31	61	2	69	91	22	96	64	82	190	1
Total Analysis Volume [veh/h]	275	124	246	7	276	364	89	385	257	328	760	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Maximum Green [s]	30	30	30	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	21.0	0.0	21.0	0.0	0.0	24.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17.0	24.0	24.0	23.0	30.0	0.0	15.0	25.0	0.0	18.0	28.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.4	45.3	60.2	0.9	36.8	36.8	5.7	16.9	16.9	10.9	22.1	22.1
g / C, Green / Cycle	0.10	0.50	0.67	0.01	0.41	0.41	0.06	0.19	0.19	0.12	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.08	0.03	0.15	0.00	0.15	0.23	0.05	0.11	0.16	0.09	0.20	0.20
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1615	1810	3618	1615	3514	1900	1897
c, Capacity [veh/h]	368	1818	1079	19	776	660	116	681	304	425	466	465
d1, Uniform Delay [s]	39.13	11.53	5.86	44.23	18.43	20.33	41.47	33.18	35.26	38.36	32.08	32.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.15	0.11	0.17	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.05	0.07	0.49	11.48	1.28	3.31	10.25	0.74	8.41	3.02	5.57	5.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.07	0.23	0.37	0.36	0.55	0.77	0.57	0.84	0.77	0.82	0.82
d, Delay for Lane Group [s/veh]	42.18	11.60	6.35	55.71	19.70	23.64	51.73	33.92	43.67	41.38	37.64	37.65
Lane Group LOS	D	B	A	E	B	C	D	C	D	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.03	0.62	1.65	0.21	4.04	6.09	2.21	3.72	5.89	3.55	8.14	8.13
50th-Percentile Queue Length [ft/ln]	75.77	15.39	41.22	5.32	101.12	152.31	55.19	93.06	147.32	88.76	203.50	203.25
95th-Percentile Queue Length [veh/ln]	5.46	1.11	2.97	0.38	7.28	10.14	3.97	6.70	9.87	6.39	12.82	12.81
95th-Percentile Queue Length [ft/ln]	136.39	27.70	74.20	9.57	182.02	253.51	99.35	167.50	246.84	159.77	320.47	320.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.18	11.60	6.35	55.71	19.70	23.64	51.73	33.92	43.67	41.38	37.65	37.65
Movement LOS	D	B	A	E	B	C	D	C	D	D	D	D
d_A, Approach Delay [s/veh]	22.64			22.31			39.51			38.77		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.18											
Intersection LOS	C											
Intersection V/C	0.676											

Emissions

Vehicle Miles Traveled [mph]	15.39	6.94	13.76	0.41	16.05	21.17	4.93	21.31	14.22	20.28	23.60	23.57
Stops [stops/h]	242.47	49.24	65.96	8.51	161.80	243.70	88.31	297.78	235.71	284.04	325.60	325.19
Fuel consumption [US gal/h]	4.77	0.93	1.34	0.16	2.94	4.39	1.98	6.35	5.11	6.28	6.97	6.96
CO [g/h]	333.46	64.84	93.57	11.10	205.19	306.93	138.45	443.55	357.10	438.87	487.09	486.50
NOx [g/h]	64.88	12.62	18.20	2.16	39.92	59.72	26.94	86.30	69.48	85.39	94.77	94.65
VOC [g/h]	77.28	15.03	21.68	2.57	47.55	71.13	32.09	102.80	82.76	101.71	112.89	112.75

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	444	578	467	533
d_b, Bicycle Delay [s]	27.22	22.76	26.45	24.20
l_b,int, Bicycle LOS Score for Intersection	2.092	2.093	2.163	2.460
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Cuyamaca St/Riverwalk Dr

Control Type:	Signalized	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	95.00	95.00	100.00	100.00	25.00	100.00	100.00	60.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			10.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	159	522	95	100	630	4	1	1	4	81	1	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	4	0	31	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	557	101	102	674	4	1	1	4	97	1	79
Peak Hour Factor	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750	0.7750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	180	33	33	217	1	0	0	1	31	0	25
Total Analysis Volume [veh/h]	209	719	130	132	870	5	1	1	5	125	1	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	21.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	18.0	24.0	0.0	18.0	24.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10.0	36.1	36.1	6.7	32.8	32.8	1.3	1.3	9.9	9.9
g / C, Green / Cycle	0.14	0.52	0.52	0.10	0.47	0.47	0.02	0.02	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.12	0.20	0.08	0.07	0.24	0.00	0.00	0.00	0.07	0.06
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1656	1810	1617
c, Capacity [veh/h]	259	1865	833	173	1692	756	35	32	255	228
d1, Uniform Delay [s]	29.04	10.25	8.93	30.89	13.05	9.94	33.69	33.79	27.73	27.57
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.85	0.60	0.40	6.85	1.12	0.02	0.33	2.84	1.45	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.39	0.16	0.76	0.51	0.01	0.03	0.19	0.49	0.45
d, Delay for Lane Group [s/veh]	34.89	10.85	9.33	37.74	14.17	9.96	34.02	36.63	29.18	28.96
Lane Group LOS	C	B	A	D	B	A	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.62	2.98	0.98	2.39	4.40	0.04	0.02	0.13	1.99	1.63
50th-Percentile Queue Length [ft/ln]	90.57	74.50	24.55	59.77	110.04	0.99	0.51	3.20	49.71	40.82
95th-Percentile Queue Length [veh/ln]	6.52	5.36	1.77	4.30	7.84	0.07	0.04	0.23	3.58	2.94
95th-Percentile Queue Length [ft/ln]	163.02	134.10	44.20	107.59	196.06	1.78	0.91	5.76	89.47	73.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.89	10.85	9.33	37.74	14.17	9.96	34.02	36.63	36.63	29.18	28.96	28.96
Movement LOS	C	B	A	D	B	A	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	15.41			17.24			36.26			29.08		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	17.63											
Intersection LOS	B											
Intersection V/C	0.517											

Emissions

Vehicle Miles Traveled [mph]	18.55	63.83	11.54	20.61	135.87	0.78	0.02	0.10	57.64	47.50
Stops [stops/h]	186.31	306.52	50.51	122.96	452.75	2.04	1.04	6.58	102.25	83.98
Fuel consumption [US gal/h]	3.59	6.33	1.07	2.72	11.09	0.06	0.01	0.06	3.73	3.07
CO [g/h]	251.11	442.20	74.56	190.42	775.39	3.86	0.60	3.85	260.50	214.26
NOx [g/h]	48.86	86.04	14.51	37.05	150.86	0.75	0.12	0.75	50.68	41.69
VOC [g/h]	58.20	102.48	17.28	44.13	179.70	0.89	0.14	0.89	60.37	49.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	571	286	286
d_b, Bicycle Delay [s]	17.86	17.86	25.71	25.71
l_b,int, Bicycle LOS Score for Intersection	2.432	2.390	1.571	1.936
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Park Center Dr/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	105.00	90.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Base Volume Input [veh/h]	18	36	553	36	110	814
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	23	8	2	6	19
Diverted Trips [veh/h]	80	0	0	130	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	60	572	169	118	849
Peak Hour Factor	0.8490	0.8490	0.8490	0.8490	0.8490	0.8490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	18	168	50	35	250
Total Analysis Volume [veh/h]	125	71	674	199	139	1000
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Flashing Yellow Arrow						
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Walk [s]	5.0	0.0	5.0	0.0	0.0	5.0
Pedestrian Clearance [s]	17.0	0.0	10.0	0.0	0.0	10.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	0.0	24.0	0.0	20.0	44.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	R	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6.9	6.9	44.0	44.0	7.0	55.1
g / C, Green / Cycle	0.10	0.10	0.63	0.63	0.10	0.79
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.19	0.12	0.08	0.28
s, saturation flow rate [veh/h]	1810	1615	3618	1615	1810	3618
c, Capacity [veh/h]	180	161	2273	1015	182	2844
d1, Uniform Delay [s]	30.48	29.68	5.94	5.52	30.66	2.21
k, delay calibration	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.72	1.90	0.33	0.43	6.48	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.44	0.30	0.20	0.76	0.35
d, Delay for Lane Group [s/veh]	35.20	31.57	6.28	5.95	37.14	2.56
Lane Group LOS	D	C	A	A	D	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.20	1.17	1.71	1.00	2.46	0.70
50th-Percentile Queue Length [ft/ln]	55.03	29.29	42.74	25.03	61.48	17.40
95th-Percentile Queue Length [veh/ln]	3.96	2.11	3.08	1.80	4.43	1.25
95th-Percentile Queue Length [ft/ln]	99.06	52.72	76.94	45.05	110.66	31.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.20	31.57	6.28	5.95	37.14	2.56
Movement LOS	D	C	A	A	D	A
d_A, Approach Delay [s/veh]	33.89		6.20		6.78	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	8.96					
Intersection LOS	A					
Intersection V/C	0.403					

Emissions

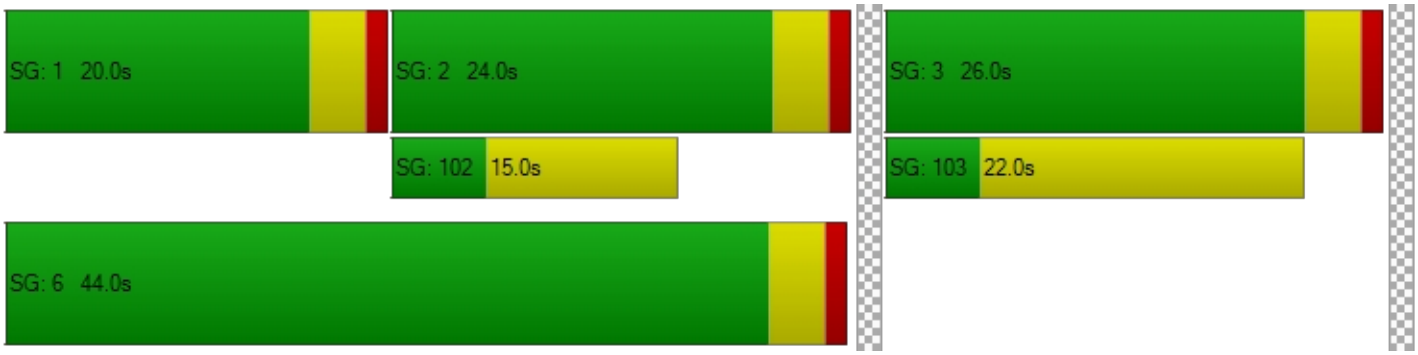
Vehicle Miles Traveled [mph]	11.75	6.67	262.88	77.62	34.28	246.65
Stops [stops/h]	113.21	60.25	175.86	51.49	126.47	71.57
Fuel consumption [US gal/h]	2.00	1.06	12.01	3.53	3.52	10.06
CO [g/h]	140.12	74.36	839.16	246.53	246.12	703.09
NOx [g/h]	27.26	14.47	163.27	47.97	47.89	136.79
VOC [g/h]	32.47	17.23	194.48	57.14	57.04	162.95

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	0.00	26.58
l_p,int, Pedestrian LOS Score for Intersectio	2.103	0.000	2.779
Crosswalk LOS	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	629	571	1143
d_b, Bicycle Delay [s]	16.46	17.86	6.43
l_b,int, Bicycle LOS Score for Intersection	1.560	2.280	2.499
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Magnolia Ave/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	120.00	165.00	100.00	160.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	355	537	46	42	546	372	246	116	241	108	211	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	17	2	0	6	7	3	11	17	2	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	371	565	49	43	563	386	254	129	263	112	224	28
Peak Hour Factor	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	156	14	12	155	106	70	36	72	31	62	8
Total Analysis Volume [veh/h]	409	623	54	47	621	426	280	142	290	123	247	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	24.0	0.0	0.0	21.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16.0	28.0	0.0	17.0	29.0	0.0	18.0	22.0	0.0	13.0	17.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11.6	37.4	37.4	3.3	29.1	29.1	8.6	16.4	16.4	6.9	14.7	14.7
g / C, Green / Cycle	0.14	0.47	0.47	0.04	0.36	0.36	0.11	0.21	0.21	0.09	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.12	0.18	0.18	0.03	0.17	0.26	0.08	0.04	0.18	0.07	0.07	0.02
s, saturation flow rate [veh/h]	3514	1900	1847	1810	3618	1615	3514	3618	1615	1810	3618	1615
c, Capacity [veh/h]	508	886	861	77	1317	588	378	742	331	156	665	297
d1, Uniform Delay [s]	33.14	13.91	13.91	37.66	19.52	21.97	34.61	26.31	30.81	35.82	28.60	27.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.23	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.07	1.28	1.32	7.67	1.21	7.58	2.86	0.12	13.90	8.45	0.35	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.39	0.39	0.61	0.47	0.72	0.74	0.19	0.88	0.79	0.37	0.10
d, Delay for Lane Group [s/veh]	36.21	15.19	15.23	45.33	20.74	29.55	37.46	26.44	44.72	44.27	28.95	27.33
Lane Group LOS	D	B	B	D	C	C	D	C	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.79	3.78	3.69	1.03	4.27	7.48	2.66	1.07	6.34	2.64	2.02	0.49
50th-Percentile Queue Length [ft/ln]	94.78	94.50	92.14	25.76	106.67	187.05	66.50	26.79	158.59	65.90	50.58	12.19
95th-Percentile Queue Length [veh/ln]	6.82	6.80	6.63	1.85	7.65	11.97	4.79	1.93	10.47	4.74	3.64	0.88
95th-Percentile Queue Length [ft/ln]	170.61	170.11	165.85	46.36	191.35	299.20	119.70	48.22	261.85	118.62	91.05	21.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.21	15.21	15.23	45.33	20.74	29.55	37.46	26.44	44.72	44.27	28.95	27.33
Movement LOS	D	B	B	D	C	C	D	C	D	D	C	C
d_A, Approach Delay [s/veh]	23.12			25.22			38.22			33.52		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	28.35											
Intersection LOS	C											
Intersection V/C	0.785											

Emissions

Vehicle Miles Traveled [mph]	168.80	141.65	137.77	2.38	31.44	21.57	69.06	35.02	71.53	10.68	21.45	2.69
Stops [stops/h]	341.21	170.11	165.85	46.36	383.99	336.69	239.40	96.45	285.45	118.62	182.10	21.94
Fuel consumption [US gal/h]	13.04	8.03	7.82	0.97	7.52	6.64	6.96	2.97	8.01	2.41	3.64	0.44
CO [g/h]	911.65	561.39	546.55	68.10	525.58	464.24	486.52	207.32	559.56	168.27	254.59	30.75
NOx [g/h]	177.37	109.23	106.34	13.25	102.26	90.32	94.66	40.34	108.87	32.74	49.53	5.98
VOC [g/h]	211.28	130.11	126.67	15.78	121.81	107.59	112.75	48.05	129.68	39.00	59.00	7.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	625	450	325
d_b, Bicycle Delay [s]	19.60	18.91	24.03	28.06
l_b,int, Bicycle LOS Score for Intersection	2.456	2.462	2.147	1.890
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.675

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	120.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	20	883	8	1078	4	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	13	0	21	4	15	153
Diverted Trips [veh/h]	80	0	0	0	0	0	130
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	914	8	1121	8	22	286
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	243	2	298	2	6	76
Total Analysis Volume [veh/h]	154	973	9	1194	9	23	305
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Permissive
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							
Maximum Green [s]	30	25	30	25	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	19.0	34.0	20.0	35.0	0.0	26.0	19.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	
Maximum Recall	No	No	No	No		No	
Pedestrian Recall	No	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8.6	49.9	1.0	42.3	42.3	17.1	17.1
g / C, Green / Cycle	0.11	0.62	0.01	0.53	0.53	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.00	0.32	0.32	0.01	0.19
s, saturation flow rate [veh/h]	1810	3618	1810	1900	1895	1810	1615
c, Capacity [veh/h]	195	2256	23	1005	1002	387	345
d1, Uniform Delay [s]	34.83	7.76	39.18	13.00	13.00	25.05	30.49
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.21
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.06	0.60	10.28	2.64	2.65	0.06	13.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.43	0.39	0.60	0.60	0.06	0.88
d, Delay for Lane Group [s/veh]	41.89	8.36	49.46	15.64	15.65	25.11	43.75
Lane Group LOS	D	A	D	B	B	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.12	3.37	0.23	6.82	6.81	0.35	6.76
50th-Percentile Queue Length [ft/ln]	78.01	84.32	5.81	170.56	170.20	8.67	168.94
95th-Percentile Queue Length [veh/ln]	5.62	6.07	0.42	11.11	11.09	0.62	11.02
95th-Percentile Queue Length [ft/ln]	140.42	151.78	10.46	277.65	277.18	15.60	275.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.89	8.36	49.46	15.65	15.65	25.11	43.75
Movement LOS	D	A	D	B	B	C	D
d_A, Approach Delay [s/veh]	12.94		15.90			42.44	
Approach LOS	B		B			D	
d_I, Intersection Delay [s/veh]	17.91						
Intersection LOS	B						
Intersection V/C	0.675						

Emissions

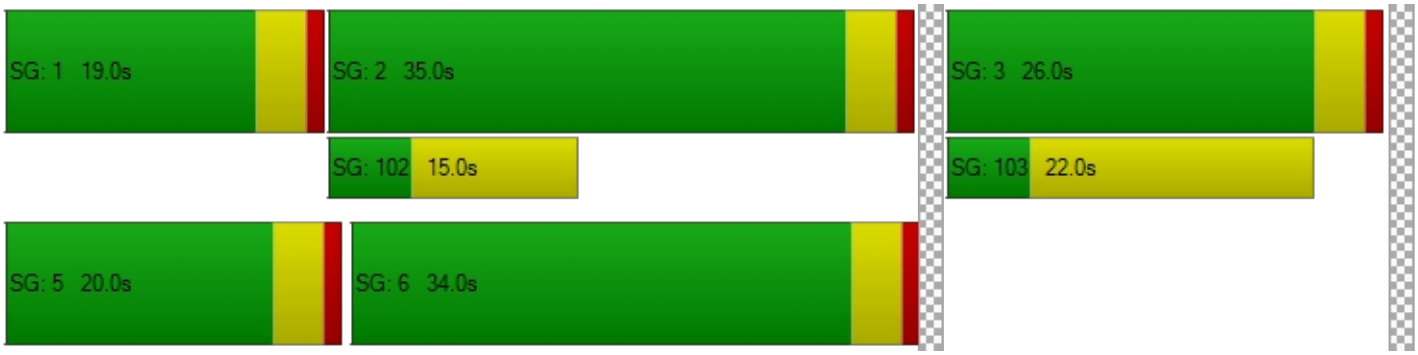
Vehicle Miles Traveled [mph]	119.23	753.33	3.71	248.56	247.94	2.00	26.54
Stops [stops/h]	140.42	303.56	10.46	307.00	306.36	15.60	304.09
Fuel consumption [US gal/h]	7.15	31.25	0.35	14.25	14.22	0.29	5.49
CO [g/h]	499.47	2184.52	24.32	996.41	994.11	20.00	383.60
NOx [g/h]	97.18	425.03	4.73	193.86	193.42	3.89	74.63
VOC [g/h]	115.76	506.28	5.64	230.93	230.40	4.64	88.90

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	3.064	0.000	2.095
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	750	775	550
d_b, Bicycle Delay [s]	15.63	15.01	21.03
l_b,int, Bicycle LOS Score for Intersection	2.489	2.560	1.560
Bicycle LOS	B	B	A

Sequence

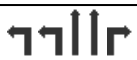
Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Magnolia Ave/Mission Gorge Rd

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Mission Gorge Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	245.00	100.00	100.00	220.00	100.00	135.00	175.00	100.00	610.00	135.00	100.00	130.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Mission Gorge Road		
Base Volume Input [veh/h]	173	664	332	203	758	146	117	244	130	325	596	193
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	34	0	31	109	34	14	23	23	0	32	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	208	711	339	238	882	183	133	272	156	332	640	207
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	183	87	61	227	47	34	70	40	86	165	53
Total Analysis Volume [veh/h]	214	733	349	245	909	189	137	280	161	342	660	213
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Maximum Green [s]	30	30	30	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	24.0	24.0	0.0	24.0	0.0	0.0	24.0	24.0	0.0	24.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	14.0	14.0	20.0	24.0	0.0	9.0	14.0	14.0	12.0	17.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6.0	19.6	31.6	6.4	20.0	20.0	4.5	10.0	20.0	8.0	13.5	13.5
g / C, Green / Cycle	0.10	0.33	0.53	0.11	0.33	0.33	0.07	0.17	0.33	0.13	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.22	0.07	0.25	0.12	0.04	0.08	0.10	0.10	0.18	0.13
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	3514	3618	1615	3514	3618	1615
c, Capacity [veh/h]	352	1178	849	379	1206	538	263	603	538	469	814	363
d1, Uniform Delay [s]	25.87	17.11	8.61	25.67	17.81	15.10	26.71	22.59	14.81	24.96	22.04	20.76
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.30	0.11	0.11	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.70	2.48	1.47	1.86	4.40	1.80	1.59	0.56	0.86	2.20	2.01	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.62	0.41	0.65	0.75	0.35	0.52	0.46	0.30	0.73	0.81	0.59
d, Delay for Lane Group [s/veh]	27.57	19.59	10.08	27.53	22.20	16.90	28.30	23.15	15.67	27.17	24.05	22.38
Lane Group LOS	C	B	B	C	C	B	C	C	B	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.41	4.03	2.37	1.59	5.32	1.88	0.92	1.65	1.52	2.20	4.00	2.46
50th-Percentile Queue Length [ft/ln]	35.29	100.78	59.36	39.71	132.92	47.10	22.98	41.20	37.96	55.11	100.03	61.46
95th-Percentile Queue Length [veh/ln]	2.54	7.26	4.27	2.86	9.10	3.39	1.65	2.97	2.73	3.97	7.20	4.42
95th-Percentile Queue Length [ft/ln]	63.53	181.40	106.85	71.47	227.46	84.78	41.36	74.17	68.33	99.19	180.06	110.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.57	19.59	10.08	27.53	22.20	16.90	28.30	23.15	15.67	27.17	24.05	22.38
Movement LOS	C	B	B	C	C	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	18.35			22.43			22.28			24.63		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	21.82											
Intersection LOS	C											
Intersection V/C	0.728											

Emissions

Vehicle Miles Traveled [mph]	21.88	74.94	35.68	189.69	703.78	146.33	20.69	42.29	24.31	34.31	66.22	21.37
Stops [stops/h]	169.41	483.72	142.47	190.60	638.01	113.04	110.30	197.78	91.11	264.52	480.16	147.49
Fuel consumption [US gal/h]	3.65	10.36	3.39	10.24	36.16	7.07	2.61	4.78	2.28	6.36	11.47	3.54
CO [g/h]	255.04	724.05	237.23	716.08	2527.86	494.29	182.70	333.88	159.33	444.27	801.76	247.21
NOx [g/h]	49.62	140.87	46.16	139.32	491.83	96.17	35.55	64.96	31.00	86.44	155.99	48.10
VOC [g/h]	59.11	167.81	54.98	165.96	585.86	114.56	42.34	77.38	36.93	102.96	185.82	57.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	667	333	433
d_b, Bicycle Delay [s]	20.83	13.33	20.83	18.41
l_b,int, Bicycle LOS Score for Intersection	2.629	2.668	2.036	2.562
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Park Center Dr/Riverwalk Dr

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name	Park Center Drive			Park Center Drive			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			10.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Park Center Drive			Park Center Drive			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	7	10	0	13	14	121	101	10	12	0	3	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	16	0	0	4	6	2	0	2	0	0	0
Diverted Trips [veh/h]	0	80	0	0	130	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	106	0	13	148	129	105	10	14	0	3	3
Peak Hour Factor	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	40	0	5	55	48	39	4	5	0	1	1
Total Analysis Volume [veh/h]	22	159	0	19	222	193	157	15	21	0	4	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	716	806	661	664
Degree of Utilization, x	0.25	0.54	0.29	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.00	3.27	1.21	0.04
95th-Percentile Queue Length [ft]	25.01	81.83	30.36	0.91
Approach Delay [s/veh]	9.72	12.56	10.69	8.48
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	11.45			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 8: Park Center Dr/Project Roundabout

Control Type:	Roundabout	Delay (sec / veh):	4.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Project Roundabout		Park Center Drive		Project Roundabout	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Project Roundabout		Park Center Drive		Project Roundabout	
Base Volume Input [veh/h]	10	65	4	16	16	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	6	0	0	24
Diverted Trips [veh/h]	0	0	130	0	0	80
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	66	140	16	16	106
Peak Hour Factor	0.6680	0.6680	0.6680	0.6680	0.6680	0.6680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	25	52	6	6	40
Total Analysis Volume [veh/h]	15	99	210	24	24	159
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	210		24		15	
Exiting Flow Rate [veh/h]	48		174		309	
Demand Flow Rate [veh/h]	10	66	140	16	16	106
Adjusted Demand Flow Rate [veh/h]	15	99	210	24	24	159

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	114	234	183
Capacity of Entry and Bypass Lanes [veh/h]	1114	1347	1360
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1114	1347	1360
X, volume / capacity	0.10	0.17	0.13

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.34	0.63	0.47
95th-Percentile Queue Length [ft]	8.53	15.70	11.63
Approach Delay [s/veh]	4.11	4.10	3.73
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.98		
Intersection LOS	A		

Intersection Level Of Service Report

Intersection 9: Cottonwood Ave/Project Dwy #2-Walker Trail Drive

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #2			Walker Trail Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #2			Walker Trail Drive		
Base Volume Input [veh/h]	0	0	5	5	0	0	0	34	0	0	55	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	65	0	0	0	0	65	0	17	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	130	0	0	80	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	70	5	0	0	0	230	0	17	153	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	18	1	0	0	0	58	0	4	38	0
Total Analysis Volume [veh/h]	0	0	70	5	0	0	0	230	0	17	153	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.06	12.31	9.84	12.74	11.97	9.09	7.50	0.00	0.00	7.69	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.28	0.03	0.03	0.03	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	7.03	7.03	7.03	0.81	0.81	0.81	0.00	0.00	0.00	0.71	0.71	0.71
d_A, Approach Delay [s/veh]	9.84			12.74			0.00			0.77		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	1.86											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Cottonwood/River Bluff Dr-Project Dwy #3

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #3			River Bluff Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #3			River Bluff Drive		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	17	65	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	17	65	0	0	0	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	4	16	0	0	0	0	1
Total Analysis Volume [veh/h]	0	0	0	0	0	17	65	0	0	0	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

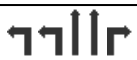
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	7.20	0.00	0.00	8.82	9.29	8.58	8.56	9.10	8.32
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.21	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	5.16	5.16	5.16	0.35	0.35	0.35
d_A, Approach Delay [s/veh]	2.41			0.00			8.82			8.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.07											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 1: Cuyamaca St/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	170.00	100.00	120.00	115.00	100.00	100.00	80.00	100.00	70.00	195.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	253	207	403	13	165	112	178	582	267	286	280	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	9	8	0	7	0	0	10	8	8	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	266	220	419	13	175	114	182	604	280	300	294	12
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	58	111	3	46	30	48	160	74	80	78	3
Total Analysis Volume [veh/h]	283	234	445	14	186	121	193	642	298	319	312	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Maximum Green [s]	15	18	18	15	18	0	21	25	0	16	20	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	10.0	0.0	10.0	0.0	0.0	10.0	0.0	0.0	10.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	22.0	25.0	25.0	21.0	24.0	0.0	28.0	31.0	0.0	23.0	26.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No		No	No	
Maximum Recall	No	No	No	No	No		No	No		No	No	
Pedestrian Recall	No	No	No	No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10.5	44.3	64.7	1.6	35.4	35.4	12.7	21.6	21.6	16.4	25.4	25.4
g / C, Green / Cycle	0.11	0.44	0.65	0.02	0.35	0.35	0.13	0.22	0.22	0.16	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.28	0.01	0.08	0.09	0.11	0.18	0.18	0.09	0.09	0.09
s, saturation flow rate [veh/h]	3514	3618	1615	1810	1900	1660	1810	3618	1615	3514	1900	1873
c, Capacity [veh/h]	370	1599	1045	30	671	586	230	783	349	580	484	477
d1, Uniform Delay [s]	43.53	16.65	8.60	48.72	22.83	22.95	42.67	37.33	37.66	38.34	30.41	30.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.18	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.31	0.19	1.27	10.62	0.83	1.03	8.03	2.21	9.28	0.82	0.41	0.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.15	0.43	0.46	0.24	0.25	0.84	0.82	0.85	0.55	0.34	0.34
d, Delay for Lane Group [s/veh]	46.84	16.84	9.87	59.34	23.66	23.98	50.69	39.54	46.94	39.15	30.82	30.83
Lane Group LOS	D	B	A	E	C	C	D	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.52	1.59	4.48	0.43	2.74	2.57	5.03	7.43	7.63	3.55	3.17	3.13
50th-Percentile Queue Length [ft/ln]	87.90	39.75	111.97	10.77	68.42	64.29	125.78	185.80	190.87	88.80	79.13	78.18
95th-Percentile Queue Length [veh/ln]	6.33	2.86	7.95	0.78	4.93	4.63	8.71	11.90	12.17	6.39	5.70	5.63
95th-Percentile Queue Length [ft/ln]	158.23	71.55	198.74	19.39	123.15	115.73	217.74	297.57	304.16	159.84	142.44	140.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.84	16.84	9.87	59.34	23.71	23.98	50.69	39.54	46.94	39.15	30.82	30.83
Movement LOS	D	B	A	E	C	C	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	22.44			25.36			43.39			34.95		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	33.14											
Intersection LOS	C											
Intersection V/C	0.604											

Emissions

Vehicle Miles Traveled [mph]	15.83	13.09	24.90	0.81	9.27	8.59	10.68	35.53	16.49	19.72	10.11	9.98
Stops [stops/h]	253.16	114.48	161.23	15.51	98.52	92.58	181.12	535.09	274.86	255.75	113.95	112.58
Fuel consumption [US gal/h]	5.20	2.16	3.06	0.32	1.86	1.74	4.15	11.69	6.14	5.76	2.51	2.48
CO [g/h]	363.80	151.13	213.60	22.14	130.13	121.90	290.28	817.47	428.98	402.64	175.23	173.11
NOx [g/h]	70.78	29.40	41.56	4.31	25.32	23.72	56.48	159.05	83.46	78.34	34.09	33.68
VOC [g/h]	84.31	35.03	49.50	5.13	30.16	28.25	67.27	189.46	99.42	93.32	40.61	40.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	420	400	540	440
d_b, Bicycle Delay [s]	31.21	32.00	26.65	30.42
l_b,int, Bicycle LOS Score for Intersection	2.353	1.824	2.494	2.091
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Cuyamaca St/Riverwalk Dr

Control Type:	Signalized	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	95.00	95.00	100.00	100.00	25.00	100.00	100.00	60.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			10.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Cuyamaca Street			Cuyamaca Street			Riverwalk			Riverwalk		
Base Volume Input [veh/h]	37	790	121	86	670	2	7	1	16	100	0	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	14	0	27	0	0	0	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	830	137	88	710	2	7	1	16	109	0	49
Peak Hour Factor	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760	0.9760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	213	35	23	182	1	2	0	4	28	0	13
Total Analysis Volume [veh/h]	39	850	140	90	727	2	7	1	16	112	0	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	0.0	10.0	0.0	0.0	21.0	0.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	9.0	14.0	0.0	28.0	33.0	0.0	0.0	14.0	0.0	0.0	14.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	0	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2.7	36.0	36.0	4.7	38.0	38.0	3.8	3.8	9.6	9.6
g / C, Green / Cycle	0.04	0.51	0.51	0.07	0.54	0.54	0.05	0.05	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.09	0.05	0.20	0.00	0.00	0.01	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1629	1810	1615
c, Capacity [veh/h]	69	1856	829	122	1962	876	98	88	248	221
d1, Uniform Delay [s]	33.09	10.84	9.08	32.02	9.17	7.34	31.45	31.65	27.80	26.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.01	0.82	0.44	8.31	0.54	0.00	0.31	1.06	1.29	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.46	0.17	0.74	0.37	0.00	0.07	0.19	0.45	0.23
d, Delay for Lane Group [s/veh]	40.10	11.66	9.52	40.33	9.71	7.34	31.75	32.71	29.09	27.43
Lane Group LOS	D	B	A	D	A	A	C	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.76	3.73	1.07	1.71	2.77	0.01	0.12	0.31	1.78	0.76
50th-Percentile Queue Length [ft/ln]	18.91	93.21	26.81	42.65	69.37	0.32	3.09	7.70	44.39	19.01
95th-Percentile Queue Length [veh/ln]	1.36	6.71	1.93	3.07	4.99	0.02	0.22	0.55	3.20	1.37
95th-Percentile Queue Length [ft/ln]	34.03	167.78	48.25	76.78	124.86	0.57	5.57	13.85	79.89	34.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.10	11.66	9.52	40.33	9.71	7.34	31.75	32.71	32.71	29.09	27.43	27.43
Movement LOS	D	B	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.45			13.07			32.43			28.58		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.22											
Intersection LOS	B											
Intersection V/C	0.431											

Emissions

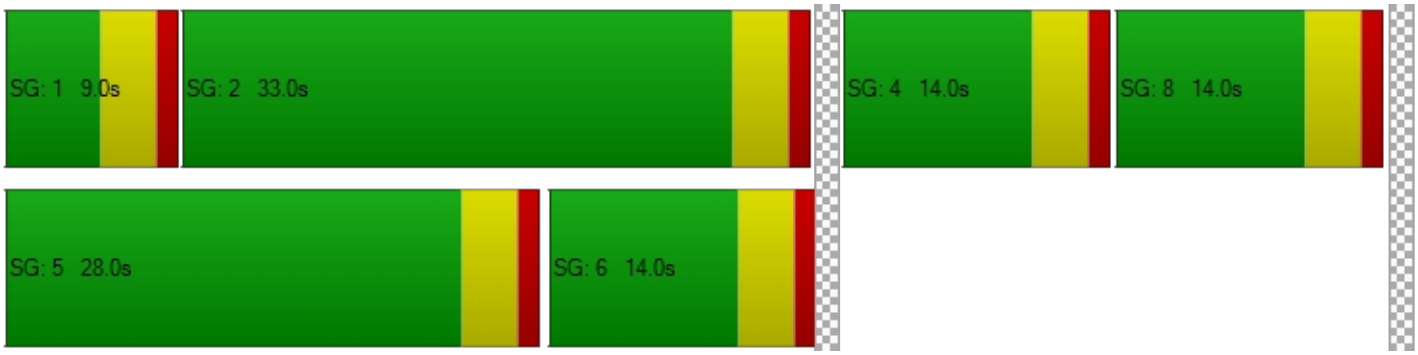
Vehicle Miles Traveled [mph]	3.46	75.46	12.43	14.06	113.54	0.31	0.12	0.29	51.87	23.16
Stops [stops/h]	38.90	383.49	55.14	87.75	285.39	0.65	6.36	15.83	91.31	39.11
Fuel consumption [US gal/h]	0.74	7.78	1.16	1.93	7.91	0.02	0.06	0.14	3.35	1.47
CO [g/h]	51.92	543.66	81.07	135.21	552.95	1.38	3.94	9.83	233.87	102.78
NOx [g/h]	10.10	105.78	15.77	26.31	107.58	0.27	0.77	1.91	45.50	20.00
VOC [g/h]	12.03	126.00	18.79	31.34	128.15	0.32	0.91	2.28	54.20	23.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	286	829	286	286
d_b, Bicycle Delay [s]	25.71	12.01	25.71	25.71
l_b,int, Bicycle LOS Score for Intersection	2.409	2.235	1.599	1.827
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Park Center Dr/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.498

Intersection Setup

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	105.00	90.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Park Center Drive		Mast Boulevard		Mast Boulevard	
Base Volume Input [veh/h]	21	86	889	22	105	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	10	21	8	22	14
Diverted Trips [veh/h]	130	0	0	80	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	98	928	110	129	591
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	26	244	29	34	156
Total Analysis Volume [veh/h]	163	103	978	116	136	623
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Flashing Yellow Arrow						
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Walk [s]	5.0	0.0	5.0	0.0	0.0	5.0
Pedestrian Clearance [s]	17.0	0.0	10.0	0.0	0.0	10.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	0.0	32.0	0.0	22.0	54.0
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	R	L	C
C, Calculated Cycle Length [s]	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9.5	9.5	50.7	50.7	7.8	62.5
g / C, Green / Cycle	0.12	0.12	0.63	0.63	0.10	0.78
(v / s)_i Volume / Saturation Flow Rate	0.09	0.06	0.27	0.07	0.08	0.17
s, saturation flow rate [veh/h]	1810	1615	3618	1615	1810	3618
c, Capacity [veh/h]	215	192	2293	1023	176	2825
d1, Uniform Delay [s]	34.12	33.16	7.35	5.78	35.25	2.32
k, delay calibration	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.36	2.31	0.58	0.22	7.03	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.54	0.43	0.11	0.77	0.22
d, Delay for Lane Group [s/veh]	39.48	35.47	7.94	6.01	42.28	2.50
Lane Group LOS	D	D	A	A	D	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.31	1.96	3.39	0.66	2.80	0.64
50th-Percentile Queue Length [ft/ln]	82.81	49.02	84.85	16.55	70.10	16.08
95th-Percentile Queue Length [veh/ln]	5.96	3.53	6.11	1.19	5.05	1.16
95th-Percentile Queue Length [ft/ln]	149.06	88.24	152.73	29.80	126.17	28.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.48	35.47	7.94	6.01	42.28	2.50
Movement LOS	D	D	A	A	D	A
d_A, Approach Delay [s/veh]	37.93		7.73		9.63	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	12.20					
Intersection LOS	B					
Intersection V/C	0.498					

Emissions

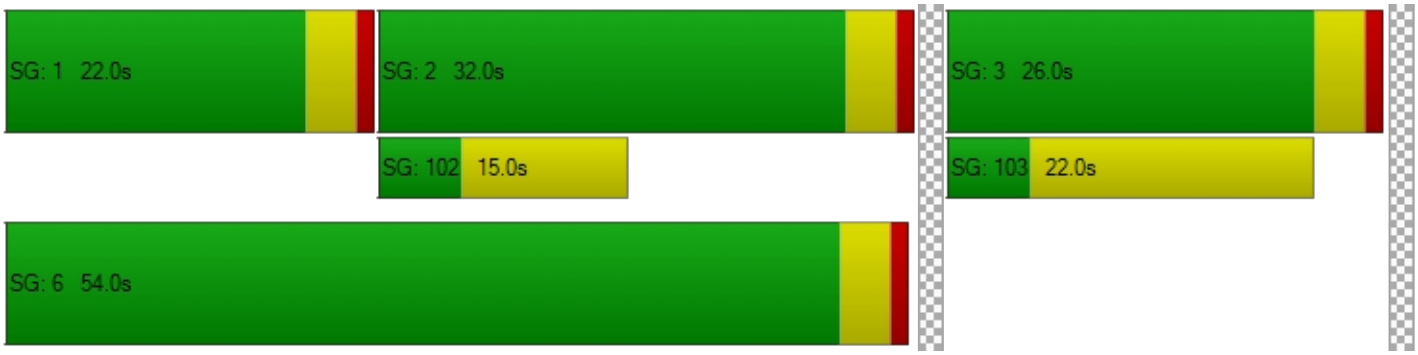
Vehicle Miles Traveled [mph]	15.32	9.68	381.45	45.24	33.54	153.66
Stops [stops/h]	149.06	88.24	305.46	29.80	126.17	57.89
Fuel consumption [US gal/h]	2.76	1.63	18.24	2.06	3.61	6.39
CO [g/h]	193.20	113.91	1275.26	143.66	252.41	446.64
NOx [g/h]	37.59	22.16	248.12	27.95	49.11	86.90
VOC [g/h]	44.78	26.40	295.55	33.29	58.50	103.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	2.104	0.000	2.774
Crosswalk LOS	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	700	1250
d_b, Bicycle Delay [s]	21.03	16.90	5.63
l_b,int, Bicycle LOS Score for Intersection	1.560	2.462	2.186
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Magnolia Ave/Mast Blvd

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	170.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	120.00	165.00	100.00	160.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			40.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mast Boulevard			Mast Boulevard		
Base Volume Input [veh/h]	299	473	134	58	347	266	360	223	253	63	106	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	8	1	0	18	5	7	11	13	1	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	323	490	138	59	372	276	374	238	271	65	121	29
Peak Hour Factor	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540	0.9540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	128	36	15	97	72	98	62	71	17	32	8
Total Analysis Volume [veh/h]	339	514	145	62	390	289	392	249	284	68	127	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	21.0	0.0	0.0	24.0	0.0	0.0	21.0	0.0	0.0	21.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	15.0	0.0	9.0	14.0	0.0	21.0	14.0	0.0	22.0	15.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8.1	22.3	22.3	3.2	17.5	17.5	9.2	15.0	15.0	3.4	9.3	9.3
g / C, Green / Cycle	0.14	0.37	0.37	0.05	0.29	0.29	0.15	0.25	0.25	0.06	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.18	0.03	0.11	0.18	0.11	0.07	0.18	0.04	0.04	0.02
s, saturation flow rate [veh/h]	3514	1900	1758	1810	3618	1615	3514	3618	1615	1810	3618	1615
c, Capacity [veh/h]	474	706	654	98	1052	470	537	901	402	106	560	250
d1, Uniform Delay [s]	24.84	14.44	14.44	27.81	16.91	18.38	24.23	18.16	20.52	27.64	22.21	21.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.02	2.37	2.56	6.68	1.00	5.93	1.92	0.16	2.28	6.39	0.20	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.48	0.48	0.64	0.37	0.62	0.73	0.28	0.71	0.64	0.23	0.12
d, Delay for Lane Group [s/veh]	26.87	16.81	17.00	34.48	17.92	24.31	26.15	18.33	22.80	34.02	22.42	22.05
Lane Group LOS	C	B	B	C	B	C	C	B	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.17	3.34	3.13	0.98	2.00	3.76	2.52	1.25	3.41	1.08	0.74	0.35
50th-Percentile Queue Length [ft/ln]	54.21	83.62	78.23	24.48	50.01	93.98	63.07	31.15	85.33	26.94	18.46	8.76
95th-Percentile Queue Length [veh/ln]	3.90	6.02	5.63	1.76	3.60	6.77	4.54	2.24	6.14	1.94	1.33	0.63
95th-Percentile Queue Length [ft/ln]	97.57	150.51	140.81	44.06	90.02	169.16	113.52	56.07	153.59	48.49	33.23	15.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.87	16.87	17.00	34.48	17.92	24.31	26.15	18.33	22.80	34.02	22.42	22.05
Movement LOS	C	B	B	C	B	C	C	B	C	C	C	C
d_A, Approach Delay [s/veh]	20.29			21.80			23.02			25.88		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	21.98											
Intersection LOS	C											
Intersection V/C	0.667											

Emissions

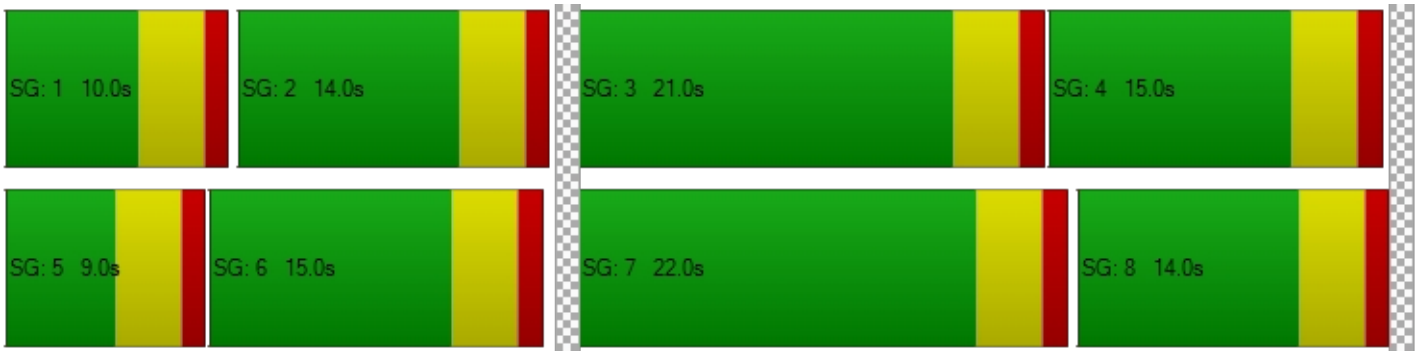
Vehicle Miles Traveled [mph]	139.91	141.27	130.72	3.14	19.75	14.63	96.69	61.42	70.05	5.91	11.03	2.61
Stops [stops/h]	260.18	200.68	187.75	58.75	240.06	225.55	302.73	149.53	204.79	64.66	88.61	21.02
Fuel consumption [US gal/h]	9.88	8.51	7.91	1.12	4.49	4.17	8.52	4.60	5.84	1.18	1.67	0.39
CO [g/h]	690.92	594.74	552.96	78.61	313.70	291.46	595.81	321.37	408.12	82.63	116.47	27.40
NOx [g/h]	134.43	115.72	107.59	15.30	61.04	56.71	115.92	62.53	79.40	16.08	22.66	5.33
VOC [g/h]	160.13	137.84	128.15	18.22	72.70	67.55	138.09	74.48	94.58	19.15	26.99	6.35

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	333	333	367
d_b, Bicycle Delay [s]	20.01	20.83	20.83	20.01
l_b,int, Bicycle LOS Score for Intersection	2.383	2.171	2.323	1.745
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	14.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	120.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	11	1029	1	733	3	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	173	20	0	15	17	7	73
Diverted Trips [veh/h]	130	0	0	0	0	0	80
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	314	1070	1	763	20	10	165
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	278	0	198	5	3	43
Total Analysis Volume [veh/h]	326	1111	1	792	21	10	171
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Permissive
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							
Maximum Green [s]	30	30	10	30	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	26.0	35.0	19.0	28.0	0.0	26.0	26.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	
Maximum Recall	No	No	No	No		No	
Pedestrian Recall	No	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16.6	57.5	0.1	41.0	41.0	10.4	10.4
g / C, Green / Cycle	0.21	0.72	0.00	0.51	0.51	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.18	0.31	0.00	0.21	0.21	0.01	0.11
s, saturation flow rate [veh/h]	1810	3618	1810	1900	1883	1810	1615
c, Capacity [veh/h]	376	2597	4	973	965	235	210
d1, Uniform Delay [s]	30.63	4.60	39.85	12.12	12.12	30.44	33.86
k, delay calibration	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.15	0.52	33.20	0.29	0.29	0.07	7.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.43	0.26	0.42	0.42	0.04	0.81
d, Delay for Lane Group [s/veh]	36.79	5.11	73.06	12.41	12.41	30.51	41.31
Lane Group LOS	D	A	E	B	B	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	6.23	2.35	0.05	3.86	3.83	0.17	3.58
50th-Percentile Queue Length [ft/ln]	155.66	58.66	1.34	96.46	95.63	4.26	89.52
95th-Percentile Queue Length [veh/ln]	10.32	4.22	0.10	6.95	6.89	0.31	6.45
95th-Percentile Queue Length [ft/ln]	257.97	105.60	2.42	173.63	172.14	7.66	161.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.79	5.11	73.06	12.41	12.41	30.51	41.31
Movement LOS	D	A	E	B	B	C	D
d_A, Approach Delay [s/veh]	12.30		12.48			40.71	
Approach LOS	B		B			D	
d_I, Intersection Delay [s/veh]	14.47						
Intersection LOS	B						
Intersection V/C	0.573						

Emissions

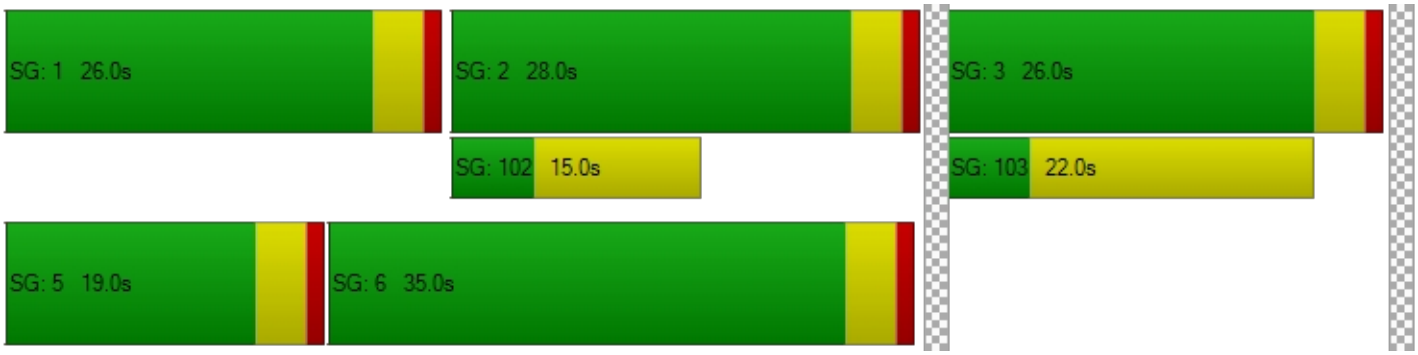
Vehicle Miles Traveled [mph]	252.40	860.17	0.41	168.52	167.03	0.87	14.88
Stops [stops/h]	280.19	211.19	2.42	173.63	172.14	7.66	161.13
Fuel consumption [US gal/h]	14.58	33.27	0.06	8.97	8.89	0.14	2.94
CO [g/h]	1018.84	2325.34	4.13	626.73	621.25	9.80	205.51
NOx [g/h]	198.23	452.43	0.80	121.94	120.87	1.91	39.98
VOC [g/h]	236.13	538.92	0.96	145.25	143.98	2.27	47.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	2.998	0.000	2.107
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	775	600	550
d_b, Bicycle Delay [s]	15.01	19.60	21.03
l_b,int, Bicycle LOS Score for Intersection	2.745	2.231	1.560
Bicycle LOS	B	B	A

Sequence

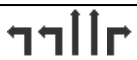
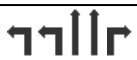
Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Magnolia Ave/Mission Gorge Rd-Woodside Ave

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.875

Intersection Setup

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Woodside Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Entry Pocket Length [ft]	245.00	100.00	100.00	220.00	100.00	135.00	175.00	100.00	610.00	135.00	100.00	130.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			45.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Magnolia Avenue			Magnolia Avenue			Mission Gorge Road			Woodside Avenue		
Base Volume Input [veh/h]	228	788	398	158	628	130	230	649	327	373	576	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	121	0	18	53	17	38	25	25	0	23	34
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	256	925	406	179	694	150	273	687	359	380	611	158
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	244	107	47	183	40	72	182	95	100	161	42
Total Analysis Volume [veh/h]	271	978	429	189	734	159	289	726	379	402	646	167
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Flashing Yellow Arrow												
Signal Group	1	6	6	5	2	0	3	8	8	7	4	0
Auxiliary Signal Groups			6,7						1,8			
Maximum Green [s]	30	30	30	30	30	0	30	30	30	30	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Walk [s]	0.0	5.0	5.0	0.0	5.0	0.0	0.0	5.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	24.0	24.0	0.0	24.0	0.0	0.0	24.0	24.0	0.0	24.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	10.0	14.0	14.0	17.0	21.0	0.0	11.0	17.0	17.0	12.0	18.0	0.0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	10	5	10	0	5	10	10	5	10	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Minimum Recall	No	No	No	No	No		No	No	No	No	No	
Maximum Recall	No	No	No	No	No		No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No		No	No	No	No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6.0	17.7	29.7	5.3	17.0	17.0	6.7	13.0	23.0	8.0	14.3	14.3
g / C, Green / Cycle	0.10	0.30	0.50	0.09	0.28	0.28	0.11	0.22	0.38	0.13	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.27	0.27	0.05	0.20	0.10	0.08	0.20	0.23	0.11	0.18	0.10
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	3514	3618	1615	3514	3618	1615
c, Capacity [veh/h]	351	1064	798	314	1025	458	395	784	619	469	859	384
d1, Uniform Delay [s]	26.33	20.49	10.46	26.30	19.33	17.09	25.75	23.03	14.91	25.44	21.23	19.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.60	13.93	2.59	1.86	4.29	2.08	2.63	5.36	4.48	4.67	1.35	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.92	0.54	0.60	0.72	0.35	0.73	0.93	0.61	0.86	0.75	0.44
d, Delay for Lane Group [s/veh]	29.93	34.42	13.05	28.16	23.62	19.17	28.38	28.39	19.38	30.12	22.58	20.23
Lane Group LOS	C	C	B	C	C	B	C	C	B	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.89	7.69	3.53	1.24	4.47	1.74	1.95	5.00	4.21	2.77	3.76	1.79
50th-Percentile Queue Length [ft/ln]	47.20	192.22	88.36	31.09	111.70	43.55	48.70	124.93	105.16	69.33	93.90	44.64
95th-Percentile Queue Length [veh/ln]	3.40	12.24	6.36	2.24	7.93	3.14	3.51	8.66	7.57	4.99	6.76	3.21
95th-Percentile Queue Length [ft/ln]	84.97	305.90	159.05	55.96	198.37	78.40	87.65	216.58	189.25	124.80	169.02	80.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.93	34.42	13.05	28.16	23.62	19.17	28.38	28.39	19.38	30.12	22.58	20.23
Movement LOS	C	C	B	C	C	B	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	28.23			23.76			25.94			24.75		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.95											
Intersection LOS	C											
Intersection V/C	0.875											

Emissions

Vehicle Miles Traveled [mph]	27.70	99.98	43.86	146.33	568.28	123.10	43.65	109.64	57.24	40.33	64.81	16.75
Stops [stops/h]	226.58	922.64	212.06	149.24	536.18	104.53	233.74	599.66	252.38	332.79	450.71	107.14
Fuel consumption [US gal/h]	4.87	19.50	4.79	7.95	29.67	6.14	5.53	14.01	6.02	7.98	10.79	2.59
CO [g/h]	340.35	1362.79	335.06	556.01	2074.20	429.17	386.44	979.53	421.12	558.09	754.53	181.31
NOx [g/h]	66.22	265.15	65.19	108.18	403.56	83.50	75.19	190.58	81.93	108.58	146.80	35.28
VOC [g/h]	78.88	315.84	77.65	128.86	480.72	99.46	89.56	227.02	97.60	129.34	174.87	42.02

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	567	433	467
d_b, Bicycle Delay [s]	20.83	15.41	18.41	17.63
l_b,int, Bicycle LOS Score for Intersection	2.944	2.452	2.710	2.562
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 7: Park Center Dr/Riverwalk Dr - H & H Svc Driveway

Control Type:	All-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	Project Driveway #1			Park Center Drive			Riverwalk			He &		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			10.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Driveway #1			Park Center Drive			Riverwalk			He &		
Base Volume Input [veh/h]	8	12	0	4	30	80	108	4	23	1	7	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	8	0	0	16	3	6	0	8	0	0	0
Diverted Trips [veh/h]	0	130	0	0	80	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	150	0	4	127	85	116	4	31	1	7	13
Peak Hour Factor	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	45	0	1	38	26	35	1	9	0	2	4
Total Analysis Volume [veh/h]	14	180	0	5	152	102	139	5	37	1	8	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	756	809	717	740
Degree of Utilization, x	0.26	0.32	0.25	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.02	1.39	1.00	0.10
95th-Percentile Queue Length [ft]	25.52	34.65	24.97	2.62
Approach Delay [s/veh]	9.40	9.54	9.71	8.03
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.49			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Park Center Dr/Project Dwy #1-Project Dwy #2

Control Type:	Roundabout	Delay (sec / veh):	4.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Park Center Drive		Project Driveway #1		Project Driveway #2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Park Center Drive		Project Driveway #1		Project Driveway #2	
Base Volume Input [veh/h]	16	30	2	10	71	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	24	0	0	12
Diverted Trips [veh/h]	0	0	80	0	0	130
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	31	106	10	72	146
Peak Hour Factor	0.8330	0.8330	0.8330	0.8330	0.8330	0.8330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	9	32	3	22	44
Total Analysis Volume [veh/h]	19	37	127	12	86	175
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	127		86		19	
Exiting Flow Rate [veh/h]	98		194		164	
Demand Flow Rate [veh/h]	16	31	106	10	72	146
Adjusted Demand Flow Rate [veh/h]	19	37	127	12	86	175

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	56	139	261
Capacity of Entry and Bypass Lanes [veh/h]	1213	1265	1354
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1213	1265	1354
X, volume / capacity	0.05	0.11	0.19

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.15	0.37	0.71
95th-Percentile Queue Length [ft]	3.63	9.24	17.82
Approach Delay [s/veh]	3.34	3.75	4.26
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.99		
Intersection LOS	A		

Intersection Level Of Service Report

Intersection 9: Cottonwood Ave/Project Drw #2-Walker Trails Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #2			Walker Trails Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #2			Walker Trails Drive		
Base Volume Input [veh/h]	0	0	8	8	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	30	0	0	0	0	30	0	72	72	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	80	0	0	130	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	38	8	0	0	0	110	0	72	202	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	10	2	0	0	0	28	0	18	51	0
Total Analysis Volume [veh/h]	0	0	38	8	0	0	0	110	0	72	202	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	12.51	12.72	8.95	13.02	12.70	9.41	7.60	0.00	0.00	7.49	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.05	0.05	0.05	0.00	0.00	0.00	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	3.13	3.13	3.13	1.34	1.34	1.34	0.00	0.00	0.00	3.12	3.12	3.12
d_A, Approach Delay [s/veh]	8.95			13.02			0.00			1.97		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.29											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 10: Cottonwood/River Bluff-Project Dwy #3

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #3			River Bluff Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Cottonwood Avenue			Cottonwood Avenue			Project Driveway #3			River Bluff Drive		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	72	30	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	72	30	0	0	0	0	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	18	8	0	0	0	0	2
Total Analysis Volume [veh/h]	0	0	0	0	0	72	30	0	0	0	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	7.20	0.00	0.00	8.86	9.30	8.57	8.72	9.40	8.32
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.55	0.55	0.55
d_A, Approach Delay [s/veh]	2.45			0.00			8.86			8.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.02											
Intersection LOS	A											

NEAR-TERM PLUS PROJECT WITH IMPROVEMENTS TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	80.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	20	883	8	1078	4	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	13	0	21	4	15	153
Diverted Trips [veh/h]	80	0	0	0	0	0	130
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	914	8	1121	8	22	286
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	243	2	298	2	6	76
Total Analysis Volume [veh/h]	154	973	9	1194	9	23	305
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Permissive
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							
Maximum Green [s]	30	25	30	25	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	13.0	29.0	15.0	31.0	0.0	26.0	13.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	
Maximum Recall	No	No	No	No		No	
Pedestrian Recall	No	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5.0	41.8	0.9	37.7	37.7	15.3	15.3
g / C, Green / Cycle	0.07	0.60	0.01	0.54	0.54	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.00	0.32	0.32	0.01	0.19
s, saturation flow rate [veh/h]	3514	3618	1810	1900	1895	1810	1615
c, Capacity [veh/h]	252	2157	25	1023	1020	395	353
d1, Uniform Delay [s]	31.54	7.80	34.21	10.92	10.92	21.65	26.35
k, delay calibration	0.11	0.50	0.11	0.50	0.50	0.11	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.39	0.68	8.61	2.49	2.49	0.06	8.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.45	0.36	0.59	0.59	0.06	0.86
d, Delay for Lane Group [s/veh]	33.93	8.48	42.83	13.41	13.42	21.71	34.81
Lane Group LOS	C	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.25	3.04	0.20	5.47	5.46	0.29	5.46
50th-Percentile Queue Length [ft/ln]	31.26	75.95	5.02	136.72	136.44	7.34	136.48
95th-Percentile Queue Length [veh/ln]	2.25	5.47	0.36	9.30	9.29	0.53	9.29
95th-Percentile Queue Length [ft/ln]	56.27	136.71	9.04	232.60	232.22	13.21	232.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.93	8.48	42.83	13.41	13.42	21.71	34.81
Movement LOS	C	A	D	B	B	C	C
d_A, Approach Delay [s/veh]	11.96		13.63			33.89	
Approach LOS	B		B			C	
d_I, Intersection Delay [s/veh]	15.42						
Intersection LOS	B						
Intersection V/C	0.641						

Emissions

Vehicle Miles Traveled [mph]	119.23	753.33	3.71	248.56	247.94	2.00	26.54
Stops [stops/h]	128.62	312.49	10.33	281.25	280.68	15.10	280.76
Fuel consumption [US gal/h]	6.75	31.39	0.33	13.66	13.63	0.27	4.80
CO [g/h]	471.78	2194.00	23.36	954.86	952.67	18.69	335.79
NOx [g/h]	91.79	426.87	4.55	185.78	185.35	3.64	65.33
VOC [g/h]	109.34	508.48	5.41	221.30	220.79	4.33	77.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	0.00	26.58
l_p,int, Pedestrian LOS Score for Intersectio	3.082	0.000	2.240
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	714	771	629
d_b, Bicycle Delay [s]	14.46	13.21	16.46
l_b,int, Bicycle LOS Score for Intersection	2.489	2.560	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Magnolia Ave/Park Center Dr

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Approach	Northbound		Southbound			Eastbound	
Lane Configuration							
Turning Movement	Left	Thru	U-turn	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	1	1	0
Entry Pocket Length [ft]	80.00	100.00	100.00	100.00	100.00	140.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00		45.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		No			Yes	

Volumes

Name	Magnolia Avenue		Magnolia Avenue			Park Center Drive	
Base Volume Input [veh/h]	11	1029	1	733	3	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00						
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	173	20	0	15	17	7	73
Diverted Trips [veh/h]	130	0	0	0	0	0	80
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	314	1070	1	763	20	10	165
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	278	0	198	5	3	43
Total Analysis Volume [veh/h]	326	1111	1	792	21	10	171
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

Phasing & Timing (Basic)

Control Type	Protected	Permissive	Protected	Permissive	Permissive	Permissive	Permissive
Flashing Yellow Arrow							
Signal Group	1	6	5	2	0	3	1
Auxiliary Signal Groups							
Maximum Green [s]	30	30	10	30	0	30	30
Amber [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Walk [s]	0.0	5.0	0.0	5.0	0.0	5.0	0.0
Pedestrian Clearance [s]	0.0	10.0	0.0	10.0	0.0	17.0	0.0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	0.0	2.0	2.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	23.0	35.0	19.0	31.0	0.0	26.0	23.0
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	10	5	10	0	5	5
Vehicle Extension [s]	3.0	3.0	3.0	3.0	0.0	3.0	3.0
Minimum Recall	No	No	No	No		No	
Maximum Recall	No	No	No	No		No	
Pedestrian Recall	No	No	No	No		No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	R
C, Calculated Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10.0	57.5	0.1	47.6	47.6	10.4	10.4
g / C, Green / Cycle	0.13	0.72	0.00	0.59	0.59	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.31	0.00	0.21	0.21	0.01	0.11
s, saturation flow rate [veh/h]	3514	3618	1810	1900	1883	1810	1615
c, Capacity [veh/h]	440	2597	4	1130	1120	235	210
d1, Uniform Delay [s]	33.73	4.60	39.85	8.37	8.37	30.44	33.86
k, delay calibration	0.11	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.46	0.52	33.20	0.19	0.20	0.07	7.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.43	0.26	0.36	0.36	0.04	0.81
d, Delay for Lane Group [s/veh]	36.19	5.11	73.06	8.57	8.57	30.51	41.31
Lane Group LOS	D	A	E	A	A	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.00	2.35	0.05	2.89	2.86	0.17	3.58
50th-Percentile Queue Length [ft/ln]	75.07	58.66	1.34	72.24	71.62	4.26	89.52
95th-Percentile Queue Length [veh/ln]	5.40	4.22	0.10	5.20	5.16	0.31	6.45
95th-Percentile Queue Length [ft/ln]	135.12	105.60	2.42	130.03	128.92	7.66	161.13

Movement, Approach, & Intersection Results

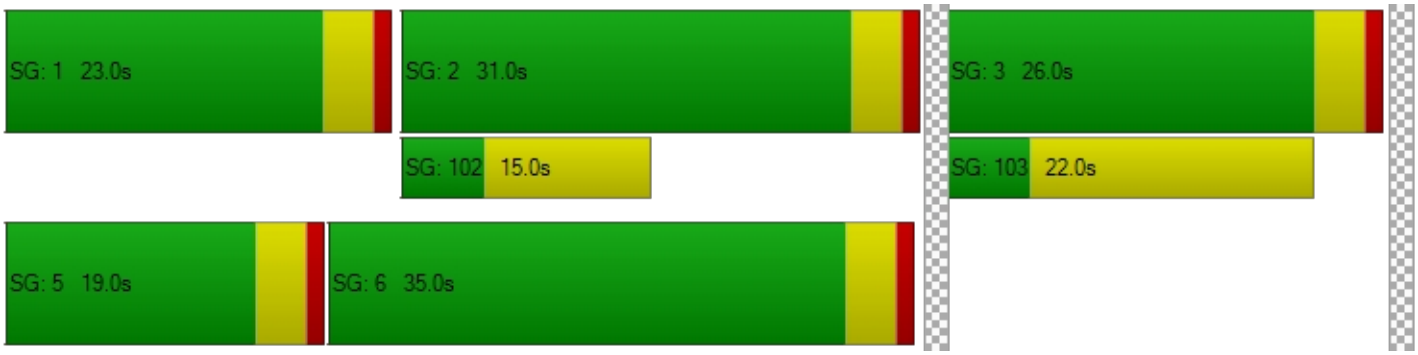
d_M, Delay for Movement [s/veh]	36.19	5.11	73.06	8.57	8.57	30.51	41.31
Movement LOS	D	A	E	A	A	C	D
d_A, Approach Delay [s/veh]	12.16		8.65			40.71	
Approach LOS	B		A			D	
d_I, Intersection Delay [s/veh]	13.11						
Intersection LOS	B						
Intersection V/C	0.473						

Emissions

Vehicle Miles Traveled [mph]	252.40	860.17	0.41	168.52	167.03	0.87	14.88
Stops [stops/h]	270.25	211.19	2.42	130.03	128.92	7.66	161.13
Fuel consumption [US gal/h]	14.41	33.27	0.06	8.11	8.03	0.14	2.94
CO [g/h]	1007.46	2325.34	4.13	566.54	561.58	9.80	205.51
NOx [g/h]	196.01	452.43	0.80	110.23	109.26	1.91	39.98
VOC [g/h]	233.49	538.92	0.96	131.30	130.15	2.27	47.63

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	0.00	31.51
l_p,int, Pedestrian LOS Score for Intersectio	3.034	0.000	2.255
Crosswalk LOS	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	775	675	550
d_b, Bicycle Delay [s]	15.01	17.56	21.03
l_b,int, Bicycle LOS Score for Intersection	2.745	2.231	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-