FIRE PROTECTION PLAN

Shady Oak Subdivision

Valley Center Fire Protection District

PDS2016-MPA16-001, APN 186-270-01

FIRE MARSHAL
Valley Center Fire Protection District
28234 Lilac Road
Valley Center, California 92082
(760) 751-7600

APPROVED
Date 12-9-16
By
Fire Marshal
See Attached Conditions
OBTAIN REINSPECTION APPROVAL
PRIOR TO THE FOLLOWING INSPECTIONS
Framing
Underground Backfill
Final Building
Final
Other
It is unlawful to make any changes or alterations on this set of plans and specifications.

August 25, 2016

Revised November 30, 2016

Prepared for the County of San Diego

Prepared by:

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Prepared For: Touchstone Communities
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Table of Contents

EXECUTIVE SUMMARY

The project is a Tentative Map to subdivide 5.2 acres into 47 detached residential lots. The project site is located at 27522 Valley Center Road in the Valley Center Community Plan Area, within unincorporated San Diego County. The site is subject to the General Plan Regional Category Village, Land Use Designation Village Core Mixed Use, and Zoning S90 (Holding Area). The project requires a Rezone to allow the lot size and setbacks proposed. A single family residential structure previously existed on site; all structures have since been removed. Access is proposed via a private road connecting to Mirar De Valle Road. Sewer and water would be provided by the Valley Center Municipal Water District.

CHAPTER 1 INTRODUCTION

This Fire Protection Plan has been prepared for the Shady Oak Subdivision. 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 plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The plan addresses water supply, access, structural ignitability and fire resistive building features, fire protection systems and equipment. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one or more at risk communities and essential infrastructures. The plan recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan.

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

Shady Oak is located in the unincorporated area of San Diego County commonly known as Valley Center. The site is located west of Valley Center Road and south of Lilac Road. The proposed road Mirar De Valle borders the project to the north and the proposed communities of Orchard Run and Park Circle are proposed just north of Mirar De Valle.

1.1.2 Project Description

The proposed Project is a 5-acre development proposing the construction of 49 single-family, two story, detached residences.

1.1.3 Environmental Setting

- August 20, 2016. Initial site visit and review of documents.
- October 24, 2016, Meeting with County and VCFPD FM George Lucia.

- Terrain onsite consists of small mounds and depressions on an otherwise flat, gradual slope running northeast to southwest from 1301 feet (397 meters) Above Mean Sea Level (AMSL) in the northeastern corner up to 1318 feet (402 meters) AMSL in the southwestern corner.
- The surrounding properties are either disked, (to the west) and the property to the west supports a large herd of goats.
- Approval and implementation of the project would result in the entirety of the site being impacted due to grading and construction of structures.

Chapter 2. GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE.

A Fire Protection Plan evaluates the potential adverse environmental effects that Shady Oak may have from wildland fire and proposes appropriate mitigation for any adverse impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard to 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?

   A. No, the site is situated in the middle of Valley Center's developed area. Fire History shows a Santa Ana wind driven fire such as the Paradise Fire of 2003 would burn to the east and south of the site.

2. Would the project result in inadequate emergency access?

   A. The proximity to Valley Center Road and the creation of the adjoining projects will provide adequate emergency access.

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 would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service objectives for fire protection?

   A. Provide the George Lucia comments.

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?

   A. Yes the project will be served by the Valley Center Municipal Water (VCMWD) and hydrants shall be installed to the satisfaction of Valley Center Fire Protection District and the VCMWD.

Chapter 3. ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

A Santa Ana, northeastern wind driven wildfire similar to the October 2003 Paradise Fire would not create a wildland fire hazard to the Shady Oak Subdivision. This area did not burn during the Paradise Fire and there has been more development to the east since the Paradise Fire. There are two Casinos to the east and a golf course community resides to the east of the project.

Wildland fires starting north of the development on a typical fire day with a southwest up canyon wind will burn away from the project and will generally not be a significant wildland fire threat.

A fire starting south of the development on a typical summer day with a southwest up canyon wind would typically run up canyon to the east away from Shady Oaks.

A fire starting west of the project would not pose a significant threat due to the mosaic of native vegetation, residential and agricultural development that exists.

- Fuels: The site currently is mowed non-native grasses and the implementation of this project will result in the entirety of the site being graded.

- Terrain: The site sits in a valley and is flat.

- Weather: The weather is consistent with inland San Diego County weather with highs typically reaching mid 90's in the summer and the site rarely experiences a frost in the winter.

- Intensity: Since the Paradise Fire of 2003 numerous properties east of the site have been rebuilt to current building standards and there is a golf course community east of the site. The intensity of a wind driven Santa Ana Fire would be greatly reduced due to the lack of vegetation surrounding the site. See Figure 1.

Figure 1: Looking South East from the western border of the site.

3.1 Fire History

The Paradise Fire came the closest to the Shady Oaks site, burning within four miles. The community church and tilled field one quarter mile north of the site were used to support Incident Command and Base operations for the Paradise Fire.

The fire history is significant as the Poomacha and Paradise fire burned fairly close to the project site. During both of these fires the site did not burn. The site sits in the center of the developed Valley Center area and has been protected due to the large expanses of clearing / infrastructure, etc. on all four sides.

Chapter 4. ANALYSIS OF PROJECT EFFECTS

4.1 Adequate Emergency Services

The Shady Oak site is located approximately 1.5 miles away from the Valley Center Fire Protection District (VCFPD) located at 28234 Lilac Drive. VCFPD has determined the fire response travel time to the furthest portion of the project is two minutes. This is well below the 5 minute travel time prescribed by the safety element Public Facility element. Accordingly, the project is in full compliance with County requirements governing emergency response travel times.

VCFPD responds to fire, emergency medical and hazardous materials incidents. VCFPD is supported by two Cal-Fire stations: Station 71 is located at 14046 Vesper Road, Valley Center. Station 73 is located at 28205 Lake Wohlford Road.

4.2 Fire Access

The access to the Shady Oak subdivision is west of Valley Center Road on Mirar De Valle Road.The furthest parcels on the proposed project are approximately 1,200 feet from Valley Center Road and projects of this density are allowed a maximum dead-end road length of 800 feet.

Access to Shady Oak will be provided by Street A, which runs north and south between Mirar De Valle and Old Mirar De Valle. Street A lines up with the entrance to the proposed subdivision Park Circle to the north. Park Circle's access road proceeds north from Mirar De Valle and eventually ties into Valley Center Road approximately 400 feet north of Mirar De Valle. Shady Oak also has access to Old Mirar De Valle which loops back to Valley Center Road. (See composite projects map).
Touchstone Communities met with the County Planners and Fire Marshal James Pine. Sid Morel and VCFPD Fire Marshal George Lucia met to discuss options to mitigate the dead-end road length issue. Based on the meeting Touchstone Communities offers the following as mitigation for the dead-end road length.

1. Touchstone proposes to install a residential type fire hydrant on each of the northern private driveways labelled A, B, C and D. These hydrants will be spaced approximately 100 feet apart and will be installed to the satisfaction of the Valley Center Municipal Water District and the VCFPD.
2. Touchstone proposes to install 24 feet wide of paving on Old Mirar De Valle meeting private road and the 75,000 lb. requirements if access through Park Circle isn't completed by the time they need occupancy on Shady Oak. Park Circle is the Touchstone Communities Project north of Shady Oak.

The four additional fire hydrants improve fire suppression and structure protection for the Shady Oak Development. Structure firefighting relies heavily on water supply. By providing a fire hydrant at every driveway the first in engine will be able to provide water supply as well as fire attack. This will allow incoming units to assist with other essential firefighting operations, such as search, rescue and ventilation. The additional hydrants might also be used in structure protection during a wildland scenario allowing an engine to use the water supply and defend the structures.

The improvement to Old Mirar De Valle will guarantee multiple evacuation routes from Shady Oak to Valley Center Road as well as provide multiple access routes for incoming emergency units.
(See the site map).

4.3 Water

4.3.1 Shady Oak subdivision shall install residential fire hydrants to the satisfaction of Valley Center Fire Protection District and the Valley Center Municipal Water District. The fire hydrants shall be capable of supplying 2500 GPM. The exact location to be determined by the VCFPD Fire Marshal George Lucia.

4.4 Ignition-Resistant Construction and Fire Protection Systems

The buildings on the property consist of 47 single family dwellings. The new residential structures shall be built with the following requirements:

- Roofs shall be a Class "A" noncombustible material and meet VCFPD and San Diego County Standards for the roof assembly.
- Eaves and balconies shall be of noncombustible material and meet the San Diego County Building code for exterior walls.
- The exteriors shall meet the ignition resistant standards of the San Diego County Fire and Building codes specifically meeting chapter 7A.
- All habitable structures and attached garages shall be equipped with automatic fire sprinklers per the County Consolidated Fire Code requirements (NFPA - 13D).
- All structures shall comply with the wildland fire structural building requirements of the County Building Code Chapter 7A in affect at the time of the building permit application.

4.5 Fire Fuel Assessment

The entire site is currently non-native grasses and implementation of this plan will result in the entirety of the site being impacted due to grading and the building of structures.

4.6 Fire Behavior Modeling

The site and surrounding area is currently mowed non-native grasses and or completely disked fields. The model was run for two fuel model scenarios. Dry short grass is what is predominantly on and around the site. The fields of dry grass are usually disked or mowed every year and are subject to the Valley Center Fire Protection Districts weed abatement protocol. The second fuel type would be a worst case scenario where no mowing occurred allowing a mix of native and chaparral to grow back.

Sid Morel of Santa Margarita Fire Consulting used worst case fire weather scenarios to model fire behavior. This worst case fire modeling predicted a flame length of

approximately 13 feet while the existing dry grass resulted in 3 foot flame lengths. See Appendix B for fire behavior calculations.

4.7 Defensible Space and Vegetation Management

Due to the entirety of the site being impacted by grading and the small residential lots, fuel modification zones are not required.

4.8 Cumulative Impact Analysis

Shady Oak is one of 4 proposed subdivisions that are accessed by Mirar De Valle. Shady Oak is the smallest of them and is the only one currently on the south of Mirar De Valle. Shady Oaks proximity to Valley Center Road along with multiple routes to Valley Center Road makes the cumulative impact less than significant. (see cumulative projects map).

Chapter 5. MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Shady Oak subdivision is located in an area devoid of native vegetation for well over 500 feet in all directions. Shady Oak will be installing extra fire hydrants and will be improving their half of Mirar De Valle to public road standards as well as building Old Mirar De Valle to 24 foot private road standards.

The proposed driveway widths meet fire department safety standards and allow homeowners sufficient access. Proposed widths would allow the project to increase densities in an effort to meet the County General Plan and also provide affordable housing in Valley Center. The alternative would be to design 40 ft. easements which would substantially reduce the housing densities and force home pricing upwards. Designing the project with 40 ft wide easements and 30 foot setbacks would cause a reduction in housing density. The financial implication of this density reduction would jeopardize the financial viability of the development, potentially making the project financially unbuildable. This result would undermine the County's General Plan and reduce the County's affordable housing supply. Touchstone Communities requests the 30 foot property line setback be reduced due to the fact the entire lot will be impacted due to grading and building of the project. The surrounding properties are also slated to be built out reducing the fire threat to less than significant.

Chapter 6. CONCLUSION

The amount of defensible space on and off site, the ignition resistant buildings along with the installation of extra fire hydrants and public roads reduce the wildland fire threat to less than significant.

Prepared by (Signature)	Date	Printed Name	Title
Sid Morel	12/1/16	Sid Morel	- owner

Property Owner (Signature)	Date	Printed Name
	11-30-16	BRIAN NESTOROFF

Chapter 7. LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

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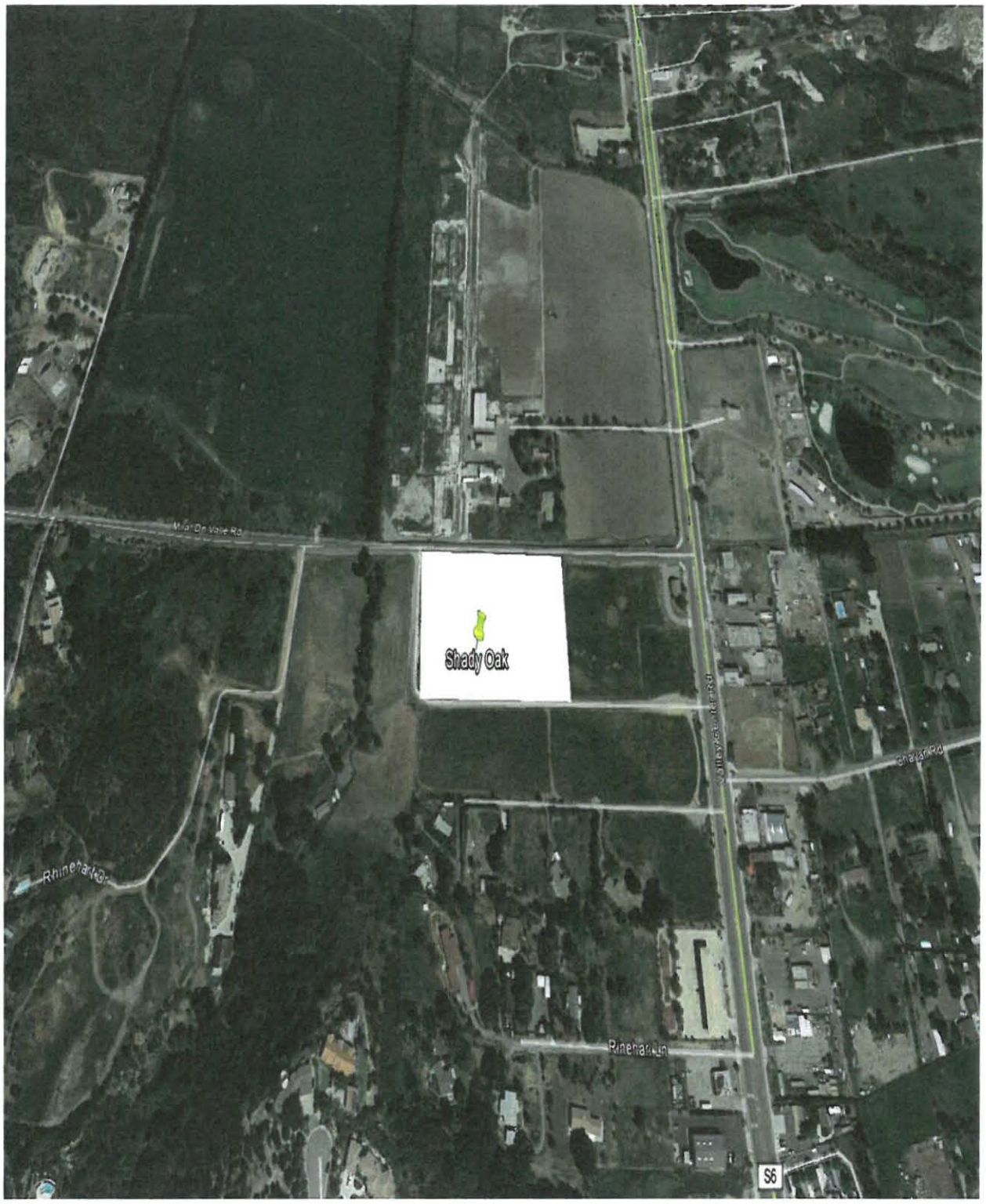
Appendix A: Google Earth site picture.



Appendix B: Fire Modeling

BehavePlus Wildfire Modeling:

The BehavePlus Fire Modeling System (Version 5.0.5) developed by the U.S. Forest Service Rocky Mountain Research Station is the generally accepted software for modeling large-scale wildfire behavior and characteristics. The BehavePlus System was designed to evaluate a variety of wildfire variables for large wildland fires including surface fire spread, safety zones, fire containment, spotting distance crown scorch and probability of ignition. Two aspects of this program (surface fire spread and safety zone) have been utilized to assist in determining acceptable fuel modification requirements. The BehavePlus Program coupled with onsite and surrounding area vegetation, access, slope and weather conditions are the basis for the following.

The BehavePlus Fire System has been run for the following worst case scenarios:

60 MPH wind, 100-degree ambient air temperature, 2 % dead fuel moisture, 50 % live fuel moisture and 50% max slope with 25 % average slope aspect. The model was run for two fuel model scenarios. Dry short grass is what is predominant currently on and around the site. The fields of dry grass are usually disked or mowed every year and are subject to the Valley Center Fire Protection Districts weed abatement protocol. The second fuel type would be a worst case scenario where no mowing occurred allowing a mix of native and chaparral to grow back.

It should be noted that the BehavePlus Model does not and cannot include all variables associated with a specific site and regime, and adjacent mixed land uses can influence the results.

BehavePlus Fire Model

Fuel Model 1 Short Grass (S)
Climate.

The following scenarios are typical of the area and are to be considered worst case assumptions:

Summer
South, Southwest, Northwest and West wind condition can result in the following fuel moistures.

1-hour moisture.....4%

10-hour fuel moisture.....6%

100-hour fuel moisture.....8%

Live woody fuel moisture.....80%

Fall = back down from a Santa Ana late fire season

South, Southwest, Northwest and West wind condition can result in the following fuel moistures.

Summer

South, Southwest, Northwest and West wind condition can result in the following fuel moistures.

1-hour fuel moisture.....4%

10-hour fuel moisture.....6%

100-hour fuel moisture.....8%

Live woody fuel moisture.....80%

Fall = back down from a Santa Ana late fire season

South, Southwest, Northwest and West wind condition can result in the following fuel moistures.

1-hour fuel moisture.....2%

10-hour fuel moisture.....3%

100-hour fuel moisture.....5%

Live woody fuel moisture.....50%

Santa Ana Wind Condition two to four times a year.

1-hour fuel moisture 2%

10-hour fuel moisture.....3%

100-hour fuel moisture.....5%

Live woody fuel moisture.....50%

gr1 short sparse, dry climate grass

Wind Speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	30.0 mph	31.5 Ch/h	59 Btu/ft/s	2.9 ft

Fuel Model gr 2 very high load dry climate shrub (S) (147) Southern Mixed Chaparral

Wind speed & Direction	Mid-flame	Rate of Spread	Fire Line Intensity	Flame Length
60 mph N, NE, E	30.mph	267.8 Ch/h	1495 Btu/ft/s	13.0 ft.

Appendix C

Completed and signed form "PDS #399F-Project Facility Availability Form for Water"

Appendix D

Completed and signed form "PDS #399F-Project Facility Availability Form for Fire"