Fire Protection Plan
Summit Avenue - Santee
APN 378-190-01-00
Prepared for the Santee Fire Department and the City of Santee, CA.

January 26, 2024

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Summit Avenue - Santee
Fire Protection Plan

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Summit Avenue - Santee
FIRE PROTECTION PLAN
APNs 378-190-01-00
January 26, 2024

EXECUTIVE SUMMARY

This Fire Protection Plan (FPP) evaluates the 4.9-acre Summit Avenue Development Plan to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The FPP considered the property location, topography, geology, aspect, combustible vegetation (fuel types), climatic conditions and fire history. It also addresses water supply, access, building ignition and fire resistive construction materials, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management.

The project was analyzed to identify potential adverse impacts and to identify adequate measures for impacts resulting from wildland fire hazards. The evaluation determined that the Santee Fire Department along with the California Department of Forestry and Fire Protection (CAL FIRE) and other nearby fire departments will be able to provide adequate emergency services. CAL FIRE (under the State Responsibility Area Agreement) as well as other fire departments and fire protection districts, can be requested under a Mutual Aid agreement to respond in the event of wildfire event in the area.

This FPP also lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury, or death from wildland fires. 100 feet of fuel modified defensible space is required for all new developments, subdivisions or tracts within the City of Santee. Within the City of Santee, the 100 horizontal feet of defensible space is divided into two distinct fuel management zones referred to as Zone 1 and Zone 2. Zone 1 extends 50 feet on a horizontal plane from the exterior surfaces of buildings, structures, and decks, toward the wildland, This area is the least flammable zone, a permanently irrigated, landscaped zone. This landscaped zone shall consist of fire resistant and maintained plantings. Zone 2 is the area beyond Zone 1, extending from 50 to 100 feet from the exterior wall surfaces of structures. Zone 2 also includes manufactured slopes and excludes all prohibited highly combustible native vegetation but permits plantings within specific criteria and reduces the existing native vegetation by 70%. The owners or Homeowners Association shall be responsible to the Santee Fire Department Fire Marshal for the completion of all designated Fuel Modification Treatments.

The Project is located within a Wildland Urban Interface (WUI) area and will require both a Fire Protection Plan and a minimum of 100 feet of fuel modified defensible space between any structures and the wildland area. Structures built in the WUI shall be constructed using non-combustible building materials and other approved non-combustible techniques.

1.0 INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the Summit Avenue Condominium project hereinafter referred to as the Project. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, fire history, existing site conditions, and current fuel modification activities. The FPP addresses existing water supply, access (including secondary/emergency access where applicable), structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The FPP identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect the at-risk community and essential infrastructure. The FPP recommends measures that the property owner(s) will take to reduce the probability of ignition of structures throughout the Project.

General Information

Project Principles:	Matthew Esquivel
Approving Departments:	
Fire Authority:	Santee Fire Department
Engineering:	Santee Engineering Department
Water:	Padre Dam Municipal Water District

This FPP will be submitted by the developer to the Santee Fire Department for approval. It is based upon current requirements, as of the date of this report, of the City of Santee regarding Wildland FPPs, including: pertinent local Fire Ordinances; the 2021 International Urban-Wildland Interface Code; 2022 California Code of Regulations Title 24, Part 9, and Title 14, section 1280; The 2022 California Fire Code and Local Amendments including Appendices to Chapters 1 & 4 and Appendices B,C, F & H; the 2022 California Building Code Chapter 7A Materials and Construction Methods for Exterior Wildland Exposure; the 2022 California Residential Code section R327; the California Reference Standards Code, Chapter 12-7A; the California State and Local Responsibility Area Fire Hazard Severity Zone Map; California Government Code, sections 51175 through 51189; 2022 NFPA 1140, Standard for Wildland Fire Protection; California Public Resources Codes sections 4201 through 4204; 2022 Guidance to Local Governments to Mitigate Wildfire Risk from Developments in Fire-Prone Areas; and Santee Local and other Applicable Amendments.

The Summit Avenue FPP has two main objectives. First, the FPP provides fuel treatment guidelines for the property owner(s) and any subsequent owner(s). Second, the FPP provides features for the developer, architect, builder, and the Santee Fire Department to improve the relative safety of the buildings from approaching wildfire. Appendices attached to this FPP provide additional information that shall be considered as part of this FPP.

This FPP Includes:

- A wildland fire hazard rating assessment and expected fire behavior of both on-site and off-site native vegetative fuels.
- A long-term perimeter vegetative fuel modification treatment and maintenance plan to minimize the potential loss of any structure due to wildland fires.
- A long-term interior open space fuel modification treatment plan and landscaping criteria to be utilized around the planned structures.
- Ignition Resistant Building Features that will be required for all structures.

- A review of building features, community protection systems (e.g., water and access), and specifications to assure these structures, features and systems adequately protect life and property.

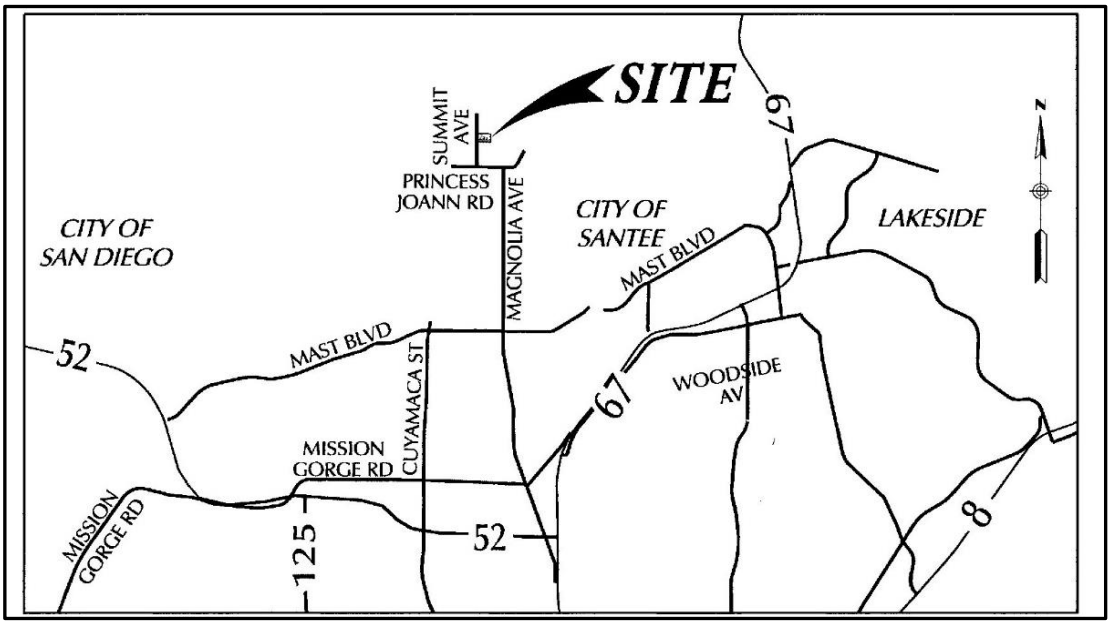

Figure 1 - Summit Avenue Project Vicinity Map

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

The Project is located at 10939 Summit Avenue in the northern portion of the City of Santee, a suburban city in central San Diego County. California (see Figures 1 & 2). Santee is located between the Pacific Ocean, 18 miles to the west, and the Cleveland National Forest, Descanso District to the east.

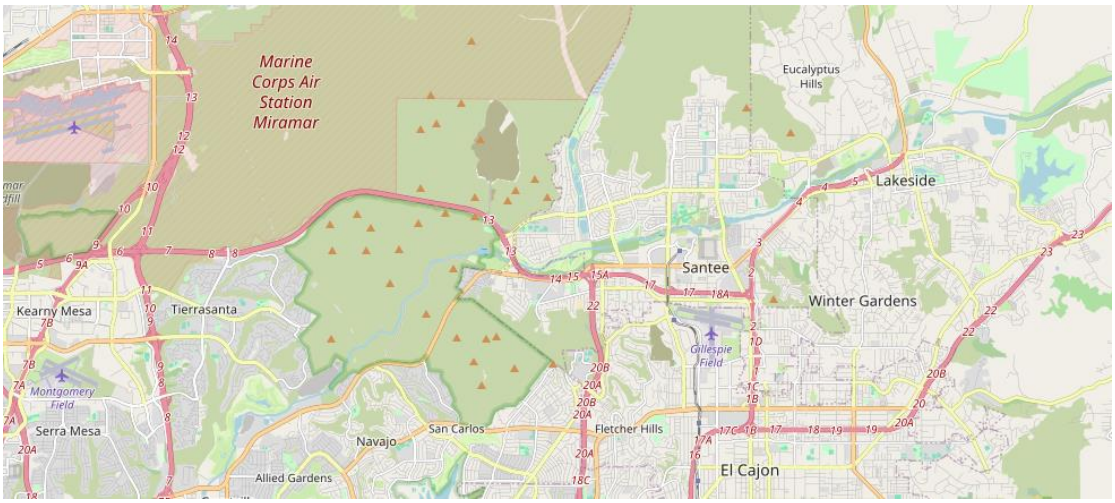

Figure 2 Southern California Area Map for Santee (Open Street Maps)

1.1.2 Project Description

The Project covers approximately 4.9-acres of land currently being used as a rural homesite with associated farming structures. The site is currently zoned R1 with the land use designated as single-family detached. The project consists of the removal of an existing single-family residence, barns and sheds and trees. The development plan for the Project includes 50 condominium units within ten individual buildings. 100 residential parking spaces will be provided onsite. In addition, 13 guest parking spaces will also be provided along with the construction of a sidewalk on Summit Avenue The project will install an underground detention system to retain water and sediment onsite with regulated flows offsite. The project proposes a zoning of R7 and a land use designation of Residential. Among the project amenities are private and common open space areas for residents and guests.

1.1.3 Environmental Setting

1.1.3.1 Dates of Site Inspection/Visits Conducted

A site visit was conducted as well as numerous phone calls and emails to determine pertinent information concerning the environmental setting.

Site Visit & Purpose	**Date**
Field Visit	November 6, 2023

Evaluate lot layout and primary access road locations, current land uses, and fuel types, create a photo log.

1.1.3.2 Topography

The Project site is in the City of Santee which has an elevation of 351 feet and is bordered on the north and east by steep low peaks. Rattlesnake Peak at 1,198 feet is the highest point in Santee. The city is bisected by the San Diego River which flows east to west and begins in the Cuyamaca and Vulcan Mountains in the Julian California area eventually emptying into the Pacific Ocean.

The topography in the immediate area of the Project site includes low ridgelines to the northeast and west. Eucalyptus Hills forms the southern base of the north-south running ridge line on the northeast side of the project. Steep west facing slopes rise to a maximum elevation of 1102 feet with several peaks in the 800-900 feet range. West of the Summit Avenue area is a north south running ridgeline with peaks ranging in the 600-700 feet range. Southwest of the site at the base of the ridgeline is the Carlton Hills, a series of 400-500 feet peaks.

North of the Project the ridgelines continue until reaching Sycamore Canyon which is located southeast of Poway California. A seasonal creek begins in the canyon and flows south before reaching the San Diego River in Santee. These two ridgelines form the two sides of a bowl with the narrow creek bed flowing between them.

1.1.3.3 Climate

The climate in Santee based on the Koppen Climate Classification system rates Santee as “Bsk”, a cold, arid or semi-arid climate with dry summers. Temperatures usually range from mid-70s to mid-90s in the summer with winter temperatures ranging from the low 40s to 60s. Rainfall occurs mainly in the

months of December, January and February with 11.5 inches the average annual rainfall amount. Santee averages 258 sunny days a year. Patchy fog is common in January and February, the fog usually dissipates in the early morning.

Afternoon southwest winds are a daily feature and range from 7 to 10 miles per hours daily. Stronger gusts may occur but seldom reach 20 mph. Santa Ana winds, common to San Diego County in the fall and early spring, may reach a peak of 15 to 20 mph, with occasional gusts of 25 mph.

Fire agencies throughout the western United States rely on a sophisticated system of Remote Automated Weather Stations (RAWS) to monitor weather conditions and aid in the forecasting of fire danger. The closest RAWS that approximates the weather conditions in Santee is the Alpine RAWS. The data acquired from RAWS is important to modeling wildland fire behavior. The most critical wind patterns in the project area are winds coming out of the east and also winds from the west northwest as recorded by the Alpine RAWS Station.

Another weather resources is the Weather Underground a commercial weather service that provides real time weather reports from local weather stations. The weather reports are local, the one used in this weather study was from a site in Santee less tha 1-mile south of the project site

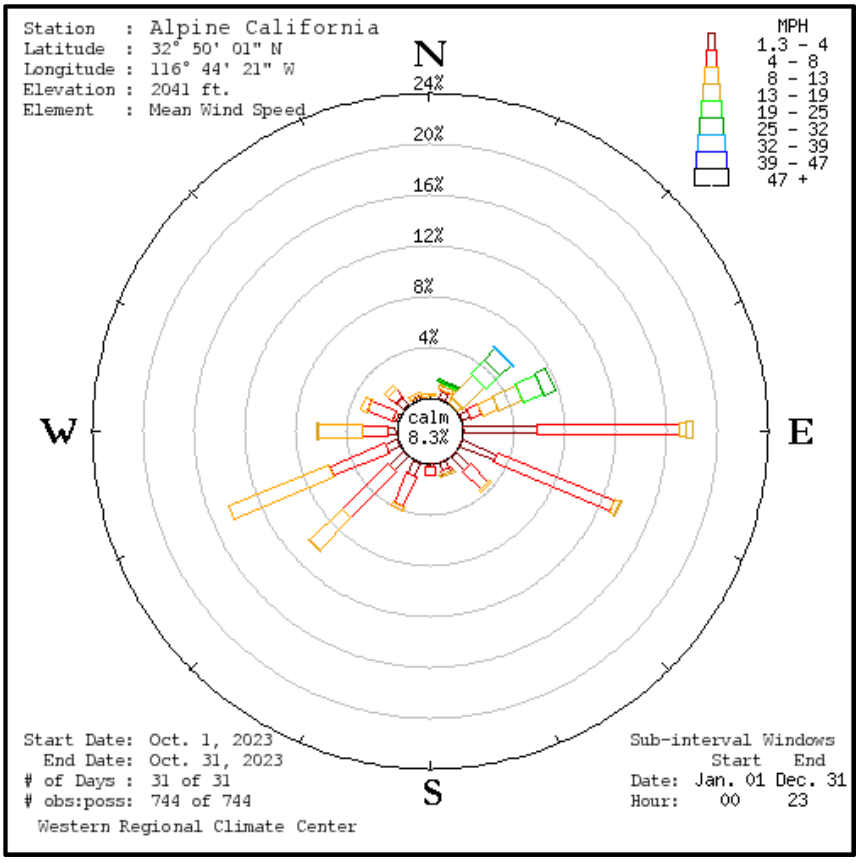

Figure 3 - Alpine RAWS Weather Data October 2023
Green is WNW or NW winds, Blue is SSW Winds, Red is ENE or NE Winds

10/19/2023	97.2 °F	72.9 °F	53.9 °F	59.8 °F	51.4 °F	45.4 °F	85 %	52 %	23 %	13.0 mph	2.3 mph
10/20/2023	98.0 °F	73.7 °F	56.9 °F	60.5 °F	51.7 °F	44.8 °F	67 %	49 %	21 %	16.6 mph	3.1 mph
10/21/2023	91.5 °F	70.6 °F	55.8 °F	61.1 °F	54.6 °F	48.2 °F	90 %	60 %	27 %	14.0 mph	2.8 mph
10/22/2023	79.1 °F	66.5 °F	59.8 °F	61.6 °F	57.3 °F	53.3 °F	97 %	74 %	47 %	16.1 mph	3.7 mph
10/23/2023	73.7 °F	63.4 °F	55.8 °F	59.0 °F	54.2 °F	49.0 °F	84 %	73 %	53 %	11.4 mph	3.1 mph
10/24/2023	78.7 °F	63.1 °F	50.3 °F	59.2 °F	53.6 °F	47.9 °F	97 %	73 %	47 %	13.0 mph	3.1 mph
10/25/2023	70.2 °F	63.6 °F	60.5 °F	55.5 °F	53.8 °F	52.7 °F	77 %	71 %	59 %	10.4 mph	3.2 mph
10/26/2023	79.6 °F	65.7 °F	58.9 °F	57.7 °F	54.3 °F	52.1 °F	78 %	68 %	43 %	16.1 mph	3.3 mph
10/27/2023	76.9 °F	64.3 °F	54.2 °F	60.2 °F	53.9 °F	50.0 °F	97 %	71 %	47 %	15.0 mph	2.6 mph
10/28/2023	76.4 °F	60.5 °F	46.1 °F	54.1 °F	49.7 °F	45.0 °F	97 %	70 %	42 %	13.5 mph	2.5 mph
10/29/2023	85.7 °F	62.6 °F	45.6 °F	53.1 °F	31.6 °F	9.1 °F	97 %	47 %	8 %	19.1 mph	3.9 mph
10/30/2023	89.3 °F	61.2 °F	38.2 °F	29.8 °F	18.7 °F	7.4 °F	47 %	23 %	7 %	15.5 mph	3.0 mph
10/31/2023	91.8 °F	62.5 °F	39.3 °F	32.7 °F	19.8 °F	9.4 °F	49 %	24 %	6 %	13.5 mph	2.5 mph

Table 1 - Sample Weather From Santee Weather Underground Site

The weather data from both the Alpine RAWS Station and the Santee Weather Underground site reported similar data, typical afternoon winds are either WNW orNW winds with tops wind gusts slightly above 16 MPH. ON October 29th and 30th, NE and ENE winds dominated the area with strong gusty winds and low relative humidity levels (shown in yellow above).Relative humidity levels during typical SW winds range from 40%-50%, slightly reducing the overall threat of an escaped wildfire.

1.1.3.4 On and Off-Site Vegetation

The Project area is partially developed with a single-family home with auxiliary buildings including sheds and carports. While the site is partially developed there are small patches of native coastal sage scrub habitat. Other onsite vegetation consists of non-native grasses, shrubs including black mustard, California buckwheat, eucalyptus, Peruvian pepper, and tamarisk trees.

The hills on the east, north and western sides of the project are covered with native vegetation consisting of large areas of dense 3-to-4-foot tall, undisturbed coastal sage scrub. Hillsides have numerous rocky outcroppings with sandy soils. Three non-vegetated channels consists of predominantly sandy, gravelly, or rocky channels lacking or with reduced vegetation. Further north in Sycamore Canyon coastal sage scrub covered

hillsides lead further north to the Sycamore Canyon Preserve which provides habitat for numerous wildlife species.

Photo 1 - Typical Southern California Coastal Sage Scrub

Vegetation types found in the tracts of coastal sage scrub include toyon, chamise, California barberry, lemonade berry, white and black sage, lilac, and scrub oak. These species range from 3 to over 5-feet in height. Smaller shrubs, less than 4-feet in height, were found to include both California and Wright's buckwheat. East facing slopes have smaller shrubs and more frequent yucca and other cactus species.

1.1.3.5 Fire History

The fire history data for San Diego County suggests that in the second half of the 20th Century the frequency of small fires increased in Southern California while their average size decreased. This was due primarily to human caused fires and rapid-fire suppression. In San Diego County, this has resulted in an increased rate of burning in low elevation coastal scrubland, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 large fires of over 100-acres in the foothills and mountains from 1910-1999. Recently several years of drought have contributed to major fires with subsequent loss of lives, property and large burned areas.

Major fires in San Diego County over the past 20 years have included the 2007 Witch and Guejito Fires, and the 2003 Cedar Fire, which burned over 273,000 acres and caused the evacuation of over 500,000 people and caused multiple civilian fatalities and one firefighter fatality. Starting in the San Diego River bottom the fire quickly spread

throughout the county eventually threatening over 25 communities. Within six hours of the start of the Cedar Fire, the Paradise fire started, further threating communities in North San Diego County and burned 56,700 acres, destroyed 223 structures, and caused 2 fatalities, including one firefighter.

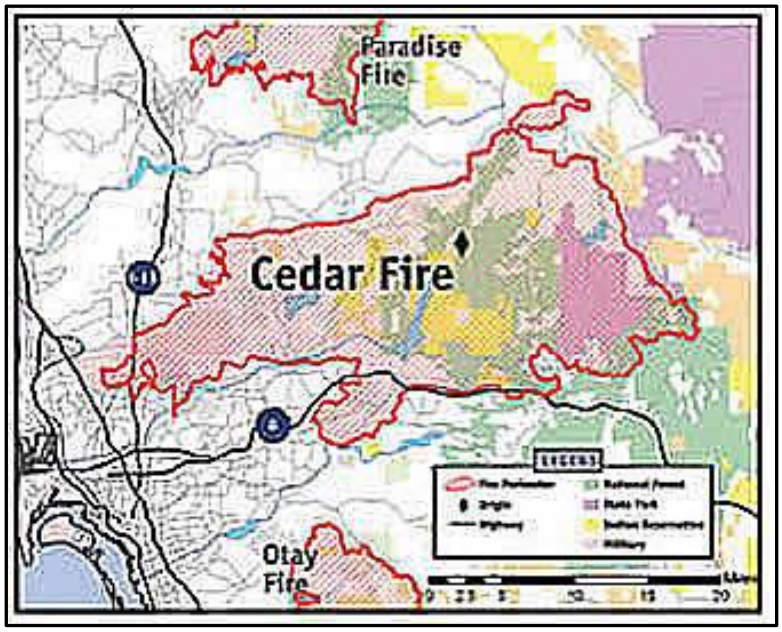

Figure 4 - Cedar Fire Perimeter 2003

Fires potentially impacting the Santee area included the Cedar Fire in 2003 and in 2021 a fire of 18 acres forced the evacuation of homes in the Walker Preserve area as the flames approached homes on Thanksgiving. In July, 2003 the Shothole Fire started in Sycamore Canyon north of Santee and burned 106 acres.

1.1.3.6 On-Site and Off-Site Land Uses

The existing project site contains a single-family residence with associated support structures such as sheds and carports and indications of past farming usage. Other land uses currently include storage of farming equipment and firewood.

The major off-site land use to the south is a well-developed residential neighborhood, and a community church. West of the site is vacant land with indications of past fuel treatments along Summit Avenue. North of the site are isolated homesites and ranches. Further north and to the east are hills covered with native wildland vegetation.

2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

The Summit Avenue FPP evaluates the potential adverse environmental effects that the development of the Project may have on wildland fire and proposes appropriate mitigations for any adverse impacts to ensure that the site does not unnecessarily expose people or structures to a significant risk of loss, injury, or death in regard wildland fire. The following guidelines for the determination of significance are used:

1. 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 or where residences are intermixed with wildlands?

The Project is bordered by existing rural residential areas to the south with wildlands to the north, east and west. Through implementation of the existing fuel modification activities, and additional requirements outlined in this FPP, The Project reduces the exposure of people or structures to a less than significant risk of loss, injury or death involving wildland fires.

2. Would the project result in inadequate emergency access?

The property is located within the jurisdiction of the City of Santee Fire Department which provides fire suppression and emergency medical response to the area. Access to the project site is made from several main thoroughfares including Magnolia Avenue. Access roads are currently paved but will be improved with sidewalks, curbs and gutters according to Santee Engineering and Public Services requirements. These improvements will reduce traffic congestion and response time to the Project area, especially the area north of the Calvary Chapel of Santee Church, where the access road condition is not as well maintained. Therefore, the Project will
have a less than significant impact on emergency access once the road improvements have been completed.

3. Would the project 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 service ratios, response times or other performance objectives for fire protection?

The existing fire facilities are more than adequate to provide acceptable emergency service and response times. The Santee Fire Department currently provides emergency services to The Project area for fire and medical services. Santee Fire Station 4 is located 3.3 miles south of and travel time would be less than 9 minutes. Santee Fire Station 5 is 3.7 miles southwest of the site and would take under 10 minutes to arrive on scene. As a member of Heartland Fire Rescue, immediate response to the project site can be made through the boundary drop, closest unit concept. The inclusion of fire sprinkler systems in each building will reduce the fire impacts the project will have on fire department availability. Therefore, the Project would have a less than significant impact on response times, service ratios, and/or performance objectives for fire protection when the second fire station is built and staffed.

4. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Water for the Project will be provided by the Padre Dam Municipal Water District which manages the water storage and delivery for Santee and portions of El Cajon and Lakeside. The “Your Water” information on the Padre Dam MWD website states that “The tap water customers receive from Padre Dam is blended water from the Colorado River System, the California State Water Project, ocean water from the desalination plant and local watersheds within San Diego County”. The district stores water so that water is available for daily, fire and emergency use when needed. The management plan is looking for ways to achieve a sustainable and renewable water supply. The district also maintains a wastewater reclamation facility that serves the community that provides reclaimed water for non-potable water uses such as landscaping.

The design of the water system for the Project has been engineered to deliver drinking water and supply water to the fire hydrants and sprinkler systems at the required flow rates established by the Santee Fire Department. Based on the current water system design recommendations, the Project will have a sufficient capacity to meet the maximum daily demands of the development with sufficient storage capacity for emergency use.

3.0 ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

The fire behavior calculations (See Section 4.6 and Appendix 'F' for details of the Fire Behave Modeling) in Table 3.1 predict a maximum rate of spread of 236.0 feet/minute in the coastal sage fuel model under Santa Ana winds at 65 mph. The 65-mph wind is the expected maximum velocity on the property based on the RAWS weather station in Alpine. Moving at a rapid rate of spread through coastal sage, the potential for wildfire exposure to the project from fire approaching from the north and east due to ember production, radiant heat and direct flame contact is very high. Under the same weather conditions, the same fire will move at a much slower rate of spread when burning through treated fuels, 41.4 feet/minute with a greatly decreased intensity as shown in Table 3.1.

TABLE 3.1
A Comparison of Fire Conditions Under 45 mph North or Northeast Wind Conditions
Untreated Versus Treated Fuels
Fuel Models SCAL18 vs. gr1

Untreated Fuels SCAL18		**After Treatment Combined Fuels gr1**	
Rate of Spread	**236.0 ft/min**	**Rate of Spread**	**41.4 ft/min**
Fireline Intensity	**17145 BTU/ft/sec**	**Fireline Intensity**	**67 BTU/ft/sec**
Flame Length	**39.9 Feet**	**Flame Length**	**3.1 Feet**

The other frequent weather pattern found in Santee is the typical gusty southwest wind pattern. The calculations used in Table 3.2 analyzed the fire behavior during these conditions based on fires occurring west of Summit Avenue in the vacant parcel west of the project. The calculations were based on the grass fuel model, gr4, and show that the fire activity west of the project site in the moderate, continuous grass fuel bed, shows a much higher rate of spread in the light flashy fuels. The predicted rate of spread would be 585.8 feet/minute, but with fuel treatment the rate of spread would be reduced to 41.4 ft/min.

TABLE 3.2
A Comparison of Fire Conditions Under 40 mph Northeast Wind Conditions
Untreated Versus Treated Fuels
Fuel Models gs4 vs. gr1

Untreated Fuels gs4		**After Treatment Fuels gr1**	
Rate of Spread	**585.8 ft/min**	**Rate of Spread**	**41.4 ft/min**
Fireline Intensity	**5519 BTU/ft/sec**	**Fireline Intensity**	**67 BTU/ft/sec**
Flame Length	**23.7 Feet**	**Flame Length**	**3.1 Feet**

Neither Table 3.1 nor Table 3.2 show a full alignment of the wind and topography. During Santa Ana north or northeast winds, the wind would be blowing the fire downhill with reduced rates of spread

versus the same wind blowing a fire uphill. During a southwest wind condition on the west project boundary, the topography is fairly flat providing for a limited increase in fire activity based on topography. The treatments required in SCAL18 would require thinning and the removal of dead and down ground litter with accumulations of annual grass also removed. The remaining fuel would be scattered native plants. Mowing or weed whipping of annual fuels to the west in the vacant property would reduce the fuel height reducing the availability of oxygen to move through more compacted fuels. Converting the fuel load, which is the total amount of combustible material in a defined space, to an area with a lighter fuel load will reduce fire behavior and increase safety and survivability of structures.

One or more of the following factors start structure ignitions from wildfires: a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment. During periods of high fire intensity and strong, dry winds, convective firebrands have the capability of being transported over great distances. Robust fuel treatments within the project site and along access roads, along with "Ignition Resistant Building Materials" which will be used during construction, will reduce the potential of firebrands entering the structures or catching exterior components on fire. Accordingly, wind driven embers and radiant heat issues are addressed in this FPP.

4.0 ANALYSIS OF PROJECT EFFECTS

The project demonstrates compliance, or offers the "*same practical effect"'*, with applicable fire regulations, including but not limited to the California Fire Code, California Code of Regulations.

The comprehensive FPP and the project design are consistent with the City of Santee Engineering and Fire Department requirements and recommendations including fuel modification.

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan or offers Same Practical Effect.

4.1 Adequate Emergency Services

The Project is within the City of Santee who provides fire and EMS protection through the Santee Fire Department. The nearest fire station is Santee Fire Station 4, located approximately 3.3 miles south, at 8950 Cottonwood Avenue The anticipated response time is approximately 9-minutes to the Project. Personnel at Station 4 cover a Type 1 ALS engine, Engine 4, an ALS truck, Truck 4 and a Paramedic Ambulance. Lakeside Engine 2 responding from 12216 Lakeside Avenue in Lakeside may arrive on scene due to traffic conditions slightly quicker based on traffic conditions. The estimated arrival time would be approximately 9 minutes from dispatch travelling a distance of 4.1 miles. The next closest engine, Santee Engine 5, is located at 9130 Carlton Oak Drive in Santee. Station 5 is approximately 3.7 miles southwest of the Project and would take less than 10 minutes to arrive on the scene of an emergency. Other fire stations are located within a twenty-minute response, these units would respond based on availability and the needs of the emergency. San Miguel Station 19 in El Cajon has a response time of approximately 13 minutes.

Lakeside, El Cajon, San Miguel, Alpine, Lemon Grove, and Santee are member fire departments of the Heartland Fire Rescue Department which provides cooperative services to member departments. Among those benefits is the boundary drop concept where the closet unit determined by a location are dispatched to an emergency, rather than jurisdictional boundaries, providing a more efficient response to emergency calls and use physical resources. CAL FIRE resources would

respond from CAL FIRE Station 21 in Flynn Springs CA and Station 20 at Monte Vista Headquarters. Units responding from both stations would take in excess of 20 minutes to arrive on scene.

Mutual aid resources may be available from fire agencies throughout San Diego County. However, on high or extreme wildland fire danger days there often may be multiple fire starts with multiple engine companies deployed on other incidents. Despite the relatively close proximity of the nearest fire station, there is no assurance that Engine 4 will be in its station when a wildfire threatens the Project from an ignition outside the community. Engines may respond from other stations further away or from other incidents.

The goal of this FPP therefore is to make the structures, residents, and guests in the Summit Avenue Condominiums as safe as possible until such time as firefighting equipment arrives and/or residents can be evacuated. With the existing fuel modification currently being completed in areas already developed such as Calvery Chapel, as well as implementation of the required fuel modifications, ignition resistant construction, and other mitigation measures described in this FPP, the Project will be provided with a higher degree of protection from wildfire than other older existing residential structures in Santee.

4.2 Fire Access

Access to the City of Santee is facilitated by the intersection of three State Highways, Highway 67 on the eastern side of the City, while Highway 52 bisects the City on the southern boundary and connects with Hwy 67 west of the Sky Ranch community. Hwy 125, a north south connecting highway, connects with Hwy 52 in western Santee and crosses Interstate 8 to the south. East west main thoroughfares include Mast Boulevard and Mission Gorge Road, Magnolia Avenue and Cuyamaca Street provide north and south travel routes.

Summit Avenue provides nearly direct access through the City to the Project site. Engine 4 would travel directly north on Magnolia Avenue, turn left on Princess Joann Rd, a quick right turn on Summit Avenue after passing the Calvary Chapel on the left and the intersection with Noble Way on the right. Lakeside Engine 2 can access Summit Ave using El Nopal from the east, making a right turn on Magnolia Ave, then a right turn onto Summit Avenue Access from western Santee can be made by traveling east on Mast Blvd, turning left on Cuyamaca St., right on El Nopal, then left on Magnolia. This route of travel would provide a direct route of travel for Engine 5. Units responding from further distances may use highway access then follow the same routes of travel through Santee. Magnolia, Cuyamaca, Mast and El Nopal are maintained by the City of Santee and vary from two-to-four lanes wide.

The main access road from Summit Avenue will be a minimum of 26’ wide paved with an all-weather surface. All new fire access roads within the project site shall be all-weather approved surfaces capable of supporting an imposed load of not less than 75,000-pounds. Access roads shall be marked with road signs that meet the City of Santee’s Engineering Department standards. No roads within the Project site have slopes that are equal to or greater than 15%, however, if any future road exceeds 15%, a concrete, heavy broom finish to improve road traction shall replace the asphaltic concrete surface. Slopes may not exceed 20% at any time. Side slopes are planned for a 2% slope. Fire access roads shall be provided for every facility or building and shall extend to within 150-feet of the all portions of the project and all portions of the exterior walls of the first story of the buildings.

No gate is planned for access to the Project. Any future gates will meet the current Fire Code requirements including but not limited to the following:

- the width of each gate must be at least 2-foot wider than the access road lane width and a minimum of a 30-foot setback from nearest edge of the main access roadway.
- the gates shall be equipped with an emergency strobe light sensor(s) or other devices approved by the Fire Marshal, which will activate the gate on the approach of emergency apparatus.
- egress from the park through each gate will be made using a tract control-activating device. A battery back-up or manual mechanical disconnect is required in the event of a power failure.
- all gates shall allow automatic egress without the use of codes or remote devices (e.g. the use of pressure pads, metal detector or infrared sensors.

Road name signs shall comply with City of Santee's Engineering Department's design standards. The fire access roads shall have painted red curbs or on the asphalt in front of each condominium garage with white-stenciled letters indicating "No Parking- Fire Lane". All signs, postings, red curbs and white stencils shall conform to the requirements of Section 22500.1 of the California Vehicle Code and shall be maintained in perpetuity. Signs or notices shall be maintained in a clean and legible condition at all times and replaced or repaired when necessary to provide adequate visibility. Addresses shall be 4' in height, black in color or other contrasting color placed near the front door of each unit visible from the street or on the garage of each unit.

4.3 Water

Water for the Project is provided by the Padre Dam Municipal Water District. Water from the district is currently supplied along Summit Avenue by a 12-inch supply line to the project area. Upon entering the site off Summit Avenue, an 8" water main will enter from the street and supply water for the fire hydrants. A second water main off Summit Avenue will be a 4-inch line that will supply water to the sprinkler systems in each building and also water for domestic usage. A water meter will be installed for each sprinkler system and a separate meter for residential usage.

Fire hydrants shall have two, 2 ½: discharges and one, 4" discharge. The minimum fire flow is 2,500 gallons per minute for 3 hours. The exact location for each fire hydrant, and fire department connection shall be determined by the Santee Fire Code Official. "Blue dot" markers shall be installed on all access roads to indicate the location of each fire hydrant. Fire hydrants shall be accessible to fire department apparatus by roads meeting the requirements of Santee's Engineering Department. The location of Fire Department Connections, (FDC) shall be indicated by "Green dot" markers in the streets.

4.4 Ignition-Resistant Construction and Fire Protection Systems

All structures shall comply with the ignition-resistive construction requirements: Wildland-Urban Interface areas of Chapter 7A of the California Fire Code (See APPENDIX 'C'). All habitable structures shall have an approved automatic fire sprinkler system installed by a licensed fire sprinkler contractor. Fire sprinkler system plans are required to be submitted to the Fire Department for approval prior to installation.

The Summit Avenue Condominiums HOA will be required to maintain the exterior of the property to Zones 1 and 2 Fuel Modification standards as outlined in Section 4.7 and will keep the roof and rain gutters on existing and new structures free of leaves, needles and other combustible debris. All firewood and other combustible materials must be properly stored away from all structures so that burning embers falling on or near the structures have no suitable host. The unit owners must keep all doors and windows tightly closed whenever a wildland fire is reported in the vicinity. The integrity of all doors must be maintained, including removal of any illegally placed door stops, to reduce the chances of embers being blown through open doorways and starting a fire.

The Homeowners Association (HOA) shall be responsible for maintaining the residential fire sprinkler system in operable condition, the fire sprinkler department connections, signs, road surfaces, and replacement of blue and green fire hydrant and fire department sprinkler connections.

4.4.1 Structure Setbacks from Protected Land – The required minimum setback from property lines abutting national forests, state parks, open space preserves, and designated riparian areas is 100-feet. There are no protected lands within 100-feet of the project boundary.

4.4.2 Setbacks from Slopes – New construction of permanent structures will take place throughout the Project site. All single-story structures shall have a minimum setback of 15-feet, measured horizontally, from the top of slopes to the farthest projection of the roof. Single-story structures shall be less than 12-feet above grade. Any two-story structures shall have a minimum setback of 30-feet, measured horizontally, from the top of slopes to the furthest projection of the roof. Structures greater than two-stories in height may be required to have a greater slope setback to be determined by the Santee Fire Marshal.

4.4.3 Structure Setbacks from Property Lines – There will be a minimum of a 10-foot setback on the interior side, exterior side and rear of each structure. The front shall have a 20-foot setback. On the west side of the site, there is a 50-foot fire setback from the edge of Summit Avenue to increase the safety of the project. When the property line abuts a roadway, the setback will be measured from the centerline of the roadway.

4.5 Defensible Space and Vegetation Management

4.5.1 Off-Site Fire Hazard and Risk Assessment

Plant succession and the climax plant communities must be assessed when considering the wildland fire hazard of a particular property. The vegetation described within this FPP is the most likely climax plant community that will exist without human intervention and the one utilized for planning purposes. Vegetation that has the ability to service the hot, dry desert conditions have adapted to these conditions by storying scarce water and blossoming quickly following a spring rain. These oily resins preserve the moisture from the sun, these same resins are flammable and can contribute to wildland fires under favorable weather conditions.

Currently, local off-site fuels have been modified in several nearby parcels. Land use includes rural ranch houses, residential homes and several construction service buildings and storage areas. Further outside the property's boundaries, native vegetation occurs on slopes and dry creek beds to the north and east. Residential areas to the south have completely modified fuel types, structures have replaced wildland fuels in these areas. West of the site is a large parcel covered with disturbed lands where grass has become the main fuel type.

The dominant fuel type found in the Project area is SCAL18, coastal sage scrub. The primary carrier of fire fuel model SCAL18 is both grass, dead wood and debris under the shrubs including small dad limbs under typical fire conditions. The burning of the shrubs is based on the moisture content of live fuels, the higher the live fuel moisture the more resistance the plants have to ignition. The fuel load shifts from live to dead as the moisture content lowers. The primary carrier of fire in the gr4 fuels is grass where the rate of spread varies from low rates of spread in light, sparse grass, to extreme rates of spread in 6-feet tall grass. Based on typical grass loads found in the area, moderate to high rates of spread are predicted based on current fire behavior modeling.

Northern Boundary Area:
The northern boundary is dominated by scattered residential properties with increasing slopes and drainages to the north into the Sycamore Canyon drainage basin (see Photo 2).

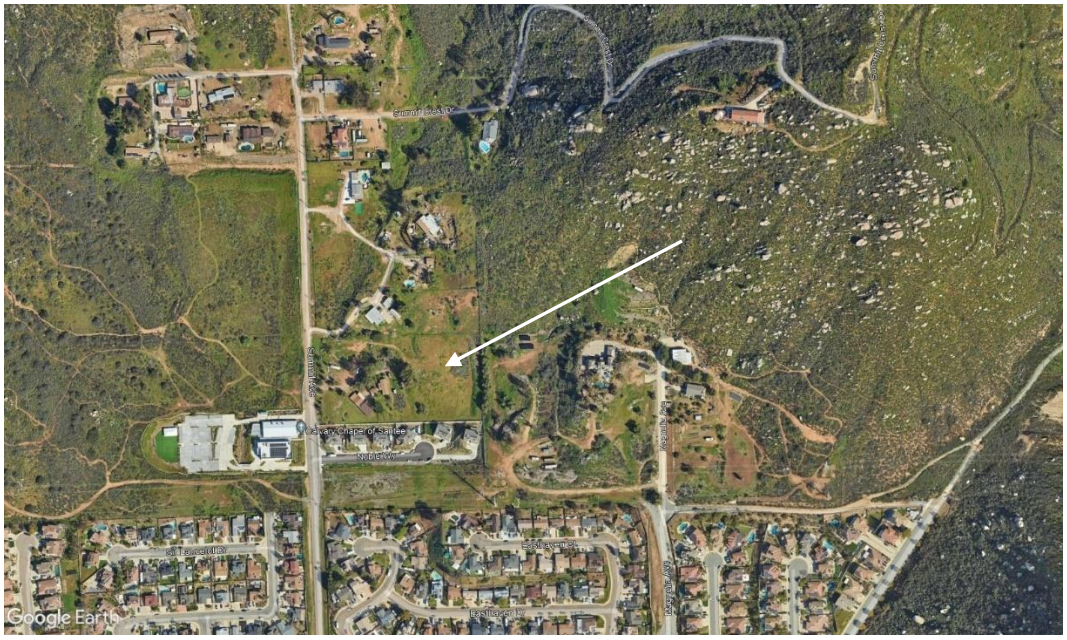

Photo 2- Arrow Indicates Project Area

These developed properties have scattered disturbed wildland fuel beds. Some conversion of native fuels has occurred leaving non-native grasses and shrubs. Beyond the immediate boundary the slopes are covered with mature stands of SCAL18 fuels ranging from 3 to 5-feet tall. Seasonal, dry washes and creek beds dominate the bottom of the canyon floor with increasing slopes leading to the Sycamore Canyon Preserve and Clark Canyon. Vegetation consists of shrubs such as sagebrush, buckwheat, lemonade berry, laurel sumac and chamise, scattered cacti is commonly found in the SCAL18 fuel model. Annual flowers appear after winter and spring rains. Fuel types change rapidly along ascending slopes where shrubs including 3-to-4-foot stands of chamise are found. Scattered oak and willow trees are found along the seasonal creek beds in higher elevations.

Southern Boundary Area:
The land to the south of the Project is a well-developed urban area with commercial, single, and multi-family residential neighborhoods, educational, and religious facilities. Development has replaced all of the native vegetation with the exception of small, isolated pockets. Further south, the San Diego River flows through the southern portion of Santee.

Western Boundary Area
The western boundary consist of a treated roadside section approximately 20-feet in width. The treated area has not been well maintained providing little protection from embers in a southwest west wind condition. The 50-foot setback on the site will improve the safety of the residents and structures on the site. The hillsides further west are covered with native SCAL18 fuels. Further west is the Santee Lakes Regional Park, a 190 acre site designed for camping, fishing and lake front cabins rentals.

Photo 3 - Northwestern Boundary Fuels gr4 in Foreground, SCAL18 on Hillsides

Eastern Boundary Area:
The eastern boundary abuts increasingly steeper west facing slopes. These slopes are covered with continuous SCAL18 wildland fuels. The mature fuels are 3-4 feet in height with some taller pockets. Large boulders cover the slope with small pockets of annual grass under the SCAL18 canopy. Further north, the east-west facing ridgelines run east into the Eucalyptus Hills and housing development. Northern Lakeside and Highway 67 are further east of the Eucalyptus Hills. The Louis A. Steltzer County Park, a 420-acre park off of Wildcat Canyon Road provides opportunities for hiking, picnicking and recreational activities. Coastal sage scrub is the common fuel type in the area with mature stands of oak trees.

4.5.2 On-Site Fire Hazard and Risk Assessment

The Project consists of the development of 50 3-story condominium residences. Currently, structures on the project site include a single home, sheds, carports and related farming structures. These structures will be removed during construction. Wildland fuels on the northeastern corner of the property has been treated in the past by mowing or disking. Little native wildland fuels exist on the site according to the biological report by Harris and Company.

Northern Boundary:
Wildland fuels have been extensively modified by previous mowing or disking of the land. No structures or utilities exist in this area (see Photo 5) The low growing flammable vegetation was removed prior to the site being acquired. This area along the northern boundary provides a serious fire hazard should native SCAL18 fuels be allowed. The continuous expanse of wildland fuels west slope east of the site during an east or north wind condition could pose a serious risk to the condominiums. Blowing embers and high radiant heat levels from a fire in native fuels could burn right up to structures and threaten lives and property.
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Photo #4 Northeastern Boundary Disturbed Area

Eastern Boundary:
The land along the eastern boundary has been disturbed by the repeated disking of fields and other agricultural activities. Small dirt roads cross through the eastern boundary area further disturbing the soil. Non-native grasses and shrubs have grown back much more quickly than native plants growing just east of the site such as the buckwheat and sage. A few scattered native shrubs exist along with a patches of non-native grass. Several piles of old construction lumber and firewood located around the area will be removed prior to the start of construction.

Southern Boundary:
The residential structure and sheds are the main features along the southern boundary. Very sparse, disturbed vegetation exists along the boundary. Construction will remove all the current structures, debris and trees which cover the majority of the site.

Western Boundary:
The western boundary is Summit Avenue, a poorly maintained section of two-lane road. The asphalt surface has failed limiting the ability of fire apparatus to make access to structures north of the site (see Photo 5). Summit Avenue provides a buffer to off-site wildland fuels to the west. A row of planted pepper trees will be removed during construction. A 50-foot-wide buffer between the street and the western most condominium will be created to reduce the wildland fire threat.

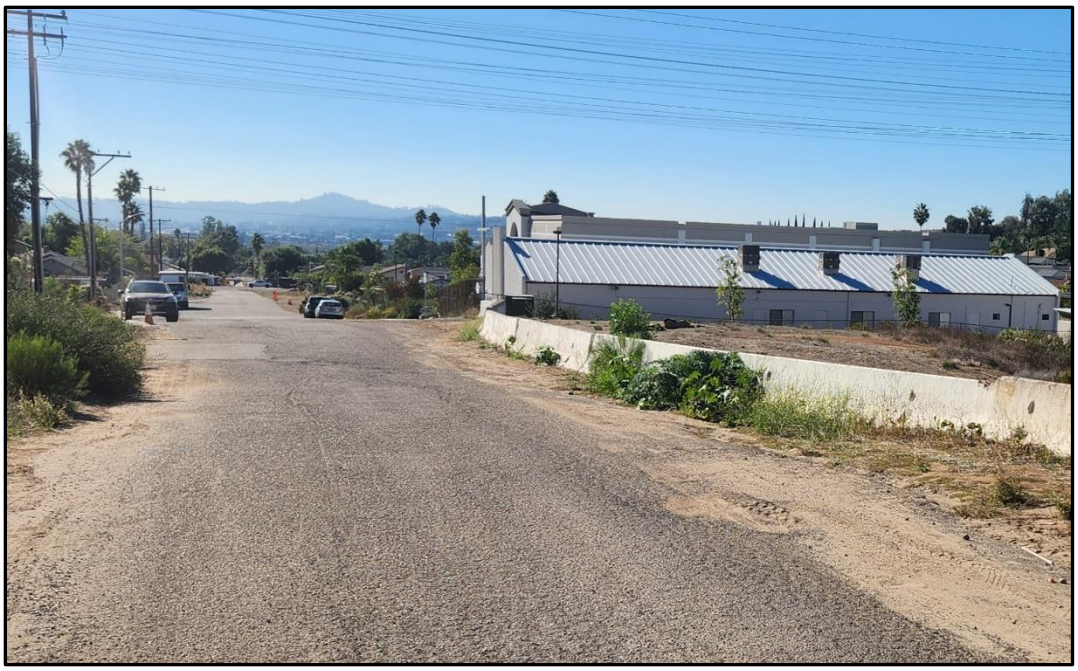

Photo # 5 – Looking South on Summit Avenue. The Project is on the Left

In summary, any wind or topography driven wildfire burning under strong wind conditions, with winds varying from the northeast or southwest, will create a moderate to high wildland fire hazard for Summit Avenue. The wildland fuels on the northern and eastern slopes will be out of full alignment with the strong north wind pushing a fire downhill into the area at a lesser rate of speed than a fire moving upslope with the same wind.

A typical day with a northwesterly or southwesterly wind pattern would be in full alignment and push a fire up the west facing slopes at a much more rapid rate, but the fire activity would be moving away from the site, a significant risk reduction. A wildfire burning from west of Summit Avenue could have a significant impact on the Project site, however, the topography is flat providing little increase in the rate of spread. The greatest threat would be from embers crossing the street and impacting the site; however, the Project is protected from any direct wildland fire flame impingement threat by existing and planned fuel modification and the construction of fire-resistant structures (see Appendix "B", Fuel Treatment Exhibit).

4.6 Vegetative Fuels Assessment/Fire Behavior

The BEHAVE Plus Fire Behavior Prediction and Fuel Modeling System–Burn Subsystem by Patricia L. Andrews and Collin D. Bevins, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE Plus fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six feet of the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE Plus modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in Fire Protection Planning purposes. Of these three (3) fire behavior projections, flame length is the most critical in determining structure protection requirements. The FIREWISE 2000, LLC evaluation team used the computer based BEHAVE Plus 6.0.0: Fire Behavior Prediction and Fuel Modeling System to make the fire behavior assessments for the Project.

Comparisons of computer calculations to observed fire behavior by FIREWISE 2000, LLC. wildland fire staff has validated the modeling system for use in wildland planning. Key components of this FPP are the projections of expected wildland fire behavior for the existing native and non-native fuels. Below are the fire behavior calculations for the area surrounding the Project followed by appropriate mitigation measures.

Two (2) fire scenarios are presented in the tables below: One (1) scenario based on "worst case" San Diego County fire weather assumptions with 65-mph east winds, and one (1) scenario with southwest wind weather conditions. Each table displays the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second) and Flame Length (expressed in feet) for two (2) separate BEHAVE Plus fire behavior predictions. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel moisture levels typically observed during the local fire season (see Appendix 'F' for actual inputs and outputs).

The fire behavior calculations in Tables 4.6.1 & 4.6.2 predict a maximum rate of spread greatly reduced under the treated fuel conditions with strong east winds. The maximum expected southwesterly wind conditions based on data from the Alpine RAWS station and local Weather Underground stations indicate that while the winds will not be as strong as during a Santa Ana weather pattern, the southwest winds will present a severe hazard to structures, guests, and emergency personnel in untreated fuels.

Table 4.6.1
Fire Scenario # 1
(Late Fire Season With 65-MPH Northeast And East Santa Ana Wind Conditions)
Fire Approaching from the East

Fire Behavior Calculation Input Data	**Anticipated Fuel Moistures**
• 17 percent slope • 65 mph 20-foot wind speed • 250º aspect from north • 67º wind direction from north	* 1-Hour Fine Fuel Moisture of……2% * 10-Hour Fuel Moisture of……3% * 100-Hour Fuel Moisture of……4% * Live Herbaceous Fuel Moisture of…...30% * Live Woody Fuel Moisture of…….....50%
Expected Fire Behavior Fuel Model SCAL18 – Sage/Buckwheat	
Rate of Spread - 236.0 feet/minute	
Fireline Intensity - 17,145 BTU's/foot/second	
Flame Length - 39.9 feet in length	
Expected Fire Behavior in Treated Fuels Fuel Model gr1 – Low Load Dry Climate Grass	
Rate of Spread - 41.4 feet/minute	
Fireline Intensity - 67 BTU's/foot/second	
Flame Length - 3.1 feet in length	

Table 4.6.2 ***Fire Scenario # 2*** ***(40-MPH Maximum Expected Southwest Wind Conditions)*** **Fire Approaching from the West**	
Fire Behavior Calculation Input Data • **6 percent slope** • **40 mph 20-foot wind speed** • **45º aspect from north** • **260º wind direction from north**	**Anticipated Fuel Moistures** *** 1-Hour Fine Fuel Moisture of ……..…2%** *** 10-Hour Fuel Moisture of……..……3%** *** 100-Hour Fuel Moisture of ……..…….6%** *** Live Herbaceous Fuel Moisture of…...30%** *** Live Woody Fuel Moisture of…….....60%**
Expected Fire Behavior **Fuel Model gr4 – Moderate Load, Dry Climate Grass**	
Rate of Spread - 585.8 feet/minute	
Fireline Intensity - 5,519 BTU's/foot/second	
Flame Length - 23.7 feet in length	
Expected Fire Behavior in Treated Fuels **Fuel Model gr1 – Short Sparse Dry Climate Grass**	
Rate of Spread - 41.4 feet/minute	
Fireline Intensity - 67 BTU's/foot/second	
Flame Length - 3.1 feet in length	

4.7 Required Fuel Modification Zones for Buildings, Structures and Access Roads

Projects located in Very High Fire Hazard Zones shall include treatment within Fuel Modification Zones (FMZ) surrounding all structures that are greater than 250 square feet in size. The Santee Fire Department requires the FMZ's be a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified. (See Appendix "B" Fuel Treatment Exhibit).

The descriptions and required treatments for FMZ's are described below. All distances in this report are measured horizontally and are depicted on the Fuel Treatment Exhibit included herein (see Appendix "B"). The responsibility for the fuel modifications defined below shall remain with the Project HOA, property owners, and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to the Project will be responsible for such maintenance. Should the property owner not voluntarily maintain the property according to the fuel modification guidelines in this FPP, the Santee Fire Department (SFD) will provide written notice of abatement and require completion of the removal of annual grasses, and dead and down fuels accumulated on the site. Rather than specifying a specific time-period, the Santee Fire Department will require abatement as needed.

There are two basic fuel modifcation zones required for the Project as desribed below, for a total of 100-feet of fuel treatment. Additional construction features outlined in Section 5.2 mitigate when 100 feet of fuel treatment cannot be achieved.

Fuel Treatment Zone 1 - HOA Maintained *(Shown as Brown on the Fuel Treatment Exhibit)* Defined

Fuel Treatment Zone 1 is an irrigated zone, a minimum of 50 feet in width, beginning at the edge of each structure and includes the entire lot (front, side and backyard) which is maintained by the HOA. Commonly called the defensible space zone, it shall be free of all combustible construction

and materials. It is measured from the exterior walls of the structure or from the most distal point of a combustible projection, an attached accessory structure, or an accessory structure within 10 feet of a habitable structure. It provides the best protection against the high radiant heat produced by a wildfire. It also provides a generally open area in which fire suppression forces can operate during wildfire events. This zone includes the level or level-graded area around the structure. Within the first 5-feet, no wood fences, gates or other combustible fencing may be attached to the exterior wall of a structure. Patio shade structures built within Zone 1 shall be constructed of approved noncombustible materials.

Required Landscaping

- The first 5 feet is a non-combustible area with only hardscape and limited non-combustible plantings such as succulents, daylilies, and flowers approved by the Santee Fire Department.
- Plants in this zone need to be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Plants used in fuel modification zones should exhibit the following qualities to be the most "fire resistant: thick, succulent or leathery leaf species with high moisture content; tendency to produce limited litter; the presence of high salt levels or similar compounds which may contribute to fire resistance; ability to withstand drought; and the ability to withstand severe pruning. Refer to APPENDIX 'A' for the SFD Prohibited Plant list.
- Zone 1 will be cleared of all fire prone and undesirable plant species (see APPENDIX 'A').
- Landscape designs using hardscape features such as driveways, swimming pools, concrete, rock, pavers, and similar non-combustible features to break up fuel continuity within Zone 1 are encouraged.
- Landscaping shall be irrigated and primarily consist of fire-resistant, maintained native or ornamental plantings, such as turf, approved groundcovers, etc.
- Plants shall be low-growing and approved by the SFD. Mature height of plants shall not exceed 18 inches.
- Trees shall be single specimens or groupings of not more than three trees selected from the approved plant list. Trees are to be planted such that the mature canopies will be at least 10 feet from the exterior walls of the structure or from the most distal point of a combustible projection, an attached accessory structure, or an accessory structure within 10 feet of a habitable building.
- Trees must have a minimum of six feet of vertical separation from low growing, irrigated vegetation beneath the canopy of each tree.

Required Maintenance

- The property shall be maintained year round by the HOA within the property boundary (lot lines) as required by this FPP or the SFD.
- Remove and replace any dead or dying plant material monthly.
- Trees must be maintained to have a minimum of six feet of vertical separation from low growing, irrigated vegetation beneath the canopy of each tree.
- All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)] see* *http://www.tcia.org/TCIA/TCIA/BUSINESS/A300_Standards/A300_Standards.aspx*

Fuel Treatment Zone 2 - HOA Maintained *(Shown as Red on the Fuel Treatment Exhibit)*
Defined

Fuel Treatment Zone 2 is a transition area between the strict requirements of irrigated Zone 1 and the undisturbed native vegetation. It is a non-irrigated thinning zone beginning at the outer edge

of Zone 1. Thinning zones are utilized to reduce the fuel load of a wildland area adjacent to urban projects thereby reducing the radiant and convective heat of wildland fires. The intent is to achieve and maintain a reduction of the canopy cover spacing and original fuel loading by reducing the fuel in each remaining shrub or tree without substantially decreasing the canopy cover or the removal of tree holding root systems. Combustible construction (i.e. gazebos, trellis's, shade covers etc.) is not allowed in Zone 2 except for heavy timber, non-combustible, or ignition resistant materials approved by the SFD.

Required Landscaping

- Thinning the native vegetation to a point where no more than 30% of the native non-irrigated vegetation is retained.
- Removal of all dead, woody debris, and exotic or native flammable vegetation (see APPENDIX 'A') .
- Allowances for the needs of protected species and habitats will be considered in this zone.
- No combustible construction or materials are allowed in Zone 2.
-

Required Maintenance

- Maintenance will be on-going throughout the year as needed.
- Annually maintain all tree crowns to keep a separation of six feet between the ground fuels (shrubs and ground covers) and the lower limbs
- All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)]* (see (http://tcia.org/business/ansi-a300-standards).
- Annually prune vegetation to maintain a 30% thinning from the original vegetation cover.
- Native annual and perennial grasses will be allowed to grow and produce seed during the winter. and spring. As grasses begin to cure (dry out), they will be cut to 4 inches or less in height.
- Annually remove all dead and dying vegetation and highly flammable exotic species (see APPENDIX 'A').
- Any vegetative biomass (debris and trimmings) produced by thinning and pruning shall be removed from the site
- Clearing to bare ground is not intended and could result in soil erosion, especially on steep hillsides.

Access Road Fuel Treatment Zone – HOA Responsibility - (Shown as Purple on the Fuel Treatment Exhibit)

Required Maintenance:

Thirty feet on each side of the fire access roads and driveways shall be maintained to Zone 1 criteria. The defensible space along all fire access roads shall be cleared of highly flammable vegetation and only fire-resistive vegetation may remain. Existing trees and any trees planted along any road within the Project will require a vertical clearance of 13-feet 6-inches.

Zone Markers (See Appendix 'E')

All exterior boundaries of Fuel Management Zone shall be permanently marked on the ground for guiding annual fuel management maintenance and inspection operations. The most reliable markers are steel fence posts with a baked on painted finish. The upper half of the above ground portion of the fence post is then painted a bright "day glow" orange to improve visibility. These Fuel Treatment Zone markers must be spaced so that the markers on each side of an installed marker can be seen from that marker.

4.8 Cumulative Impact Analysis

The combination of San Diego County's weather, fuel, and terrain has often contributed to intense, uncontrolled wildland fires. This was evident in the devastating Cedar, Paradise, and Otay Fires of October 2003, the Witch Creek and Rice Fires of November 2007, and most recently, the Lilac Fire in 2017.

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with wildlands. As the population of Santee increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. The risks associated with this project will not be significantly increased with the design and requirements for the Project. A slight increase in traffic to the North Summit Avenue will be apparent, but with the planned road improvements, installation of new fire hydrants and Type 13D sprinkler systems, delay in the arrival of emergency resources should lesson the impacts of the construction.

The approval of this proposal, and any future development proposals in the area will increase the concern of wildland fires as the area becomes more urbanized. At present, the density of development in the hilly area in north Santee is relatively low and includes a few properties compliant with the fuel modification and weed abatement requirements of the City of Santee,the County of San Diego, and CAL FIRE.

5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Mitigation measures and design considerations improve the overall safety of the Project as follows:

- Removal of dead trees and shrubs around the site.
- Removal of stacked and scattered firewood.
- Removal of existing structures.
- Improvement of Summit Avenue west of the entrance to the project site.
- Fuel treatment zones
- Maintain and improve, where needed, fuel modification along all access roads, a minimum 30-foot width on both sides of access roads.
- Limbing of trees surrounding structures, and access roads.
- Structures will be covered by 100-foot fuel treatment zones or within overlapping fuel treatment zones with Zone 1 from 0' to 50 feet around each structure with the first 5' a non-combustible zone and Zone 2 50 feet to 100 feet from all structures.
- Designated structures will have two-hour rated exterior walls, attic and garage sprinklers and automatic timers on garage doors where 100-feet of defensible space is not available.
- This plan and its requirements shall be incorporated by reference into the final project Conditions of Approval.

5.1 Construction Requirements

All structures built within the Project shall be designed and constructed with ignition resistant construction standards and design features as per the current California Fire Code and California Building Code and amendments as adopted by the City of Santee. For a summary description of these construction requirements see APPENDIX 'C'.

All new combustible building materials, decks, balconies, patios, covers, gazebos and fences will be permanently prohibited in Zones 1 and 2. These structures may be allowed if constructed with Fire Resistive materials as per the Santee Fire Department, these materials require the Santee Fire

Marshall's approval prior to installation. The project developers are not restricted from having concrete patios, or concrete walkways within these zones. Refer to APPENDIX 'C' for photos and descriptions of non-combustible decks, patio covers, and railings.

Automatic garage door openers are required to be equipped with a back-up battery in accordance with State regulations. Sweeps and gaskets are required on garage doors and door openings.

Flammable vegetation removal shall be completed prior to commencing building construction. During construction at least 50 feet of clearance around the structures shall be kept free of all flammable vegetation as an interim fuel modification zone during construction of structures. Debris and trimmings produced by thinning and pruning shall be removed from the site.

Any damaged or replacement window, siding, roof coverings, and specific non-combustible wall shall meet or exceed the original intent of the fire protection discussed in this plan.

5.2 Additional Construction Requirements

All buildings shall be provided with metal mesh or similar non-combustible bug screens over the operable window opening to replace traditional vinyl bug screens to prevent embers from entering the structures during high wind conditions when windows may be inadvertently left open.

Building 7 in the southeast corner of the project shall have the following requirements to mitigate the lack of 100 feet of fuel modification (see Fuel Treatment Exhibit, Appendix "B").

- Exterior walls conform to a 2-hour construction assembly as shown in the article "Exterior Wall Fire Resistance: Ratings, Assemblies & Components" and in the Gypsum Association Design Manual.
- Automatic garage door openers shall include a time-out feature that will automatically close the garage door after a maximum of 10 minutes of inactivity.
- Attic and garage fire sprinklers.

5.3 Requirements for Inclusion in the CC&R's

1. Each unit owner is responsible for all fuel treatment measures within their unit.
2. No combustible materials shall be stored beneath any projection, deck or overhang exposed to wildland fuels.
3. All property owners shall be members of the Homeowners Association (HOA) and shall financially support the annual maintenance of all required Fuel Modification Areas within the common areas of the development.
4. All roadside fuel treatment within the development is the maintenance responsibility of the HOA.
5. The HOA shall be responsible to keep the roof areas including gutters and downspouts free of combustible debris including leaves, limbs and similar materials.
6. The HOA shall have the authority for enforcing required fuel treatment measures on all units and restrictions on combustible structures.
7. Trash dumping or disposal of yard trimmings is prohibited in fuel treatment zones.
8. The HOA Board shall be responsible to the Santee Fire Department for the completion of all required ongoing Fuel Modification Treatments. This includes the perpetual management of invasive (exotic) and prohibited plant species in any fuel treatment zone within the development.
9. All individual yard landscaping plans, including additional structures, shall be approved by the HOA Board and shall comply with the Fire Protection Plan. Any disputes relating to HOA Board approval of individual yard landscaping, regarding interpretation of the Fire

Protection Plan, shall be decided by the Santee Fire Marshal. The Fire Marshal's decision shall be final and binding on the unit owner.

10. Upon the sale of a unit to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.
11. The Santee Fire Department (SFD) shall be designated as a third-party beneficiary of a homeowners' association's duty to perform "Fire Prevention Maintenance" (as defined below) for all portions of the Association Property (or Common Area) that constitute Fuel Modification Zones maintained by the HOA, and of any owner's duty to comply with any Fuel Modification Zone restrictions applicable to their Unit. Additionally, the SFD shall have the right, but not the obligation, to enforce the homeowners' association's duty to perform such Fire Prevention Maintenance, and to enforce compliance by any owner with any Fuel Modification Zone restrictions applicable to their Unit. In furtherance of such right, the SFD shall be entitled to recover its costs of suit, including its actual attorneys' fees, if it prevails in an enforcement action against the HOA and/or an individual lot owner.

    As used herein, "Fire Prevention Maintenance" shall mean the following:
    a. All portions of the Association Property (or Common Area) that constitute Fuel Modification Zones or designated interior/manufactured slopes shall be regularly maintained by the homeowners association on a year round basis in accordance with the Fire Protection Plan on file with the property manager for the development.
    b. The irrigation system for Fuel Modification Zones or designated common areas shall be kept in good condition and proper working order at all times.

5.4 Fuel Treatment Exhibit

Attached to this FPP is the Fuel Treatment Exhibit, which depicts the location of all proposed fuel treatment locations, lot lines, roads, and mitigation measures for the Summit Avenue Condominiums. A small version of the Fuel Treatment Exhibit is in Appendix "B".

6.0 CONCLUSION

This FPP evaluated the adverse environmental effects that the MUP Modification and proposed seasonal/temporary inflatable pool cover/dome may have from wildland fire and identified means to properly mitigate those impacts to ensure that Summit Avenue not unnecessarily expose people or structures to a significant risk of loss, injury or death involving wildland fires.

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. Zone 1 consists of the area 0-50 feet from the outer wall edge and is designed to reduce the potential impact of embers igniting flammable materials along the external walls of structures. The closest 5 feet of fencing or other construction elements connected to the structure shall be constructed with non-combustible materials. Zone 1 provides the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will be a landscaped zone that is permanently irrigated, where applicable, and consists of fire resistant and maintained plantings. Zone 2 is the next 50-100- feet from a structure, includes all manufactured slopes, and provides removal of 50% of the native vegetation at a minimum, including all prohibited highly combustible native vegetation, but permits plantings with specific criteria.

- The development will have adequate emergency access in terms of access and roads. The Santee Fire Department, Heartland Fire Rescue Department and CAL FIRE and nearby fire departments through mutual aid, will provide fire protection. Response times are satisfactory and fire sprinklers shall be installed in all residences.

- Water supplies via pipelines, hydrants, and related requirements will provide adequate water for fire protection.

- This plan and its requirements shall be incorporated by reference into the final project Conditions of Approval.

7.0 LIST OF PREPARERS, PERSONS & ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this FPP is Melvin Johnson, Owner ***FIREWISE* 2000, LLC.**, a San Diego County DPLU Certified Wildland Fire Consultant. Other ***FIREWISE* 2000, LLC.** members contributed to this plan with comments and peer review. These members include Peter Montgomery, Wildland Fire Associate.

7.2 Persons and Organizations Contacted

1. Matthew Esquivel — Senior Project Manager, Warmington Homes
2. Carlos Alaniz — Rick Engineering
3. Christina Workman — Fire Marsal, Santee Fire Department
4. Jeff Trojanowski — BMLA

8.0 DEFINITIONS

For the purposes of this Fire Protection Plan, the following definitions apply to the terms used in this document. Where terms are not included, common usage of the terms shall apply.

ASPECT - Compass direction toward which a slope faces.

CLIMAX VEGETATION - The final stage in ecological plant succession in which a relatively constant environment is reached and species composition no longer changes in a directional fashion, but fluctuates about some mean, or average, community composition.

COMBUSTIBLE – Any material that, in the form in which it is used and under the conditions anticipated will ignite and burn or will add appreciable heat to an ambient fire.

COMBUSTIBLE VEGETATION – Means material that in its natural state will readily ignite, burn, and transmit fire from native or landscape plants to any structure or other vegetation. Combustible vegetation Includes dry grass, brush, weeds, litter or other flammable vegetation that creates a fire hazard.

DEAD-END ROAD _ A road that has only one point of vehicular ingress/egress, including cul-de-sacs and looped roads.

DEFENSIBLE SPACE – Is an area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

DISTANCE MEASUREMENT - All specified or referenced distances are measured along the ground, unless otherwise stated.

EXTREME FIRE BEHAVIOR – "Extreme" implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One of more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically, sometimes dangerously.

FIRE APPARATUS ACCESS ROAD - A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term that includes, but is not limited to a fire lane, public street, private street, driveway, parking lot lane and access roadway.

FIRE AUTHORITY HAVING JURISDICTION (FAHJ) - The designated entity providing enforcement of fire regulations as they relate to planning, construction and development. The FAHJ may also provide fire suppression and other emergency services.

FIRE BEHAVIOR – The manner in which a fire reacts to the influences of fuel, weather and topography.

FIRE HAZARD - Any condition or conduct which:(a) increases or may increase the threat of fire to a greater degree than customarily recognized as normal by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire or (b) may obstruct, delay, hinder or interfere with the operations of the fire department or the egress of occupants in the event of fire.

FIRE HAZARD SEVERITY ZONES – Are geographical areas designated pursuant to California Public Resources Code sections 4201 through 4204 and classified as Very High, High and Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code sections 51175 through 51189. The California Code of Regulations, Title 14, Section 1280 entitles maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

FIRE RESISTIVE – Construction designed to provide reasonable protection against fire.

FIRE RESISTIVE PLANTS – Plants that do not readily ignite from a flame or other ignition sources. These plants can be damaged or even killed by fire; however, their foliage and stems do not significantly contribute to the fuel and, therefore, the fire's intensity.

FLAME LENGTH – The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

FUEL MOISTURE – The quantity of moisture in vegetative fuels expressed as a percentage of the weight when thoroughly dried at 212 degrees F.

FUEL MODEL – Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified. Fuel models are utilized in the BehavePlus Fire Model to aid in forecasting fire behavior.

FUEL MODIFICATION – Any manipulation or removal of fuels to reduce the likelihood of ignition or the resistance to fire control.

FUEL MODIFICATION ZONE - A strip of land where combustible vegetation has been thinned or modified or both and partially or totally replaced with approved fire-resistant and/or irrigated plants to provide an acceptable level of risk from vegetation fires. Fuel modification reduces the radiant and convective heat on a structure and provides valuable defensible space for firefighters to make an effective stand against an approaching fire front.

GROUND FUELS - All combustible materials such as grass, duff, loose surface litter, tree or shrub roots, rotting wood, leaves, peat, or sawdust that typically support combustion.

HARDSCAPE - Concrete, gravel, pavers or other non-combustible material.

HAZARDOUS FIRE AREA - Any geographic area mapped by the State or designated by a local jurisdiction as a moderate, high or very high fire hazard area or which the FAHJ has determined is a hazardous fire area, because the type and condition of vegetation, topography, weather and structure density increase the probability that the area will be susceptible to a wildfire. 2023 Consolidated Fire Code for the Fire Protection Districts in San Diego County Page 24 of 109

LADDER FUELS – Fuels which provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

MITIGATION – Action that moderates the severity of a fire hazard or risk.

ONE-HOUR FUEL - 1-hour fuels consist of those portions of vegetation that are < 0.625 cm (0.25 in.) in diameter. 1-hour fuels are the most important for carrying surface fires and their moisture content governs fire behavior.

RADIANT HEAT – Transfer of heat in straight lines through a gas or vacuum other than by heating of the intervening space.

RELATIVE HUMIDITY – A weather term, the amount of moisture in the air as a percentage of the maximum the air will hold at a given temperature. The amount of moisture in a given parcel of air expressed as a percentage of the maximum amount that parcel of air could hold at the same air temperature.

REMOTE AUTOMATED WEATHER STATION – Is a combination of sensors, radios and related electronic equipment installed in wildland areas that are designed to monitor the weather and provide weather data that assists land management agencies with a variety of projects such as monitoring air quality, fire danger rating, and providing information for research applications.

SHALL - Indicates a mandatory requirement.

RISK – The measure of the probability of ignition and severity of adverse effects that result from an exposure to a wildland fire (direction flames, radiant heat, or firebrands (embers).

SLOPE – Is the variation of terrain from the horizontal; the number of feet, rise or fall per 100 feet, measured horizontally, expressed as a percentage.

TEN-HOUR FUELS – 10-hour fuels are those portions of plant material that are between (0.625 - 2.5 cm (0.25 to 1 in.) in diameter. Ten-hour fuels are readily consumed when dead fuel moistures are low.

TRAVEL TIME - The estimated time it would take for a responding agency to travel from the fire station to the furthest structure in a proposed development project, determined by measuring the safest, most direct, appropriate and reliable route with consideration given to safe operating speeds for heavy fire apparatus.

WILDFIRE – Is any uncontrolled fire spreading through vegetative fuels that threaten to destroy life, property, or resources as defined in Public Resources Code sections 4103 and 4104.

WILDFIRE EXPOSURE – One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

WILDLAND-URBAN INTERFACE – The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

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5. 2022 California Code of Regulations, Title 14, section 1280 and Title 24 Part 9

6. 2022 California Public Resources Codes sections 4201 through 4204

7. California Government Code, sections 51175 through 51189

8. 2022 California Fire Code including Local Amendments and Appendices to Chapters 1 & 4 and Appendices B, C, D, H, I & O

9. 2021 International Wildland-Urban Interface Code

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APPENDIX ‘A’

Prohibited/Invasive Plant List

UNDESIRABLE PLANT LIST

The following species are highly flammable and avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding) may remain as long as the potential for spreading a fire has been reduced or eliminated.

BOTANICAL NAME	COMMON NAME
Abies species	Fir Trees
Acacia species	Acacia (trees, shrubs, groundcovers)
Adenostoma sparsifolium**	Red Shanks
Adenostoma fasciculatum**	Chamise
Agonis juniperina	Juniper Myrtle
Araucaria species	Monkey Puzzle, Norfolk Island Pine
Artemesia californica**	California Sagebrush
Bambusa species	Bamboo
Cedrus species	Cedar
Chamaecyparis species	False Cypress
Coprosma pumila	Prostrate Coprosma
Cryptomeria japonica	Japanese Cryptomeria
Cupressocyparis leylandii	Leylandii Cypress
Cupressus forbesii**	Tecate Cypress
Cupressus glabra	Arizona Cypress
Cupressus sempervirens	Italian Cypress
Dodonea viscosa	Hopseed Bush
Eriogonum fasciculatum**	Common Buckwheat
Eucalyptus species	Eucalyptus
Heterotheca grandiflora**	Telegraph Plant
Juniperus species	Junipers
Larix species	Larch
Lonicera japonica	Japanese Honeysuckle
Miscanthus species	Eulalia Grass
Muehlenbergia species**	Deer Grass
Palmae species	Palms
Picea species	Spruce Trees
Pickeringia Montana**	Chaparral Pea
Pinus species	Pines
Podocarpus species	Fern Pine
Pseudotsuga menziesii	Douglas Fir
Rosmarinus species	Rosemary
Salvia mellifera**	Black Sage
Taxodium species	Cypress
Taxus species	Yew
Thuja species	Arborvitae
Tsuga species	Hemlock
Urtica urens**	Burning Nettle

** San Diego County native species

APPENDIX 'A' References:

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APPENDIX ‘B’

Fuel Treatment Exhibit

NE Wind 65 MPH
Fuel Model SCAL 18
Flame Length 39.9 Feet

SW Wind 40 MPH
Fuel Model gr4
Flame Length 23.7 Feet

FUEL TREATMENT ZONE LEGEND

FUEL TREATMENT ZONE 1 - 0'-50' (HOA MAINTAINED) - Homeowner lots planted with fire resistant vegetation and Maintained to Zone 1 criteria by each lot owner. Plants listed in the Prohibited Plant List found in Appendix A of the Fuel Modification Plan shall not be planted. Maintenance will be ongoing throughout the year as needed. The area is permanently irrigated. See Fire Protection Plan for details.

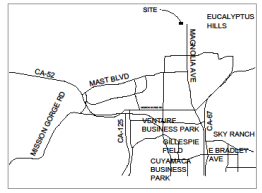
FUEL TREATMENT ZONE 2 - 50'-100' (HOA MAINTAINED) - Thinning areas located within the common area between 50 and 100 feet from each structure. These areas may include single or small clusters of trimmed, fire-resistant native plants up to 18 inches in height and trimmed native trees limbed up to 6 feet from the ground where 50% of the vegetation is removed. Selected native plant clusters must be separated by at least 1 ½ times the mature height of the retained plants. The ground cover, native plants and grasses below the tree canopies shall be weed whipped or mowed to 4" or less in height. See Fuel Modification Plan for details.

ADDITIONAL CONSTRUCTION FEATURES REQUIRED - Buildings requiring additional building construction features as marked in the Fuel Treatment Map (See Sections 5.1 and 5.2 for Further Information)

Certified By

Melvin A Johnson, Owner Date: 01/26/2024
Certified CEQA Wildland Fire Consultant
FIREWISE 2000, LLC
PO Box 39
Valley Center, CA 92082
Telephone: 760-745-3947
info@firewise2000.com

This Exhibit is found to be compliant with
The Fire Protection Plan dated 01/26/2024



VICINITY MAP
NOT TO SCALE

NORTH 0' 30' 60' 90'

SANTEE - SUMMIT AVENUE

FUEL TREATMENT EXHIBIT

PREPARED FOR WARMINGTON RESIDENTIAL SOUTHERN CALIFORNIA DIVISION
3090 PULLMAN ST COSTA MESA, CALIFORNIA 92626 PH: 714-557-5511

1/26/2024

bmla LANDSCAPE ARCHITECTURE
310 NORTH JOY STREET | CORONA, CA 92879
T: 951.737.1124 | F: 951.737.6551

APPENDIX 'C'

Non-Combustible & Fire-Resistant Building Materials For Balconies, Carports, Decks, Patio Covers and Floors

Appendix 'C'

Non-Combustible & Fire-Resistant Building Materials For Balconies, Carports, Decks, Patio Covers and Floors

Note: The Office of the State Fire Marshal (SFM) Fire Engineering Division administers licensing programs and performs engineering functions affecting consumer services and product evaluation, approval and listing. The following link is to the State Fire Marshal's office for more information on the Building Material List for non-combustible and fire resistant building materials: https://osfm.fire.ca.gov/divisions/fire-engineering-and-investigations/building-materials-listing/bml-search-building-materials-listing.

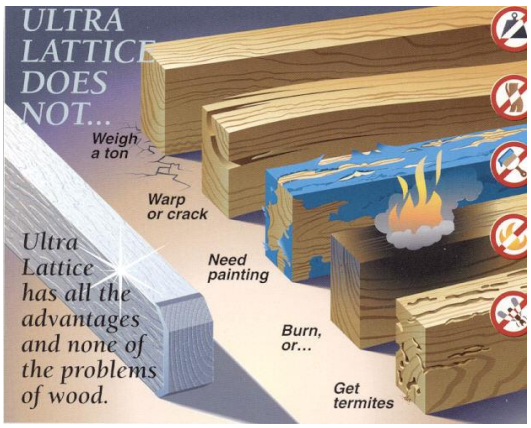
Examples of non-combustible & fire-resistant building materials for balconies, carports, decks, patio covers, and floors are listed below. These are only examples, and materials listed here must meet local fire and building codes and are not an endorsement of any particular brand or manufacturer.

I. NON-COMBUSTIBLE HEAVY GAGE ALUMINUM MATERIALS - *Metals USA Building Products Group - Ultra-Lattice*

Ultra-Lattice Stand Alone Patio Cover

Ultra-Lattice Attached Patio Cover

Ultra-Lattice Solid Patio Cover



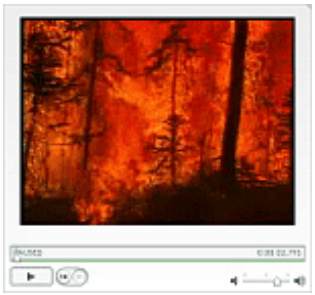
Ultra-Lattice Vs. Wood

II. FRX EXTERIOR FIRE-RETARDANT TREATED WOOD

FRX® fire retardant treated wood may be used in exterior applications permitted by the codes where: public safety is critical, other materials would transfer heat or allow fires to spread, sprinkler systems cannot easily be installed, corrosive atmospheres necessitate excessive maintenance of other materials, or fire protection is inadequate or not readily available. The International Building, Residential and Urban-Wildland Interface Codes and regulations, permit the use of fire-retardant treated wood in specific instances. See below for typical exterior uses and typical residential uses.

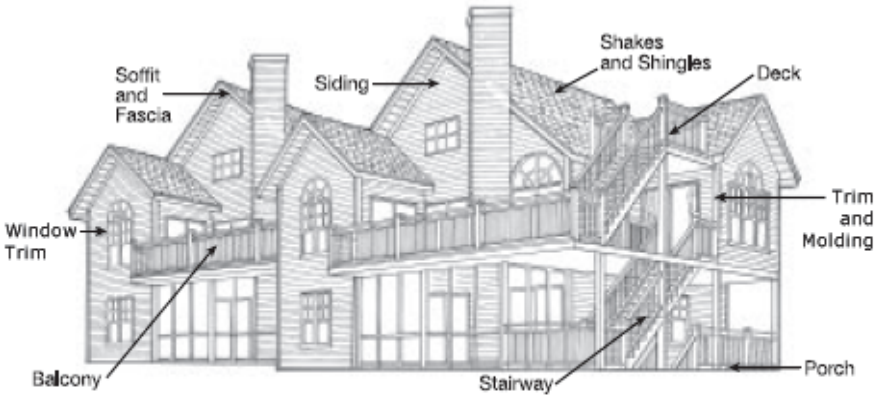
Typical Exterior Uses

- Wall coverings
- Balconies
- Decks
- Stairways
- Fences
- Sheds
- Gazebos
- Roof coverings
- Open-air roof systems
- Canopies and awnings
- Storefronts and facades
- Eaves, soffits and fascia
- Agricultural buildings and horse stalls
- Scaffolding and scaffold planks
- Construction staging
- Various other residential and commercial uses



Property owners and Architects: See this 2-minute video and the illustration below.

Typical Residential Uses



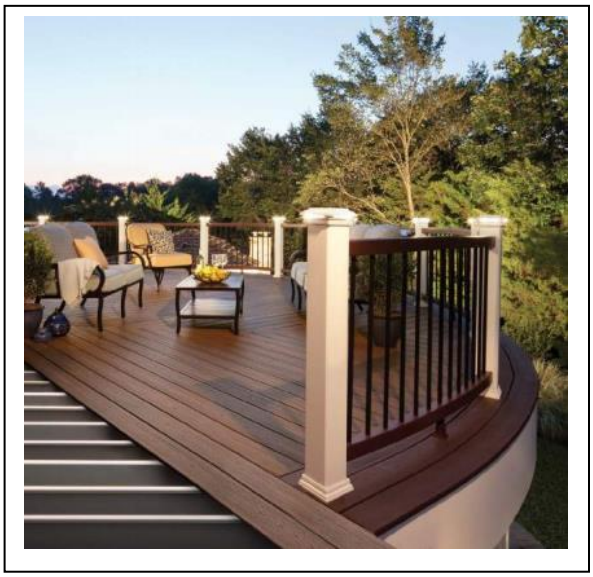
Rising concerns over fire damage and the adoption of urban-wildland interface codes have increased the use of FRT wood in residential structures.

For information on fire retardant treated wood for exterior uses, visit www.frxwood.com.

III. DECKING MATERIALS

Trex Company, Inc. – "Trex Transcend®, Trex Select® and Trex Enhance® wood and polyethylene composite deck board, nominal ranging in size from 1" x 5-1/2" to 1-3/8" x 5-1/2" installed per manufacturer maximum edge-to-edge gap of 3/16". All Trex decking products meet or exceed the SFM 12-7A-4A testing protocol.

Trex combines both beauty and fire defense. A few examples of installations are shown below:



IV.

SOLID "WOOD" DECKING

Company Name: Various Manufacturers
Product Description: Solid "Wood" decking, when installed over minimum 2" x 6" solid "Douglas Fire" or better joists, space 24" or less on center, and decking and joints comply with American Softwood Lumber Standard PS2o as follows:

Minimum nominal 5/4"thick and nominal 6" wide decking boards with a maximum 3/8" radius edges made of solid wood species "Redwood", "Western Red Cedar", "Incense Cedar", "Port Orford Cedar", or "Alaska Yellow Cedar" having a Class B Flame Spread rating when tested in accordance with ASTM E84. Lumber grades; construction common, commercial or better grade for Redwood; 3 common, commercial or better grades for Cedars.

V. Vents

Examples of Ember Resistant Approved Vents

Brandguard

O'Hagin Fire & Ice® Line – Flame and Ember Resistant
An available option for all O'Hagin attic ventilation products, this attic vent not only features all the same design, construction elements and color choices as the O'Hagin Standard Line, but also features an interior stainless-steel matrix that resists the intrusion of flames and embers. This patent-pending attic vent is accepted for use by many local fire officials for installation in Wildland Urban Interface (WUI) zones.

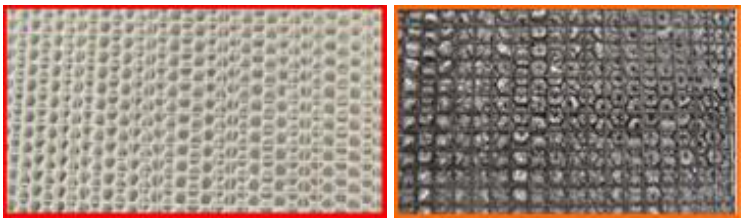
Vulcan Vents

The founders of Gunter Manufacturing have been working closely over the last two years, with the scientists and inventors of Vulcan Technologies to bring to market this incredible product.

Combining our quality vent products with the fire-stopping honeycomb matrix core designed by Vulcan has produced unique and remarkable results.

At Gunter manufacturing has over 50 years of combined sheet metal manufacturing experience. Special orders are not a problem. Their vent frames are industry standard frames so there is little or no learning curve for installers and contractors. Their stated goal is to provide people with the vents they need to secure their homes with additional safety against wildfires and give them piece of mind from knowing that their home or structure is protected by a product that works!

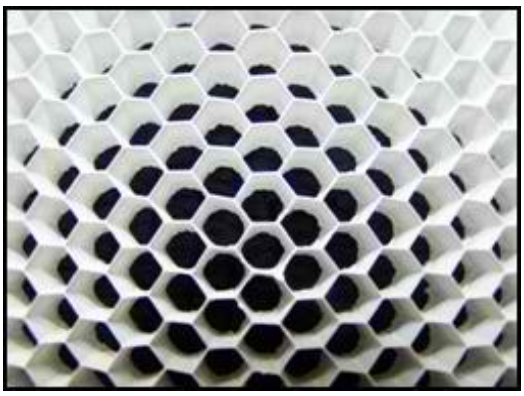
The core of their fire and ember safe vents are manufactured out of hi-grade aluminum honeycomb and coated with an intumescent coating made by FireFree Coatings. The intumescent coating is designed to quickly swell up and close off when exposed to high heat. The expanded material acts as an insulator to heat, fire, and embers



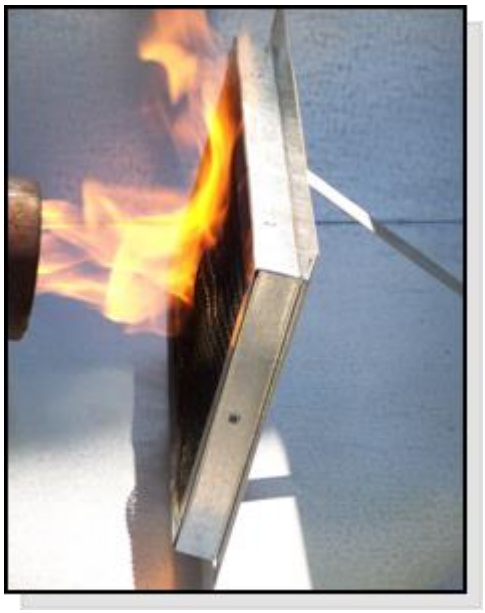
Before **After**

After the cells close off, they are extremely well insulated, and fire or embers cannot penetrate.

Even before the cells close off, the vent is designed to protect against flying embers. In many cases embers will attack a structure before fire ever comes near, so this feature is very important.



Close-up of the coated honeycomb matrix.



Fire easily passes through a standard vent, on the left, but stops cold when it comes up against a Vulcan Vent shown on right.

APPENDIX ‘D’

Ignition Resistant
Construction Requirements

Appendix 'D'
Ignition Resistant Construction

The following is a summary of the current requirements for ignition resistant construction for high fire hazard areas under Chapter 7A of the California Building Code (CBC) 2019 edition. However the requirements listed below are **NOT** all inclusive and all exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments must meet the current CBC Chapter 7A ignition resistance requirements, the California Fire Code, and any additional County and/or City codes in effect at the time of building permit application. See the currrent applicable codes for a detailed description of these requirements and any exceptions.

1. All structures will be built with a Class A Roof Assembly and shall comply with the requirements of Chapter 7A and Chapter 15 of the California Fire Code. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

2. Roof valley flashings shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72-pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909, at least 36-inch-wide (914 mm) running the full length of the valley.

3. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall be covered with a minimum of 1/16-inch and shall not exceed 1/8-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection.

4. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to resist the intrusion of flames and embers, be fire stopped with approved materials or have one layer of a minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking.

5. Enclosed roof eaves and roof eave soffits with a horizontal underside, sloping rafter tails with an exterior covering applied to the under-side of the rafter tails, shall be protected by one of the following:
    - noncombustible material
    - Ignition-resistant material
    - One layer of $^{5}/_{8}$-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit
    - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual
    - Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section 707A.10 when tested in accordance with the test procedures set forth in ASTM E2957.
    - Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

      Exceptions: The following materials do not require protection:
      1. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
      2. Fascia and other architectural trim boards.

6. The exposed roof deck on the underside of unenclosed roof eaves shall consist of one of the following:
    - Noncombustible material, or
    - Ignition-resistant material, or
    - One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck, or
    - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association fire Resistance Design Manual.

      Exceptions: The following materials do not require protection:

      1. Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
      2. Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
      3. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
      4. Fascia and other architectural trim boards.

7. Vents - ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials or other devices that meet one of the following requirements:
    A. Vents listed to ASTM E2886 and complying with all the following:
        i. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
        ii. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
        iii. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).
    B. Vents shall comply with all of the following:
        i. The dimensions of the openings therein shall be a minimum of $^{1}/_{16}$-inch (1.6 mm) and shall not exceed $^{1}/_{8}$-inch (3.2 mm).
        ii. The materials used shall be noncombustible.

            Exception: Vents located under the roof covering, along the ridge of roofs, with the exposed surface of the vent covered by noncombustible wire mesh, may be of combustible materials.
        iii. The materials used shall be corrosion resistant.

8. Vents shall not be installed on the underside of eaves and cornices.

    Exceptions:

    1. Vents listed to ASTM E2886 and complying with all the following:
        - There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
        - There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
        - The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).
    2. The enforcing agency shall be permitted to accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.

3. Vents complying with the requirements of Section 706A.2 shall be permitted to be installed on the underside of eaves and cornices in accordance with either one of the following conditions:
   3.1. The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or,
   3.2. The exterior wall covering, and exposed underside of the eave are of noncombustible materials, or ignition-resistant materials, as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the requirements

9. All chimney, flue or stovepipe openings that will burn solid wood will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, having a heat and corrosion resistance equivalent to 12-gauge wire, 19-game galvanized steel or 24-gage stainless steel. or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks nor block spheres having a diameter less than 3/8 inch (9.55 mm). It shall be installed to be visible for the purposes of inspection and maintenance and removeable to allow for cleaning of the chimney flue.

10. All residential structures will have automatic interior fire sprinklers installed according to the National Fire Protection Association (NFPA) 13D 2019 edition - *Standard for the Installation of Sprinkler Systems in One and Two-family Dwellings and Manufactured Homes*. Fire sprinklers are not required in unattached non-habitable structures greater than 50 feet from the residence.

11. The exterior wall covering, or wall assembly shall comply with one of the following requirements:
    - Noncombustible material, or
    - Ignition resistant material, or
    - Heavy timber exterior wall assembly, or
    - Log wall construction assembly, or
    - Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact expose test set forth in ASTM E2707 with the conditions of acceptance shown in Section 707A.3.1 of the California Building Code, or
    - Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.
      Exception: Any of the following shall be deemed to meet the assembly performance criteria and intent of this section including;
      - One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing, or
      - The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Associate Fire Resistance Design Manual.

12. Exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.

13. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris within the gutter that contribute to roof edge ignition.

14. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

15. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.

16. Deck Surfaces shall be constructed with one of the following materials:
    - Material that complies with the performance requirements of Section 709A.4 when tested in accordance with both ASTM E2632 and ASTM E2726, or
    - Ignition-resistant material that complies with the performance requirements of 704A.3 when tested in accordance with ASTM E84 or UL 723, or
    - Material that complies with the performance requirements of both SFM Standard 12-7A-4 and SFM Standard 12-7A-5, or
    - Exterior fire retardant treated wood, or
    - Noncombustible material, or
        - Any material that complies with the performance requirements of SFM Standard 12-7A-4A when the attached exterior wall covering is also composed of noncombustible or ignition-resistant material.

17. Accessory structures attached to buildings with habitable spaces and projections shall be in accordance with the Building Code. When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas and exterior wall construction in accordance with Chapter 7A of the Building Code.

18. Exterior windows, skylights and exterior glazed door assemblies shall comply with one of the following requirements:
    - Be constructed of multiplane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
    - Be constructed of glass block units, or
    - Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
    - Be tested to meet the performance requirements of SFM Standard 12-7A-2.

19. All eaves, fascia and soffits will be enclosed (boxed) with non-combustible materials. This shall apply to the entire perimeter of each structure. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.

20. Detached accessory buildings that are less than 120 square feet in floor area and are located more than 30 feet but less than 50 feet from an applicable building shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2 of the California Building Code.
    Exception: Accessory structures less than 120 square feet in floor area located at least 30 feet from a building containing a habitable space.

21. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.

22. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustable material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.

23. Exterior garage doors shall resist the intrusion of embers from entering by preventing gaps between doors and door openings, at the bottom, sides and tops of doors, from exceeding 1/8 inch. Gaps between doors and door openings shall be controlled by one of the methods listed in this section.
    - Weather-stripping products made of materials that:
      (a) have been tested for tensile strength in accordance with ASTM D638 (Standard Test Method for Tensile Properties of Plastics) after exposure to ASTM G155 (Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials) for a period of 2,000 hours, where the maximum allowable difference in tensile strength values between exposed and non-exposed samples does not exceed 10%; and (b) exhibit a V-2 or better flammability rating when tested to UL 94, Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.
    - Door overlaps onto jambs and headers.
    - Garage door jambs and headers covered with metal flashing.

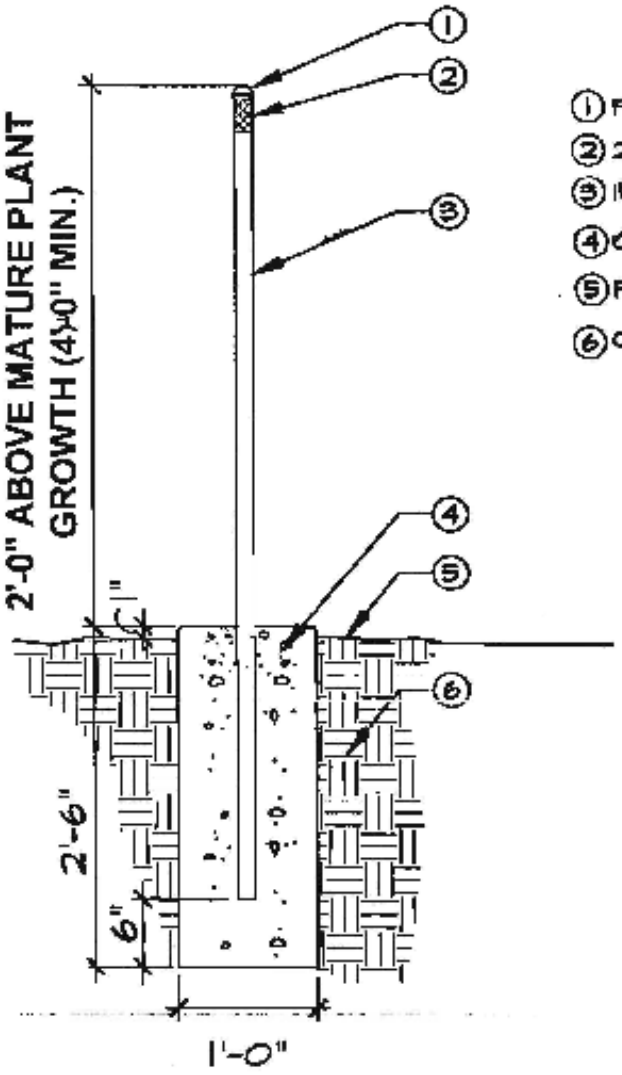
24. Exterior doors shall comply with one of the following:
    1. The exterior surface or cladding shall be of noncombustible material or,
    2. The exterior surface or cladding shall be of ignition-resistant material or,
    3. The exterior door shall be constructed of solid core wood that complies with the following requirements:
       3.1. Stiles and rails shall not be less than 1-3/8 inches thick.
       3.2. Panels shall not be less than 1-1/4 inches thick, except for the exterior perimeter of the panel that shall be permitted to taper to a tongue not less than 3/8 inch thick.
    4. The exterior door assembly shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252 or,
    5. The exterior surface or cladding shall be tested to meet the performance requirements of Section 707A.3.1 when tested in accordance with ASTM E2707 or,
    6. The exterior surface or cladding shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

25. Outdoor fire places, barbeques, and grills shall not be built, or installed within the WUI area without the approval of the Fire Marshall. Portable outdoor fireplaces or other wood burning appliances are strictly prohibited within the WUI.

APPENDIX ‘E’

Zone Marker Detail

ZONE MARKER DETAILS



1. POST CAP
2. 2"X8" ZONE INDICATOR
3. 1½" DIA. GALV. POST.
4. CONC. FTG. 2500 PSI @ 28 DAYS.
5. FINISH GRADE.
6. COMPACTED SUBGRADE

APPENDIX ‘F’

Behave Plus 6.0 Fire Behavior Calculations

Inputs: SURFACE

Description: Summit Ave- Santee North Wind Untreated, East Exposure

Fuel/Vegetation, Surface/Understory

Fuel Model		SCAL18

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	4
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	65
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	67

Terrain

Slope Steepness	%	17
Site Aspect	deg	250

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

Summit Ave- Santee North Wind Untreated, East Exposure

Head Fire

Surface Fire Rate of Spread	236.0	ft/min
Surface Fireline Intensity	17145	Btu/ft/s
Surface Fire Flame Length	39.9	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description		Summit Ave- Santee North Wind Treated, East Exposure

Fuel/Vegetation, Surface/Understory

Fuel Model		gr1

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	4
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	65
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	67

Terrain

Slope Steepness	%	17
Site Aspect	deg	250

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

Summit Ave- Santee North Wind Treated, East Exposure

Head Fire

Surface Fire Rate of Spread	41.4	ft/min
Surface Fireline Intensity	67	Btu/ft/s
Surface Fire Flame Length	3.1	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description: Summit Ave- Santee Southwest Wind Untreated, West Exp

Fuel/Vegetation, Surface/Understory

Fuel Model		gr4

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	6
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60

Weather

20-ft Wind Speed	mi/h	40
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	260

Terrain

Slope Steepness	%	6
Site Aspect	deg	45

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

Summit Ave- Santee Southwest Wind Untreated, West Exposure

Head Fire

Surface Fire Rate of Spread	585.8	ft/min
Surface Fireline Intensity	5519	Btu/ft/s
Surface Fire Flame Length	23.7	ft
Wind Adjustment Factor	0.30	

Inputs: SURFACE

Description: Summit Ave- Santee Southwest Wind Treated, West Exposu

Fuel/Vegetation, Surface/Understory

Fuel Model		gr1

Fuel Moisture

1-h Fuel Moisture	%	2
10-h Fuel Moisture	%	3
100-h Fuel Moisture	%	6
Live Herbaceous Fuel Moisture	%	30
Live Woody Fuel Moisture	%	60

Weather

20-ft Wind Speed	mi/h	40
Wind Adjustment Factor		.3
Wind Direction (from north)	deg	260

Terrain

Slope Steepness	%	6
Site Aspect	deg	45

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is in specified directions [SURFACE].
Wind and spread directions are degrees clockwise from north [SURFACE].
Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Fire Rate of Spread (ft/min) [SURFACE]
Surface Fireline Intensity (Btu/ft/s) [SURFACE]
Surface Fire Flame Length (ft) [SURFACE]
Wind Adjustment Factor [SURFACE]

(continued on next page)

Summit Ave- Santee Southwest Wind Treated, West Exposure

Head Fire

Surface Fire Rate of Spread	41.4	ft/min
Surface Fireline Intensity	67	Btu/ft/s
Surface Fire Flame Length	3.1	ft
Wind Adjustment Factor	0.30	

APPENDIX ‘G’

Project Facility Availability Water

CITY OF SANTEE

PROJECT FACILITY AVAILABILITY FORM, Water

Please type or use pen

Quillin Family Trust/Cynthia Anne Higgins 206-947-9139
Owner's Name Phone

11009 Summit Avenue
Owner's Mailing Address Street

Santee CA 92071
City State Zip

ORG_____
ACCT_____
ACT_____
TASK_____
DATE_____ AMT $_____

W

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A. ☒ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☐ Minor Subdivision (TPM) ☐ Certificate of Compliance:_____
☐ Boundary Adjustment
☐ Rezone (Reclassification) from_____ to _____ zone.
☐ Major Use Permit (MUP), purpose:_____
☐ Time Extension?Case No._____
☐ Expired Map?Case No._____
☐ Other_____

B. ☒ Residential . . . . . Total number of dwelling units 97
☐ Commercial. . . . . Gross floor area_____
☐ Industrial . . . . . Gross floor area_____
☐ Other . . . . . Gross floor area_____

C. ☒ Total Project acreage 6.97 Total number of lots 97

D. Is the project proposing the use of groundwater? ☐ Yes ☒ No
Is the project proposing the use of reclaimed water? ☐ Yes ☒ No

Assessor's Parcel Number(s)
(Add extra if necessary)

378-190-01-00	
378-180-10-00	

Thomas Bros. Page _____ Grid _____

11009 & 10939 Summit Avenue, Santee, CA
Project address Street

Santee 92071
Community Planning Area/Subregion Zip

Owner/Applicant agrees to pay all necessary construction costs, dedicate all district required easements to extend service to the project and COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: [signature] Date: 6/29/23

Address: 3090 Pullman Street, Costa Mesa, CA 92626 Phone: 909-489-2113

(On completion of above, present to the district that provides water protection to complete Section 2 below.)

SECTION 2: FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

***LETTER EXPIRES 07/06/2024

District Name: PADRE DAM MUNICIPAL WATER DISTRICT Service area_____

A. ☒ Project is in the district.
☐ Project is not in the district but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the district and is not within its Sphere of Influence boundary.
☐ The project is not located entirely within the district and a potential boundary issue exists with the _____ District.

B. ☒ Facilities to serve the project ☒ ARE ☐ ARE NOT reasonably expected to be available within the next 5 years based on the capital facility plans of the district. Explain in space below or on attached_____. (Number of sheets)
☐ Project will not be served for the following reason(s):_____

C. ☒ District conditions are attached. Number of sheets attached: 2
☐ District has specific water reclamation conditions which are attached. Number of sheets attached:_____
☐ District will submit conditions at a later date.
☐ Additional District conditions:_____

D. ☐ How far will the pipeline(s) have to be extended to serve the project?_____

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Authorized signature: Sarah Hargis Print name Sarah Hargis

Print title Construction Inspector Phone 619-258-4672 Date 07/6/2023

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT
On completion of Section 2 by the district, applicant is to submit this form with application to:
Department of Development Services, 10601 Magnolia Avenue, Santee, CA 92071

APPENDIX ‘H’

Fire Access Exhibit

① - FIRE NOTE:

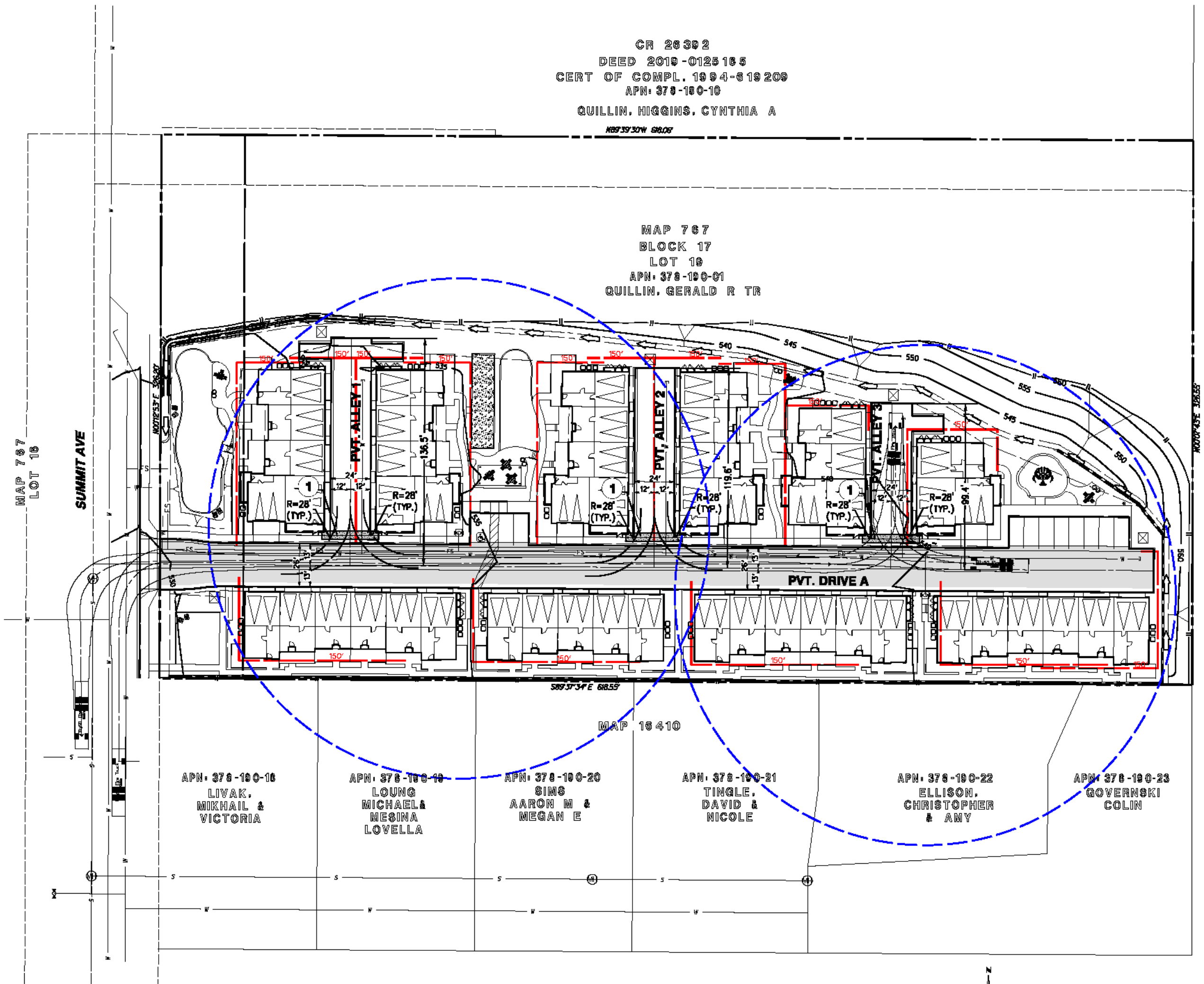
THESE AREAS SHALL BE CLEARLY MARKED AS FIRE LANES AND SHALL ALSO BE DESIGNED TO WITHSTAND IMPOSED LOADS OF APPROXIMATELY 75,000 LBS.

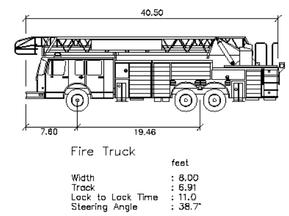
FIRE LANE NOTE

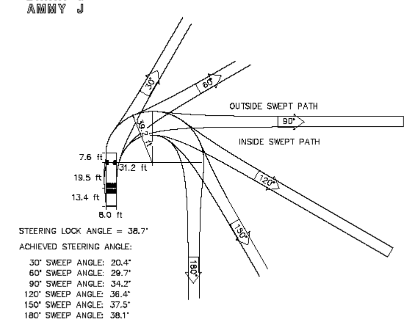
1) FIRE LANE(S) SHALL BE IDENTIFIED BY PAINTING CURBS RED WITH WHITE-STENCILED LETTERS INDICATING "NO PARKING - FIRE LANE" EVERY 30 FEET ALONG PORTIONS OF THE FIRE LANE. RED STRIPES WITH WHITE STENCILED LETTERS SHALL BE PAINTED ON THE CURB OR ASPHALT IN FRONT OF GARAGES ALONG FIRE LANES AS WELL. SIGNS INDICATING THE SAME CAN BE INSTALLED IN-LIEU OF PAINTING CURBS RED. SIGNS SHALL BE PLACED EVERY 75 FEET (OR OTHER APPROVED SPACING), PLACED IN BETWEEN THE CURB STENCILING. EXACT PLACEMENT SHALL BE APPROVED BY THE FIRE CODE OFFICIAL PRIOR TO INSTALLATION.

LEGEND

FIRE ACCESS







LEGEND:

FIRE HOSE PULL (L=150')	red line
FIRE HYDRANT PER WAS WF-01	hydrant symbol
RADIUS = 150'	blue dashed line
FIRE TRUCK TURNING (HOOK & LADDER)	green line

GRAPHIC SCALE 1" = 30'

5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com

J-19877A

TM NO. 2024-0003/DR 2024-0007

FIRE ACCESS EXHIBIT

SUMMIT AVENUE

City of Santee, California