County of San Diego Department of Planning and Land Use 5201 Ruffin Road, Suite B San Diego, CA 92123

Escondido Fire Department Attention: Fire Marshal Police & Fire Headquarters 1163 North Centre City Parkway Escondido, CA 92026

Subject: FIRE PROECTION PLAN – LETTER FORMAT

2260 San Pasqual Valley Road

Escondido, CA PDS2017-TM-5620

APN 234-261-23, 234-440-05, 234-430-21

This Fire Protection Plan (FPP) – Letter Report is submitted pursuant to the County Fire Code and County Consolidated Fire Code, to address the adverse environmental effects that a proposed project may have from wildland fire and to provide mitigation of those impacts to endure that the project does not expose people or structures to a significant risk of loss, injury or death involving wildland fires.

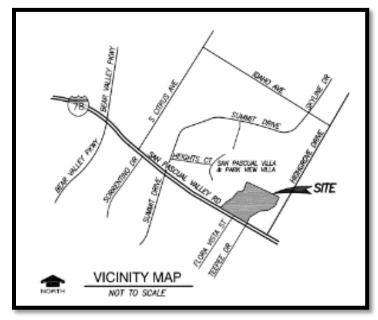
PROJECT DESCRIPTION

A multi-residential development is proposed on San Pasqual Valley Road/Highway 78 in the unincorporated area of the City of Escondido. The property would be divided into fourteen (14) lots on 18.4 acres. Thirteen of the lots will be a minimum of 1 acre in size and one larger lot at 2.13 acres (See Exhibit A). The larger lot situated in the center of the development currently has a house that will remain on the property. Planned access to the development is byway of a private road with two cul-de-sacs off San Pasqual Valley Road/Highway 78. The project will be a gated community. A Home Owner's Association is planned to provide management of the development. The proposed project is located within an area designated by the Escondido Fire Department (EFD) as a *High Fire Hazard Zone*.

ENVIRONMENTAL SETTING

1. **Location** – The project is located on San Pasqual Valley Road/Highway 78 in the unincorporated area of the City of Escondido (See Vicinity Map). The property is bordered on all sides by residential development. The property currently has a single-family residence existing on site, accessed by way of a long dirt driveway. Majority of the 18.18

acres of the property is undeveloped. The project is outside the Escondido City limits but within their protection area.



- 2. **Topography** The property is situated on a southwest facing aspect sloping from the northeast corner down to Highway 78. Elevation ranges from 765 feet along the northern property line down to 655 feet at the highway. The terrain can be described as gently sloping to the southwest on 5-10% gradient.
- 3. **Geology** The property does not contain any significant geological features that would influence wildland fire behavior.
- 4. Climate The climate within the project area is characterized as a Mediterranean type climate with generally mild, wet (14 -16 inches per year) winters, with the bulk of the annual precipitation falling between January and March. Long, hot and very dry summer seasons frequently occur with occasional, multi-year droughts. The most critical wind pattern to the project area is an offshore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (< 15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content.

The typical prevailing summer time wind pattern is out of the south or southwest and normally is of a much lower velocity (5-15 MPH with occasional gusts to 30-MPH) and is associated with higher relative humidity readings (> 30% and frequently more than 60%) due to a moist air on-shore flow from the ocean. All other (northwest, south, west) wind directions may be occasionally strong and gusty: however, they are generally associated with cooler moist air and have higher relative humidity (> 40%). They are considered a serious wildland fire weather condition when wind speeds reach > 20-MP

PROJECT EXPOSURE TO WILDLAND FIRES

1. Water Supply – The City of Escondido Water Department is the water source for the project. Table 507.5.1.1.1 of the 2017 Consolidated Fire Code for San Diego County requires the distance between hydrants for single family dwellings for parcels ½ to 2 ½ acres to be placed every 400 feet (EFD standard). Based on the current site plan for the project, *FIREWISE* 2000 would recommend at least three hydrants be installed within the development (See Exhibit A). Hydrants shall be located along fire access roadways as determined by the Fire Marshal to meet operational needs, at intersections, at cul-de-sacs, and at intervals pursuant to the County and Consolidated Fire Code. Upon installation of the hydrants, the local water purveyor shall complete a hydrant flow report to determine the proper fire flow for the construction type for this project. In hazardous fire areas the main capacity for new subdivisions shall not be less than 2,500 gallons per minute, unless otherwise approved by the local fire official (Sec.507.3 Fire Flow CFC).

2. Fire Access Roads:

Location - Access to the 14 lots on the project will be provided by way of a private road off San Pasqual Valley Road/Highway 78 (See Exhibit A – Site Plan). The project will have a security gate installed at the entrance on San Pasqual Valley Road.

Width - The private road will be built as a two-lane asphalt street 32 feet wide to county road standards. The road tees off at the upper end in two direction ending in cul-de-sacs. The dead-end road length measured from the intersection of San Pasqual Valley Road to the farthest cul-de-sac is measured at 1,100 feet. This measurement complies with Sec.503.1.3 for Dead-End Road lengths for parcels zoned for 1 to 4.99 acres at 1,320 feet. For residential areas, the cul-de-sacs shall a have a minimum unobstructed radius width of 36 feet paved or as approved by the fire official (Sec.503.2.5 CFC).

Vertical Clearance: Road access shall provide a minimum vertical clearance of 13 feet 6 inches for the entire required width of the roadway (Sec.503.2.1© Dimensions - CFC).

Grade – Grades greater than 15% are not permitted without mitigation and grades over 20% are not permitted (Sec.503.2.7 Grade). The private road to access the property is at 10% and driveways to Lots #5 to 10 do not exceed 15%.

Security Gate – The project does plan to install two (2) security gates. One will be located at the entrance to the development on San Pasqual Valley Road. The other will be installed on Highgrove Drive for secondary access. Security gates shall be setback at least 30 feet from the nearest edge of the roadway and shall be at least 2 feet wider than the traffic lane. The gate will be maintained by the HOA. The Section 503.6 of the CFC states that automatic gates across a fire access roadway shall be equipped with an approved emergency key-operated switch overriding all command functions and opening the gate. As stated in the County Consolidated Fire Code, gates accessing more than four (4) residences shall be equipped with an approved emergency traffic control-activating strobe sensor (opticom) or other device approved by the fire official. The gates location, installation and operation shall be reviewed and approved by the local fire official.

Surface – Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus (not less than 75,000 lbs. unless authorized by the fire official) and shall be provided with an approved paved surface so as to provide all-weather driving capabilities (County Amendment to Sec.503.2.3 Surface CFC).

<u>Note:</u> No traffic calming devices will be allowed. The angle of departure and approach shall not exceed seven (7) degrees.

Secondary Access – The developer does plan to provide a secondary access from the property for emergency egress. The access is located at the east end of Private Street "B". The roadway will be 12 feet wide and will access Highgrove Drive, which empties out onto San Pasqual Valley Road or Highway 78. A security gate will be installed on Highgrove Drive (See Exhibit B).

- 3. Setback from Property Lines The project shall establish a minimum 30 –foot setback from property lines as required in Section 4907.1.1 of the California Fire Code (CFC). The Fire Code does provide an exception of less than 30 feet when the fire and building official determines that the hazard from wildland fire is not significant as is the case with this project. The site plan prepared for the project indicates that this requirement can be met.
- **4. Building Construction** All structures shall comply with the ignition-resistive construction requirements to the satisfaction of the EFD. Design and construction shall meet the requirements listed in the 2016 Edition of the California Fire Code (CFC) and Building Codes (CBC), with special adherence to Chapter 7A, and the 2016 Edition of the California Residential Code section R337, with other local amendments/ordinances as adopted by EFD, and the County of San Diego. Other applicable codes include the 2015 International Wildland-Urban Interface Code (IWUIC).

As required by the fire code, residential developments located in high fire hazard areas will provide fire protection measures to "harden" the exterior of the structures from wildland fire ignitions. These would include the following: (1) all eaves, fascias, and soffits will be enclosed (boxed) with non-combustible materials; (2) all structures will be built with a non-combustible Class A roof assembly; (3) all exterior balconies, decks, patio covers, and other similar appendages shall be of non-combustible material; (4) all fence, posts, and gates shall be of non-combustible material; (5) all vents shall be "Brandguard", "O'Hagen fire & ice" line – flame and ember resistant or other equivalent flame and ember resistant vents.

The homeowner is not restricted from having concrete patios, concrete walkways or swimming pools within the Vegetation Management Zones in compliance with other codes. Construction or building permits shall not be issued until the fire code official inspects and approves required vegetation clearance, fire apparatus access and water supply for the construction site. Prior to the delivery of combustible building construction materials to the project site the following conditions shall be completed to the satisfaction of the EFD:

- All wet and dry utilities shall be installed and approved by the appropriate inspecting department or agency.
- The establishment of the fuel modification zones shall be provided prior to combustible material arriving on the site and shall be maintained throughout the duration of construction. Fire code officials may require additional vegetation management and/or defensible space when warranted.
- **5. Fire Protection Systems** All habitable structures and attached garages shall have residential automatic fire sprinkler systems per County Fire Code, which meets NFPA 13D standards.
- **6. Defensible Space** Sec. 4907.2 of the 2016 Consolidated Fire Code for San Diego County, requires a minimum 100-foot Fuel Management Zone to be established and maintained around all structures in hazardous fire areas over 250 square feet in size. No off-site brush clearing is required or authorized.

The conceptual Fuel Modification Zone Map (Exhibit B) for the project indicates that not all of the lots can provide the required 100 feet of fuel modification. The restrictive provisions of the open space easement to protect oak woodland habitat on the property do not allow any brush clearing for fuel modification. All fourteen (14) lots can provide at least 80 feet of fuel modification to the property line. To mitigate for not meeting the 100' requirement, the entire lot will be dedicated as a Zone 1 fuel modification area with irrigated landscape and/or hardscape surface.

The only exception would be on Lot 12, where the pad is so close of the open space buffer that it leaves little room for the structure to be built. To mitigate for the close proximity to the open space buffer, the builder proposes to install a 5-foot high non-combustible firewall at the limit of the buffer to defect any radiated heat and embers from the structure (See Exhibit B). It should be noted as explained in Section 8 – Fire Behavior Modeling, the fuel model in the open space buffer is an annual grass fuel type that under extreme northeast wind conditions, is projected to have flame lengths of 4.8 feet. Under southwest winds, a wildfire is projected to have flame lengths of 3.9 feet. The estimated distance from the firewall to the top of the pad is 35-40 feet. It should also be noted that the adjacent property east of Lot 12 is developed residential with all native vegetation removed. There is no wildland fire threat from this property.

7. Vegetation Management – Prescribed defensible space (fuel management zones) will be maintained by the property owners at least annually or more often as needed. Designated "common areas" will be maintained by the HOA. All of the existing vegetation on the property (annual grass, weeds, isolated trees and shrubs) will be removed during construction and replaced with County-approved fire-resistant landscaping. It is anticipated that each lot will be fully landscaped and/or hardscaped. Plants used in the landscape around the homes will be from an approved fire resistant planting materials list that is maintained by the County of San Diego, Department of Planning and Land Use.

The Biological Report has identified 0.9 acres of Southern California Live Oak woodland and riparian habitat along the west boundary of the property (See Exhibit B). The report recommends that a Biological Open Space Easement be established around all oaks to provide a 50-foot open space buffer to protect the root systems. This area shall be off-limits for brush clearing activities for fuel reduction. Between the limits of the open space easement and the building pad, Zone 1 shall be implemented as required by the County Fire Code. All dead and down material would be removed off site. The fire department will require that the HOA develop a CCR for annual maintenance of the fuel modification zone with special emphasis on protection of the biological open space easement on the property. It is recommended that the limits of the protected Biological Open Space be marked with signed metal posts for reference during annual fuel reduction activities.

8. Fire Behavior Computer Modeling – Although not required, a preliminary fuel assessment of the surrounding properties was completed by the fire consultant on May 26, 2017 to determine the wildland fire risk. The consultant used the BehavePlus 5.0.5 fire behavior program to conduct fire modeling to assess the wildland fire risk. surrounding properties, except for the large lot along the west property line, are mostly developed residential lots with maintained landscape with little or no flammable native vegetation. It was observed that the adjacent property owners have done an excellent job with annual clearing or mowing the dry grass down to acceptable weed-abatement standards at the beginning of summer to reduce the fire risk. The off-site fuel load along the north and northeast property line is considered low consisting of areas of dry annual grass that has been mowed by the adjacent landowners. The fuels along the west boundary of the property are part of an open field with low fuel load consisting of annual grass. The results of the fire behavior assessment with regards to flame length, indicate that implementation of the 80-foot fuel modification zone as described previously, would provide a sufficient barrier as prescribed in the County Code to deter the impacts from wildfire on the structures.

Fire behavior analysis was conducted for the off-site vegetation that could potentially pose a wildland fire threat to the property (See Exhibit B). The fuel model that was used for the surrounding area for fire modeling was a gr2, a Grass Fuel Model with low fuel load in dry climate (reference: Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model; Joe H. Scott and Robert E. Buragn, 2005). The results of the analysis shows that even under extreme fire weather conditions (NE winds at 60-mph in a grass fuel type), a fuel modification zone 80-feet wide with irrigated landscaping, provides an acceptable buffer to protect the structure from direct flame impingement, radiated and convection heat. The analysis was also ran for fires that impact the subject property under prevailing southwest winds. Both scenarios indicated that flame lengths were estimated in the 3.9 to 4.8 foot range using the BehavePlus 5.0.5. Program. The usual accepted rule within the County is that the width of the fuel modification zone needs to be 1.5 x the flame length. In this case an 80-foot wide fuel modification zone provides 20x the desired wide to reduce radiate heat on the structure. The ignition-resistant

construction of the structures will be further "hardened" by the fire protection measures listed in Section 4.

9. Conclusion - The establishment of fuel modification zones as described around the structures, with the application of ignition-resistant construction methods, provide a safe and effective fire protection barrier to reduce the risk of ignition, therefore meeting the intent of San Diego County Consolidated Fire Code and the code requirements of the Escondido Fire Department. The County of San Diego Planning Department deemed this project to be a Fire Protection Plan – Letter Report which is applied to project applicants with little or no anticipated risk of loss, injury or death involving wildland fires. As mentioned earlier, this project is surrounded by mostly residential property that has been developed thus minimizing the wildland fire threat.

If you have any questions concerning this Fire Protection Plan – Letter Report, please contact me at (760)745-3947.

Signature

Date

FIREWISE 2000, Inc.

David C. Bacon - President Emeritus

FIREWISE 2000, Inc.

Property Owner (Signature)

October 27, 2019

Kevin Elder

Date

Printed Name

Attachments:

Exhibit A – Site Plan

Exhibit B – Fuel Modification Zone Map

Exhibit C – Project Facility Availability - Water Form 399W

Exhibit D – Project Photos

Exhibit E – Secondary Access Approval Letter

Exhibit A Site Plan

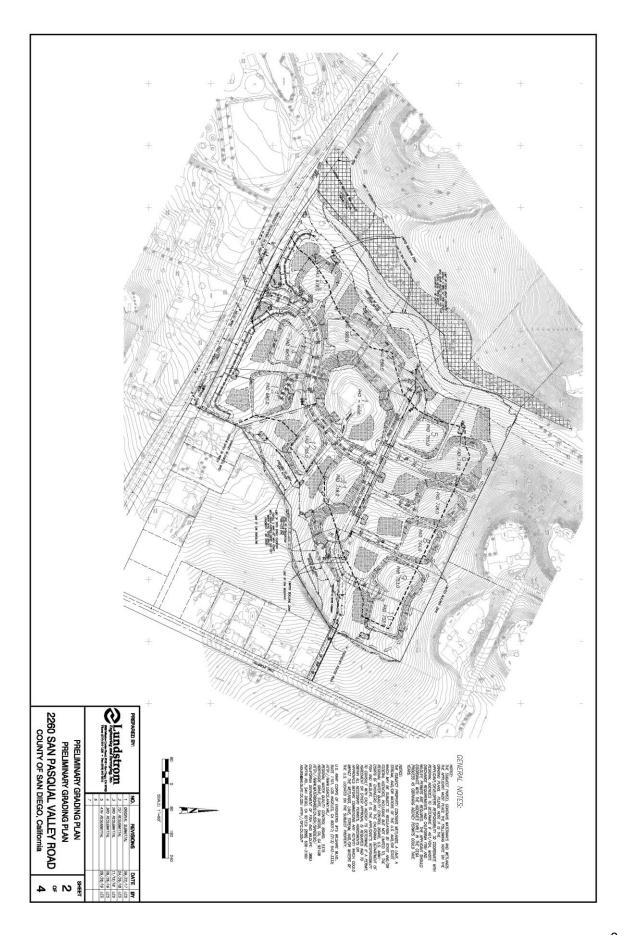


Exhibit B – Fuel Modification Zone Map

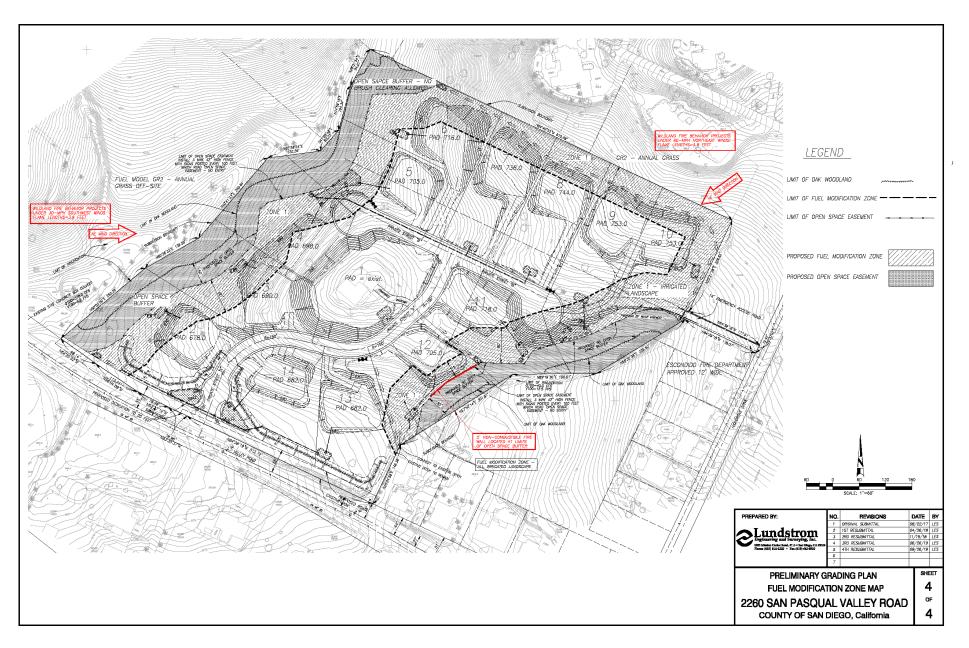


EXHIBIT C

Project Facility Availability – Water Form 399W



County of San Diego, Planning & Development Services PROJECT FACILITY AVAILABILITY - WATER ZONING DIVISION

Please type or use pen		9.70.7
KAE INVESTMENTS, LLC 760-846-9760	ORG	AA
Owner's Name Phone	ACCT	
24 Painted Feather Way	ACT	
Owner's Mailing Address Street	TASK	A Kerry III
Las Vegas, NV 89135	DATE	AMT S
City State Zp	DISTRICT CA	SHIER'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) Gertillicate of Compliance:	nerdment Assessor's Parcel Number(s) (Add extrs if necessary)	
Boundary Adjustment. Resons (Reclassification) from A70 to SR-1 zone. Major Use Parmit (MJP), purpose:	234-261-23	
Time ExtensionCase No Expired MapCase No	234-440-05	
D. Residential Total number of dwelling units 13 + 1 (vilst.) D. Residential Total number of dwelling units 13 + 1 (vilst.)	234-430-21	
Commercial Gross floor area Industrial Gross floor area		
Other Gross floor area	Thomas Guide Page _	1110 Grid 5E
C. ☐ Total Project acreage 18.179 Total number of los 14 D. Is the project proposing the use of groundwate? ☐ Yes ☑ No is the project proposing the use of redistined water? ☐ Yes ☑ No Output Description:	2260 San Pasqual Valley	
	Project adcress	Street
	North County Motro Community Planning Area/S	92027 ubregion Zip
Applicant's Signature: Address: 5333 Mission Center Road #115, San Diego, CA 92108	Date: 7/27/16 Phone: 619-814	-12%
(On completion of above, present to the district that provides w		ALCOHOLOGO ALANCOS DE
SECTION 2: FACILITY AVAILABILITY TO BE COMPLETED BY DISTRICT		
The of Fernanda		
Disting Name: City of Escond do Service	area A3	
A. Project is in the district. Project is not in the district but is within its Sphere of Influence boundary, owns 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 is:	sue exists with the	District.
 Facilities to serve the project ARE ARE ARE NOT reasonably expected to capital facility plans of the district. Explain in space helicy or on absoluted. Project will not be served for the following resson(s): 	be available within the next 5 y (Number of absets)	years based on the
C. District conditions are attached. Number of sheets attached: 2 District has specific water reclamation conditions which are attached. No	umber of sheets attached:	
	ee Altrached	
This Project Facility Availability Form is valid until final discretionary action is taken pur withdrawn, unless a shortarroxightion details otherwise noted.	52708000488	33
	Print Name_ Switterre Roman	
Print Tite_ Assectate Engineer Prince (750) 830-4	6290 x 7035	Date_ 07/29/16
NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SER On completion of Section 2 and 3 by the District, applicant in Planning & Development Services — Zorong Counter, £510 Over	RVICE OR FACILITIES BY THE is to submit this form with appli	E DISTRICT cation to
Planning & Development Services — Zoring Counter, £613 Over	nand Avo, Subs 110, San Didg	ps, CA #2123
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EXHIBIT D

Project Photos



Photo 1. View of Project Site on San Pasqual Valley Road.



Photo 2. View from center of property looking at north property line.



Photo 3. View looking south along west property line at the Biological Open Space area.



Photo 4. View looking south at residential property across San Pasqual Valley Road.



Photo 5. View looking at northeast property line.



Photo 6. View looking west on San Pasqual Valley Road.

Exhibit E

Secondary Access Approval Letter



City of Escondido Fire Department



1163 N Centre City Parkway Escondido, CA 92026

Phone: 760-839-5400 Fax: 760-739-7060 www.fire.escondido.org

Date: November 13, 2018

Subject: Fire access road width

Location: 2260 San Pasqual Valley Road

Mr. Lundstrom

The 12 feet for fire access only will be adequate providing the following conditions are met:

An automatic gate across a fire access roadway or driveway shall be equipped with an approved emergency key-operated switch overriding all command functions and opening the gate.

All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches.

The angle of departure and angle of approach of a fire access roadway shall not exceed 7 Degrees

Sincerely,

Alphonso Dobynes

Al Dobynes

Fire Marshal

Escondido Fire Department 1163 N. Centre City Parkway

(7600 839-5404

adobynes@escondido.org