



Fire Protection Plan/Fuel Management Plan

For APN 599-052-01/TPM 21107

Renteria Project/Skyline Truck Trail/Jamul

Prepared By

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EXECUTIVE SUMMARY

The proposed project is TPM 21107 that will split a 59.18 acre lot into 4 parcels. The proposed lots will be used for single family residences. The project is located near Jamul. The project is located at the intersection of Skyline Truck Trail and Skyline Ranch RV Park access road. The project encompasses moderate slope land with non-native grasses and dense brush. The majority of this site is covered with Southern Mixed Chaparral and non-native grasses. The surrounding property is like vegetation and urban developed. Removal of the vegetation for this project will be a marked improvement. It will substantially reduce the fire hazard in the area. Initial fire department response will be from the newly relocated headquarters at 14024 Peaceful Valley Ranch Road. This station is 7.84 miles from the project with a travel time of 13.82 minutes by the use of NFPA 1142. This project will access Skyline Truck Trail. This Fire Protection Plan is in response to a request from the County of San Diego.

Chapter 1 INTRODUCTION

This Fire Protection Plan/Fuel Modification Plan (FPP) has been prepared for TPM 21107, with four new parcels. The purpose of the Fire Protection Plan 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 this plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions and fire history. The plan addresses 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 plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one structure or 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. This plan has been developed to protect the residential structures from potential radiant heat from wildfire hazards to the maximum extent practical. This plan does not guarantee that the structures will not burn or that injury and death may occur, but greatly reduces that possibility. These are not shelter in place residences. A multitude of factors have been incorporated into the Fuel Modification Plan including wildfire history, prevailing wind patterns, existing vegetation /fuel loading, terrain and adjacent vegetation/land use.

In February 2010, the California, the State of California State Board of Forestry and Fire Protection certified the current County Fire Code and Building Code together as meeting or exceeding CCR Title 14 "SRA Fire Safe Regulations" and authorized the application of these codes in lieu of the referenced portion of title 14 in SRA.

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

This project is located near the Community of Jamul and is in the San Diego Rural Fire Protection District response area. The project is located at the intersection of Skyline Truck Trail and Skyline RV park access road.

1.1.2 Project Description

This project is within the San Diego Rural Fire Protection District emergency response area and the Community of Jamul. The project consists of approximately 59.18 acres to be split into 4 parcels. The APN # is 599-052-01. The size of the new structures are undetermined at this time. The proposed use of the new parcels will be for single family residences.

1.1.3 Environmental Setting

The site was visited on November 24, 2009 by Lamont Landis

Topography

The project encompasses flat land and gentle slopes with gradual sloped hillside. On site slopes are approximately 0 to 50%. On site average slope is approximately 21.8 %. The elevation ranges from 2,475 feet to 2,600 feet above sea level, off site is similar terrain.



Vegetation types are Mixed Chaparral and non-native grasses. Fuel loads on the property consists of non-native dry climate grasses approximately 12 inches in height; the estimated fuel load for this type of fuel will be approximately .74 tons per acre based on (RMRS-GTR-153 USDA Forest Service). The majority of the property consists of Southern mixed chaparral (sh7); the estimated fuel load for this type of fuel will be approximately 5 tons per acre for 1 hour fuels, 4 tons per acre for 10 hour fuels and 2 tons per acre for 100 hour fuels based on (RMRS-GTR-153 USDA Forest Service). Offsite vegetation consists of mixed chaparral, non-native grasses and urban developed land.

The Harris Fire burned 90,440 acres and started on October 21, 2007 at Harris Ranch Road and Highway 94 in Portrero. The fire injured 21 civilians and 36 firefighters. Five people died as a result of the fire, 211 homes and 262 outbuildings were destroyed and 259 structures were damaged. Embers from the wildfire traveled long distances due to Santa Ana winds and low humidity. The Harris Fire was driven by Santa Ana winds fueled by 50-year old brush and an extended drought. The Harris Fire did not burn the site but came close.

On September 1970 the Laguna Fire was ignited when a power line sparked a fire in the Kitchen Creek area; more than 75% of the vegetation in the Cleveland National Forest where the fire burned was Chaparral, Coastal Sage Scrub, Chemise, Manzanita and Ceonothus which are very flammable when dry. The Laguna Fire was the worst in California history until the Cedar Fire. The fire destroyed 382 homes, 175,000 acres and killed eight people. The Laguna Fire was fanned by Santa Ana wind for seven days and traveled 30 miles and did burn the site.

Climate

The property is located approximately 25 miles inland from the Pacific Ocean. The weather is influenced by maritime and interior air in a 24 hour period. Typical annual temperatures range from winter lows of 37 degrees to summer highs of 100 degrees.

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 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)

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 moisture2%
- 10-hour fuel moisture.....3%
- 100- hour fuel moisture.....5%
- Live woody fuel moisture.....50%

The ownership of the area is private with onsite vegetation that consists mostly of mixed chaparral, annual grasses and urban developed (rural in nature) (Not Modeled). The surrounding property is a mix of rural developed land;

Chapter 2 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

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

The project is in very high wildland fire area that that will carry long flame lengths. The project has been fire modeled for fuel model 4. This fuel model is generally associated with northern mixed chaparral. Even though the actual fuel model would normally be used a less severe model it has been determined that the area has potential to produce behavior more severe than a model sh7. This plan is proposing larger fuel modification for additional safety.

The project will not unnecessarily expose people or structures to the risk of loss, injury or death involving wildland fires due to the proposed 30 foot fuel modification along and the 195 ft fuel modification from the structures.

Would the project result in inadequate emergency access?

The project will access off of Skyline Truck Trail. None of the roads will exceed the maximum dead end road distance of 2640 ft for 5 to 19.99 acre zoning.

Would the project result in substantial adverse physical impacts associated with new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance ratios, or other performance objectives for fire protection?

The project will not adversely affect the fire district by the creation of new lots.

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

The water supply with existing and additional water tanks that incorporate redundant gravity fed water mains will serve the project and meet the requirements of the San Diego Rural Fire Protection District and the County of San Diego.

Chapter 3 ANTICIPATED FIRE BEHAVIORS IN THE VICINITY

The anticipated fire behavior onsite is expected to be significant. Flames in the unmodified non-native grasses on site in the grove will be approximately 12.7 feet in height. The Southern Mixed Chaparral has been modeled to show a larger flame length, Model sh7 has used to predict behavior. The model will show a 97 ft flame, this have a large safety factor that will further protect the structures. By requiring a biological zone, these parcels will result in an increase in the fire hazard do to the unmodified fuel. The hazard severity of this area is a very high severity zone. This will mitigated with extra clearing around the structures.

Chapter 4 ANALYSIS OF PROJECT EFFECTS

The development of this area will help reduce the spread of a wildfire by reducing the fuel load, along with the addition of a water supply (water tanks for fire fighting). The clearing of the home sites will provide additional fuel breaks in the area; this will be a fuel break that will buffer and slow down a fire in the area. The new structures will be mitigated by enhanced wildland urban interface construction as per Chapter 7A of the San Diego County Building Code.

4.1 Adequate Emergency Services

Initial fire department response will be from the newly relocated headquarters at 14024 Peaceful Valley Ranch Road. This station is 7.84 miles from the project with a travel time of 13.82 minutes by the use of NFPA 1142. The San Diego Rural Protection District has an automatic aid agreement with CALFIRE and their station (#85) located at 17759 Skyline Truck Trail will be the closest fire station. This station is staffed by three firefighters. Apparatus include one Type Three Engine. The station is located 4.8 miles from the above property and is 8.81 minutes away by using the estimated timetable in NFPA 1142.

4.2 Fire Access

The proposed fire access road proposed to serve parcels 2, 3 and 4 is designed to allow for egress for residential home sites and fire fighting access for the Fire Department. The fuel modification on or adjacent to the proposed road reduces the spread of the fire and is part of the overall Fuel Modification Plan. All existing roads and driveways shall have a minimum clearance of 20 feet on each side of the road and driveway. All new roads and driveways shall have 30 feet of fuel modification on each side of the road or driveway. Turnarounds shall comply with Appendix B. Angle of approach shall not exceed 7 Deg. The proposed onsite access road proposed to serve parcels 2, 3 and 4 shall meet or exceed all San Diego County DPLU and San Diego Rural Fire Protection District requirements. This new to be named road will also be signed in accordance with DPW Design Standard DS-13. All driveways shall be a minimum of 16 feet in width. Parcel 1 fronts on Skyline Truck Trail (public road) and will take access, in part, along the fire apparatus access road to the Skyline RV Park, lying to the north of Parcel 1. Parcels 2, 3 and 4 front on Skyline Truck Trail and will all access at a common connection point. All access roads shall be a minimum of 20 feet graded and shall have a vertical clearance of 13 feet 6 inches. All roads and driveways shall be all-weather surface suitable for travel by a 75,000 lb. fire apparatus. All driveways or roads that exceed 15% of grade will be Portland Cement Concrete with a deep broom finish perpendicular to the direction of travel to enhance traction; no grade will exceed 20% of grade.

Skyline RV Park Access road is approximately 850 ft long on site and is 18 to 20 ft in width. The road is paved with AC and is in good condition. The road passes through a riparian area where the widening of the road would result in significant biological impacts. These impacts would be to sensitive natural communities, but not to the riparian habitats. (See biology report) Road surface improvements (widening) of the north/south easement road serving Lot 1 and the RV Park will not be required of this TPM; however, widening of this easement to 24 feet is required of this TPM. Obligation to improve the road to 24 feet will be the responsibility of the RV Park when they revise their use permit. The currently unnamed road is to be named and signage shall be per DPW DS 13. (See figure 4.2)

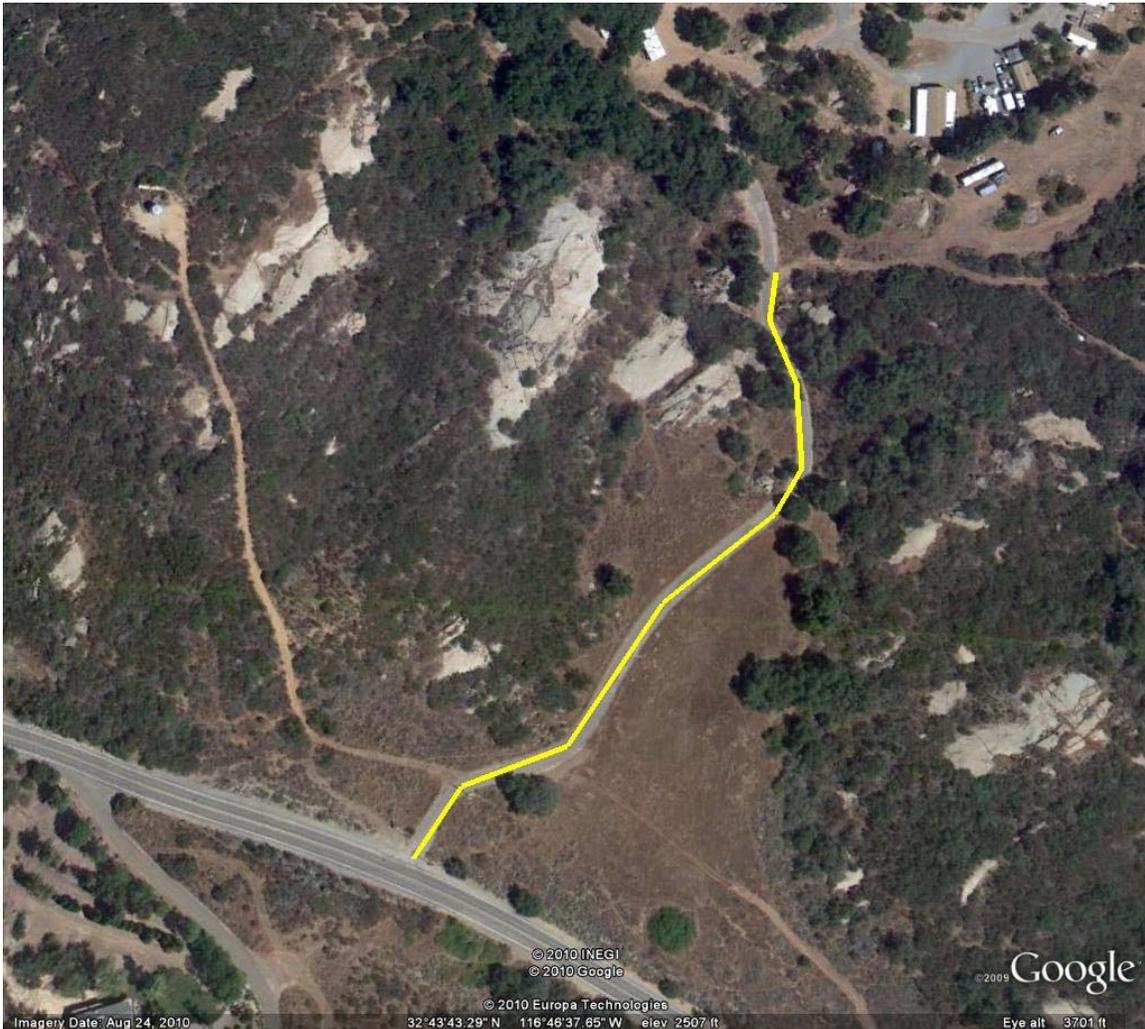


Figure 4.2

4.3 Water

4.3.1 Public Water

The water supply for this proposed project will come from domestic wells. Domestic and fire flow systems will be designed to San Diego County Fire Code and San Diego Rural Fire Prevention requirements. Wells shall supply water tanks pursuant to the County Fire Code Table 508.2.2.

4.4 Ignition Resistant Construction and Fire Protection Systems

All new structures shall be equipped with the following interface features:

1. All structures will comply with the wildland area structural requirements of the County Building Code Chapter 7A in affect at the time of a building permit application.
2. Auxiliary structures: Pavilions, Trellises, Arbors, Pergolas, Cabanas, Palapas and playground equipment shall be evaluated for a fire event and if the structure is more than 50% covered a class "A" non-combustible roof shall be required. The structures shall be a minimum of 30 feet from other combustible structures. All structures shall be 30 feet from the property line.
3. Any auxiliary structure will also comply with the 50 foot Zone 1 requirements.
4. All exterior vents shall be an ember resistant type approved by the San Diego Rural Fire Protection District.
5. All Exterior rain gutters will be provided with a means to reduce the accumulation of leaf litter and debris that contributes to roof edge ignition.
6. All residential structures shall be equipped with residential fire sprinklers including garages.

4.5 Fire Fuel Assessment

The site has the potential to experience a vegetation fire; this is based on the type of vegetation and its continuous nature, Santa Ana winds, high temperatures, low humidity and drought conditions. The property supports native upland and wetland plant associations. There are also urban developed and disturbed areas. On site vegetation consist of the following: Southern Mixed Chaparral, Southern Coast Live Oak Forest, Freshwater Seep, non-native grassland, Urban Developed and disturbed habitat. Similar habitats and vegetation are found on the surrounding properties. Most of the site is Mixed Chaparral and non-native grasses. (See biological report for this project). The surrounding property has a mixture of vegetation, south of the project is Mixed Chaparral, north of the project is urban developed land with Mixed Chaparral, east of the property is urban developed with Mixed Chaparral and west of the property is non-native grassland, urban developed and Mixed Chaparral.

4.6 Fire Behavior Modeling

BehavePlus Wildfire Modeling

The BehavePlus Fire Modeling System (Version 5.0.2) 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: 70 MPH wind 90-100-degree ambient air temperature, 2 % dead fuel moisture, 50 % live woody fuel moisture and 24 % average slope aspect. The model was run for two dominant fuel model scenarios, as the project contains varying types of fuels.

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.

The BehavePlus Model run results are summarized in Table 1.

Table 1

BehavePlus Fire Model

Fuel Model 1 [Short Grass (s)]

| Wind Speed & Direction | Mid-flame | Rate of Spread | Fire Line Intensity | Flame Length |
|------------------------|-----------|----------------|---------------------|--------------|
| 60 mph N, NE, E | 24.0 mph | 665.6 Ch/h | 1415 Btu/ft/s | 12.7 ft. |

Up-slope spotting distance= 1.1 miles

Fuel Model 4 Chaparral (S)

| Wind Speed & Direction | Mid-flame | Rate of Spread | Fire Line Intensity | Flame Length |
|------------------------|-----------|----------------|---------------------|--------------|
| 60mph N, NE, E | 30.0 mph | 1892.7 Ch/h | 119727 Btu/ft/s | 53.4 ft |

Up-slope spotting distance= 4.7 mi

The Behave Plus coupled with the expected offshore Santa Ana wind direction, anticipated down slope fire line aspect, and relatively low fuel vegetation within the urban wildland interface areas, and existing fuel modified areas serves as a basis for formulation of the recommended Fuel Modification Zone locations.

4.7 Defensible Space and Vegetation Management

The site and surrounding areas are primarily covered with Mixed Chaparral and non-native grasses. The flame length of non-native grasses is 12.7 feet. The flame length for Model sh7 fuel is 53.4 feet.

Fuel Modification Zones:

Parcels All

As proposed the residential structure from the structure to a point 50 feet in all directions shall be maintained as Zone 1 and from a point 50 feet from the structure to 100 ft shall be maintained as Zone 2. From 100ft to 195 ft shall be zone 3. Zones 1, 2 and 3 shall be clearly and permanently marked for annual maintenance. All distances are on a horizontal plane regardless of the slope. The property to the north of portions of parcels 1 and 2 are required by Local Ordinance to provide brush management for a width of 50 ft along the property line, and the RV Park currently provides this.

Note: All Fuel Modification Zones must be delineated with permanent markers until such times as they are no longer needed as determined by the San Diego Rural Fire Marshal and the San Diego County DPLU Fire Marshal. The most reliable markers are metal fence posts with a baked on painted finish (Day Glow Orange on the top half).

Fuel Modification Zone 1:

Zone 1 is the first 50 feet or as otherwise indicated. This is an area where native vegetation has been removed, irrigated and planted with drought-tolerant and fire resistant plant material. Plant selection shall be from Appendix A (The San Diego County Acceptable Plant List).

The purpose of Zone 1 (set back zone) is to provide a defensible space for fire suppression forces to protect structures from radiant heat. The following shall be part of fuel management of this zone:

1. No combustible construction, groves, firewood, propane tanks, fuel or combustible native or ornamental vegetation shall be allowed within the 50 foot set back Zone 1 or within 30 feet of the edge of slopes.
2. Mature trees (>18') to be limbed up or canopied 6' to 8' from ground level.
3. No tree limbs within 10' of chimney outlets or dead limbs overhanging structures.

4. Spacing between mature tree canopies must be as follows:
 - A. Slopes 0-20 % ----10 feet.
 - B. Slopes 21-40 % ----20 feet.
 - C. Slopes > 41 % ----30 feet.

The minimum horizontal space between the edges of shrubs

- A. Slopes 0-20%----2 times the height of the shrub.
- B. Slopes 21-40%----4 times the height of the shrub.
- C. Slopes > 40%----6 times the height of the shrub.

The minimum vertical space between the top of the shrub and the bottom of the lower tree branches is three times the height of the shrub.

(Gilmer, M. 1994 California Wildfire Landscaping, adapted by the State Board of Forestry and Fire Protection on February 8, 2006.)

Fuel Modification Zone 2

This Fuel Management Zone will be the area between 50 feet to 100 ft or the property line from the structure. (The current vegetation is southern mixed chaparral). The landscape plans shall include methods of erosion control to protect against slope failure. The following shall apply to Zone 2:

1. If the groves are removed and allowed to return to their native state all of the native combustible vegetation including all dead and dying shall be removed. This area must be modified so combustible vegetation does not occupy more than 100% of the total square footage. All vegetation in this zone shall be maintained to a height of no more than 18 inches. Trees may remain provided that the horizontal distance between crowns of the adjacent trees is not less than 10 feet.
2. Orchards, groves and vineyards shall be maintained as per sec. 4707.3.2 of the San Diego County Fire Code adopted November 13, 2009.
3. If planted fire resistive plant materials are also planted in Zone 2 to control soil erosion and/or to reduce vegetation mass near the wildland interface.
4. Plant spacing will be the same as noted for Zone 1.
5. All plants used in Zone 1 and 2 shall comply with the San Diego County Acceptable Plant List, Appendix A.

Fuel Modification Zone 3

Zone 3 is a non-irrigated area between 100 & 194 feet that includes both manufactured and natural slopes. Invasive and/or fire-prone native and exotic species are to be removed from Zone 3 and will not be permitted to grow back. This zone is an additional 1.65 times the flame length making the total distance 3.65 times the flame length for additional protection from the deep canyon to the north. Lots two and three are protected to north and east with the extra protection of an additional 95 ft beyond the standard of 100 ft. To the west and south lots two and three are reduced to 100 ft because of the biological zones and the lack of the steep canyon. The owner of the property north of lots one and

two is required by local ordinance to provide brush management 50 ft from the PL. This clearing will take care of the off site vegetation. The following is a list of invasive and fire-prone species.

| <u>Botanical Name</u> | <u>Common Name</u> |
|-------------------------|-------------------------------------|
| Adenostoma Fasciculatum | Chamise |
| Adenstoma Spacsifolium | Red Shank |
| Artemisia Californica | California Sagebrush |
| Brassica Nigra | Black Mustard |
| Brassica Ropa turnip | Yellow Mustard, field mustard, wild |
| Eriogonum Fascilatum | Common Buckwheat |
| Nicotiana Bigelevil | Indian Tobacco |
| Nicatiano Glauca | Tree Tobacco |
| Salsola Tragus | Tumble Weed, Russian Thistle |
| Salvia Mellifera | Black Sage |
| Salvia Opiana | White Sage |

No pyrophytes that are high in oils and resins such as Pines, Eucalyptus, Cedar, and Cypress or Juniper Species shall be planted in this zone.

Fuel Modification Zone 4

Fuel Management Zone 4 is the area from the edge of the road. The distance is 20 feet from the edge of the pavement for existing roads and 30 feet for new roads. This fuel modification will be the removal of all dead and down fuel and must be trimmed to 4 to 6 inches annually or as required by the local fire department.

Landscape Requirements/Restrictions

The landscaping within the Fuel Modification Zones must be approved by the San Diego Rural Fire Protection District and shall include low fuel drought tolerant type vegetation from the list adopted by the County of San Diego (see Appendix A).

Fuel Modification Zone Maintenance Requirements

Fuel Modification Zones must be maintained in a manner that will fulfill the intent of the Fuel Modification Plan and meet the requirements of the San Diego Rural Fire Protection District. Maintenance will include initial planting, weeding, irrigation installation, maintenance and plant pruning; the removal of dead and down vegetation and the replacement of plants as required.

The following will also apply to this project:

1. Each lot owner is personally responsible for all irrigation and landscaping of the Fuel Treatment Zones within their property boundaries.
2. The San Diego Rural Fire Protection District will hold each lot owner accountable for enforcement of all wildland fire protection issues discussed in this plan.
3. Each lot owner shall not allow trash dumping or disposal of any yard trimmings in the Fuel Treatment Zones.
4. The San Diego Rural Fire Protection District or its designated representative shall decide any disputes related to individual lot landscaping or fuel treatment, with respect to interpretation of the Fire Protection Plan. Decisions shall be final and binding on the lot owner.
5. Should modifications to the Tentative Map Plans occur, any and/or all of the Fire Protection Plan may be revised at the discretion of the San Diego Rural Fire Protection District. All exterior boundaries of Zones 1 and 2 shall be permanently marked on the ground for purposes of 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

This and other projects may have a cumulative impact on the ability to protect residences from wildfires. Over time with this project and other development in the area will cause the population in rural areas to increase, which may increase the chances of a wildfire and increase the number of people and structures exposed to the risk of loss, injury or death; however the fuel modification should reduce the risk.

Property taxes and other currently applicable fees generated by the project may not adequately fund fire services. At the developers expense they shall annex into CFD 04-1 (Special Tax) prior to the recordation of the final map or issuance of any permits.

Chapter 5 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The fuel modification will reduce the threat to the structures from the vegetation onsite. The structures will be designed with enhanced fire resistive construction as per the County Building Code Chapter 7A. The water tanks for fire fighting. The new driveway and access roads will have 30 feet of clearing (fuel modification) on both sides. The structures will have 195 feet of fuel modification. All of the items mentioned will improve the safety of all residences in the area in the event of a wild fire. The 195 ft of fuel reduction will enhance the fire protection around the structures by adding an additional 90 ft to fuel modification.

Chapter 6 CONCLUSIONS

The development of this area will reduce the spread of a wildfire by reducing the fuel loading, the addition of water supply (Water tanks for fire fighting); improving of roads in the project and the clearing of home sites will provide additional fuel breaks in the area. A three tiered Fuel Modification Zone system is proposed to create an adequate fire safety buffer along the proposed development areas and access roads, which would be defensible space in case of a wildfire. The Fuel Modification Zone recommendations are based upon a combination of BehavePlus modeling data, onsite vegetation, access, surrounding area fuel conditions, slope and worst-case weather conditions. The Fuel Modification Zones have been designed to meet the requirements of the San Diego Rural Fire Protection District and San Diego County DPLU. The proposed mitigation will reduce the significance to a “less than significant” status in accordance with guidelines.

Chapter 7 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Cal Hendrie Battalion Chief /Fire Marshal San Diego Rural Fire Protection District.
Lamont Landis Principal Author (is on the San Diego County List of Approved Consultants)

Chapter 8 REFERENCES

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Appendix A

San Diego County

Invasive Plant List **Number of**
pages 2

Undesirable Plant List **Number of**
pages 2

Acceptable Plants for a Defensible Space
In Fire Prone Areas **Number of**
pages 7

SUGGESTED PLANT LIST FOR A DEFENSIBLE SPACE

| <u>BOTANICAL NAME</u> | <u>COMMON NAME</u> | <u>Climate Zone</u> |
|---------------------------|-----------------------------------|---------------------|
| TREES | | |
| Acer | | |
| platanoides | Norway Maple | M |
| rubrum | Red Maple | M |
| saccharinum | Silver Maple | M |
| saccarum | Sugar Maple | M |
| macrophyllum | Big Leaf Maple | C/ (R) |
| Alnus rhombifolia | White Alder | C/I/M (R) |
| Arbutus | | |
| unedo | Strawberry Tree | All zones |
| Archontophoenix | | |
| cunninghamiana | King Palm | C |
| Arctostaphylos spp.** | Manzanita | C/I/D |
| Brahea | | |
| armata | Blue Hesper Palm | C/D |
| edulis | Guadalupe Palm | C/D |
| | | |
| Ceratonia siliqua | Carob | C/I/D |
| Cerdidium floridum | Blue Palo Verde | D |
| Cercis occidentalis** | Western Redbud | C/I/M |
| Cornus | | |
| nuttallii | Mountain Dogwood | I/M |
| stolonifera | Redtwig Dogwood | I/M |
| Eriobotrya | | C/I/D |
| japonica | Loquat | C |
| Erythrina caffra | Kaffirboom Coral Tree | I/M |
| Ginkgo biloba "Fairmount" | Fairmount Maidenhair Tree | I/D/M |
| Gleditsia triacanthos | Honey Locust | |
| Juglans | | I |
| californica | California Walnut | C/I |
| hindsii | California Black Walnut | I/D/M |
| Lagerstroemia indica | Crape Myrtle | I |
| Ligustrum lucidum | Glossy Privet | C/I/M |
| Liquidambar styraciflua | Sweet Gum | I |
| Liriodendron tulipifera | Tulip Tree | |
| Lyonothamnus floribundus | | C |
| ssp. Asplenifolius | Fernleaf Catalina Ironwood | C/I/D |
| Melaleuca spp. | Melaleuca | C/I |
| Parkinsonia aculeate | Mexican Palo Verde | |
| | | |
| Pistacia | | |
| chinensis | Chinese Pistache Pistachio Nut | C/I/D |

| | | |
|----------------------------|--------------------------|---------------|
| vera | Pistachio Nut | I |
| Pittosporum | | |
| phillyraeoides | Willow Pittosporum | C/I/D |
| viridiflorum | Cape Pittosporum | C/I |
| Platanus | | |
| acerifolia | London Plane Tree | All zones |
| racemosa** | California Sycamore | C/I/M |
| Populus | | |
| alba | White Poplar | D/M |
| fremontii** | Western Cottonwood | I |
| trichocarpa | Black Cottonwood | I/M |
| Prunus | | |
| xblireiana | Flowering Plum | M |
| caroliniana | Carolina Laurel Cherry | C |
| ilicifolia** | Hollyleaf Cherry | C |
| lyonii** | Catalina Cherry | C |
| serrulata 'Kwanzan' | Flowering Cherry | M |
| yedoensis 'Akebono' | Akebono Flowering Cherry | M |
| Quercus | | |
| agrifolia** | Coast Live Oak | C/I |
| engelmannii | Engelmann Oak | I |
| ** suber | Cork Oak | C/I/D |
| Rhus | | |
| lancea** | African Sumac | C/I/D |
| Salix spp.** | Willow | All zones (R) |
| Tristania conferta | Brisbane Box | C/I |
| Ulmus | | |
| parvifolia | Chinese Elm | I/D |
| pumila | Siberian Elm | C/M |
| Umbellularia californica** | California Bay Laurel | C/I |

SHRUBS

| | | |
|-----------------------|------------------------|-------|
| Agave | Century Plant | D |
| americana | Century Plant | D |
| deserti | Shawis Century Plant | D |
| shawi** | | |
| Amorpha fruticosa** | False Indigobush | I |
| Arbutus | | |
| menziesii** | Madrone | C/I |
| Arctostaphylos spp.** | Manzanita | C/I/D |
| Atriplex** | | |
| canescens | Hoary Saltbush | I |
| lentiformis | Quail Saltbush | D |
| Baccharis** | | |
| glutinosa | Mule Fat | C/I |
| pilaris | Coyote Bush | C/I/D |
| Carissa grandiflora | Natal Plum | C/I |
| Ceanothus spp.** | California Lilac | C/I/M |
| Cistus spp. | Rockrose | C/I/D |
| Cneoridium dumosum** | Bushrue | C |
| Comarostaphylis** | | |
| diversifolia | Summer Holly | C |
| Convolvulus cneorum | Bush Morning Glory | C/I/M |
| Dalea | | |
| orcuttii | Orcutt's Delea | D |
| spinosa** | Smoke Tree | I/D |
| Elaeagnus | | |
| pungens | Silverberry | C/I/M |
| Encelia** | | |
| californica | Coast Sunflower | C/I |
| farinose | White Brittlebush | D/I |
| Eriobotrya | | |
| deflexa | Bronze Loquat | C/I |
| Eriophyllum | | |
| confertiflorum** | Golden Yarrow | C/I |
| staechadifolium | Lizard Tail | C |
| Escallonia spp. | Escallonia | C/I |
| Feijoa sellowiana | Pineapple Guava | C/I/D |
| Fouquieria splendens | Ocotillo | D |
| Fremontodendron** | | |
| californicum | Flannelbush | I/M |
| mexicanum | Southern Flannelbush | I |
| Galvezia | | |
| juncea | Baja Bush-Snapdragon | C |
| speciosa | Island Bush-Snapdragon | C |
| Garrya | | |
| elliptica | Coast Silktassel | C/I |
| flavescens** | Ashy Silktassel | I/M |

| | | |
|------------------------------|---------------------------------|-----------|
| Heteromeles arbutifolia** | Ashy Silktassel | I/M |
| Lantana spp. | Toyon | C/I/M |
| Lotus scoparius | Lantana | C/I/D |
| Mahonia spp. | Deerweed | C/I |
| | Barberry | C/I/M |
| Malacothamnus clementinus | | |
| | San Clemente Island Bush Mallow | C |
| fasciculatus** | | |
| | Mesa Bushmallow | C/I |
| Melaleuca spp. | | |
| Mimulus spp.** | Melaleuca | C/I/D |
| Nolina | Monkeyflower | C/I (R) |
| parryi | | |
| parryi ssp. wolfii | Parry's Nolina | I |
| Photinia spp. | Wolf's Bear Grass | D |
| Pittosporum | Photinia | All Zones |
| crassifolium | | |
| rhombifolium | | C/I/ |
| tobira 'Wheeler' | Queensland Pittosporum | C/I |
| undulatum | Wheeler's Dwarf | C/I/D |
| viridiflorum | Victorian Box | C/I |
| Plumbago auriculata | Cape Pittosporum | C/I |
| Prunus | Cape Plumbago | C/I/D |
| caroliniana | | |
| ilicifolia** | Carolina Laurel Cherry | C |
| lyonii** | Hollyleaf Cherry | C |
| Puncia granatum | Catalina Cherry | C |
| Pyracantha spp. | Pomegranate | C/I/D |
| Quercus | Firethorn | All Zones |
| dumosa** | | |
| Rhamus | Scrub Oak | C/I |
| alaternus | | |
| californica** | Italian Blackthorn | C/I |
| Rhaphiolepis spp. | Coffeeberry | C/I/M |
| Rhus | Rhaphiolepis | C/I/D |
| integrifolia** | | |
| laurina | Lemonade Berry | C/I |
| lentii | Laurel Sumac | C/I |
| ovata** | Pink-Flowering Sumac | C/D |
| trilobata** | Sugarbush | I/M |
| Ribes | squawbush | I |
| viburnifolium | | |
| speciosum** | Evergreen Currant | C/I |
| Romneya coulteri | Fuschia-Flowering Gooseberry | C/I/D |
| Rosa | Matilija Poppy | I |
| californica** | | |
| minutifolia | | |

| | | |
|-------------------------|---------------------------|-----------|
| Salvia spp.** | California Wild Rose | C/I |
| Sambucus spp.** | Baja California Wild Rose | C/I |
| Symphoricarpos mollis** | Sage | All Zones |
| Syringa vulgaris | Elderberry | C/I/M |
| Tecomaria capensis | Creeping Snowberry | C/I |
| Teucrium fruticans | Lilac | M |
| Toxicodendron** | Cape Honeysuckle | C/I/D |
| diversilobum | Bush Germander | C/I |
| Verbena | | |
| lilacina | Poison Oak | I/M |
| Xylosma congestum | | |
| Yucca** | Lilac Verbena | C |
| schidigera | Shiny Xylosma | C/I |
| whipplei | | |
| | Mojave Yucca | D |
| | Foothill Yucca | I |

GROUNDCOVERS

| | | |
|----------------------------|----------------------------|-----------|
| Achillea** | Yarrow | All Zones |
| Aptenia cordifolia | Apteria | C |
| Arctostaphylos spp.** | Manzanita | C//D |
| Baccharis** | | |
| pilularis | Coyote Bush | C//D |
| Ceanothus spp.** | California Lilac | C//M |
| Cerastium tomentosum | Snow-in-Summer | All Zones |
| Coprosma kirkii | Creeping Coprosma | C//D |
| Cotoneaster spp. | Redberry | All Zones |
| Drosanthemum hispidum | Rosea Ice Plant | C/ |
| Dudleya | | |
| brittonii | Brittonis Chalk Dudleya | C |
| pulverulenta** | Chalk Dudleya | C/ |
| virens | Island Live Fore-ever | C |
| Eschscholzia californica** | California Poppy | All Zones |
| Euonymus fortunei | | |
| 'Carrierei' | Glossy Winter Creeper | M |
| 'Coloratus' | Purple-Leaf Winter Creeper | M |
| Ferocactus viridescens** | Coast Barrel Cactus | C |
| Gaillardia grandiflora | Blanket Flower | All Zones |
| Gazania spp. | Gazania | C/ |
| Helianthemum spp.** | Sunrose | All Zones |
| Lantana spp. | Lantana | C//D |
| Lasthenia | | |
| californica** | Common Goldfields | I |
| glabrata | Coastal Goldfields | C |
| Lupinus spp.** | Lupine | C//M |
| Myoporum spp. | Myoporum | C/ |
| Pyracantha spp. | Firethorn | All zones |
| Rosmarinus officinalis | Rosemary | C//D |
| Santolina | | |
| chamaecyparissus | Lavender Cotton | All Zones |
| virens | Santolina | All Zones |
| Trifolium frageriferum | O'Connor's Legume | C/ |
| Verbena | | |
| rigida | Verbena | All Zones |
| Viguiera laciniata** | San Diego Sunflower | C/ |
| Vinca | | |
| minor | Dwarf Periwinkle | M |

VINES

| | | |
|------------------------|------------------------|-----------|
| Antigonon leptopus | San Miguel Coral Vine | C/I |
| Distictis buccinatoria | Blood-Red Trumpet Vine | C//D |
| Keckiella cordifolia** | Heart-Leaved Penstemon | C/I |
| Lonicera | | |
| japonica 'Halliana' | Hall's Honeysuckle | All Zones |
| subspicata** | Chaparral Honeysuckle | C/I |
| Solanum | | |
| jasminoides | Potato Vine | C//D |

PERENNIALS

| | | |
|-----------------------|--------------------------|-----------|
| Coreopsis | | |
| gigantea | Giant Coreopsis | C |
| grandiflora | Coreopsis | All Zones |
| maritime | Sea Dahlia | C |
| verticillata | Coreopsis | C/I |
| Heuchera maxima | Island Coral Bells | C/I |
| Iris douglasiana** | Douglas Iris | C/M |
| Iva hayesiana** | Poverty Weed | C/I |
| Kniphofia uvaria | Red-Hot Poker | C/M |
| Lavandula spp. | Lavender | All Zones |
| Limonium californicum | | |
| var. mexicanum | Coastal Statice | C |
| perezii | Sea Lavender | C/I |
| Oenothera spp. | Primrose | C//M |
| Penstemon spp.** | Penstemon | C//D |
| Satureja douglasii | Yerba Buena | C/I |
| Sisyrinchium | | |
| bellum | Blue-Eyed Grass | C/I |
| californicum | Golden-Eyed Grass | C |
| Solanum | | |
| xanthii | Purple Nightshade | C/I |
| Zauschneria** | | |
| californica | California Fuschia | C/I |
| cana | Hoary California Fuschia | C/I |
| 'Catalina' | Catalina Fuschia | C/I |

ANNUALS

| | | |
|----------------|--------|------|
| Lupinus spp.** | Lupine | C//M |
|----------------|--------|------|

UNDESIRABLE PLANT LIST

The following species are highly flammable and should be 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.

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

** San Diego County native species

References: Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

Willis, E. 1997. San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards

City of Oceanside, California. 1995. Vegetation Management. Landscape Development Manual. Community Services Department, Engineering Division.

City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

www.bewaterwise.com. 2004. Fire-resistant California Friendly Plants.

www.ucfpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

County of Los Angeles Fire Department. 1998. Fuel Modification Plan Guidelines. Appendix I, Undesirable Plant List, and Appendix II, Undesirable Plant List.

INVASIVE PLANT LIST

The following species are considered invasive (i.e., those capable of reproducing and spreading into native, non-irrigated areas and displacing those communities). Non-native plant species are prohibited in all areas adjacent to open space lands. Noxious weeds that have been introduced to San Diego County over the years tend to be more widespread and therefore more difficult to contain. The plants listed below have been identified as invasive and/or as noxious weeds and should not be planted or allowed to sprout in any transitional landscapes (landscapes planted with non-native species next to undeveloped areas).

| <u>BOTANICAL NAME</u> | <u>COMMON NAME</u> |
|--|------------------------------------|
| <u><i>Ailanthus altissima</i></u> | Tree of Heaven |
| <u><i>Anthemis cotula</i></u> *** | Mayweed, Stinking Chamolile |
| <u><i>Arctotheca calendola</i></u> | Cape Weed |
| <u><i>Arundo donax</i></u> | Giant Cane |
| <u><i>Atriplex semibaccata</i></u> | Australian Saltbush |
| <u><i>Brassica species</i></u> *** | Mustard |
| <u><i>Cardaria draba</i></u> *** | Hoary Cress, Perennial Peppergrass |
| <u><i>Carpobrotus edulis</i></u> | Ice Plant |
| <u><i>Centaurea solstitialis</i></u> | Yellow Starthistle |
| <u><i>Cirsium vulgare</i></u> *** | Wild Artichoke |
| <u><i>Conium maculatum</i></u> | Poison Hemlock |
| <u><i>Conyza Canadensis</i></u> *** | Horseweed |
| <u><i>Cortaderia selloana</i></u> | Pampas Grass |
| <u><i>Cotoneaster lacteus</i></u> | Cotoneaster |
| <u><i>Cupressus macrocarpa</i></u> | Monterey Cypress |
| <u><i>Cynara cardunculus</i></u> *** | Artichoke Thistle |
| <u><i>Cytisus species</i></u> | Scotch Broom, French Broom, etc |
| <u><i>Elaeagnus angustifolia</i></u> | Russian Olive |
| <u><i>Eucalyptus globulus</i></u> | Eucalyptus Blue Gum |
| <u><i>Gensita species</i></u> *** | Broom |
| <u><i>Hedera helix</i></u> | English Ivy |
| <u><i>Hypericum perforatum</i></u> | St. John's Wort |
| <u><i>Ilex aquifolium</i></u> | English Holly |
| <u><i>Lactuca serriola</i></u> *** | Prickly Lettuce |
| <u><i>Lepidium latifolium</i></u> | Perennial Pepperweed |
| <u><i>Myoporum parvifolium</i></u> | Trailing Myoporum |
| <u><i>Nerium oleander</i></u> | Oleander |
| <u><i>Nicotiana species</i></u> | Tree Tobacco |
| <u><i>Olea europaea</i></u> | Olive |
| <u><i>Pennisetum setaceum</i></u> | Fountain Grass |
| <u><i>Ricinus communis</i></u> | Castor Bean |
| <u><i>Robinia pseudoacacia</i></u> | Black Locust |
| <u><i>Salsola australis</i></u> *** | Russian Thistle, Tumbleweed |
| <u><i>Schinus molle</i></u> | California Pepper |
| <u><i>Schinus terebinthifolius</i></u> | Brazilian Pepper |
| <u><i>Silybum marianum</i></u> *** | Milk Thistle |
| <u><i>Spartium junceum</i></u> | Spanish Broom |

Tamarix species
Ulex europea***
Vinca major

Tamarisk
Gorse
Periwinkle

*** Introduced Weeds to San Diego County

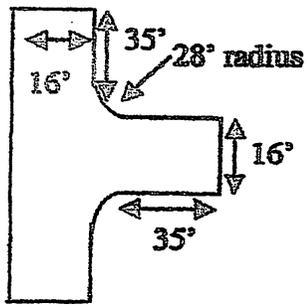
References: Bell, Carl, Regional Advisor – Invasive Plants. 2004. University of California Cooperative Extension.

California Exotic Pest Plant Council. October, 1999. Exotic Pest Plants of Greatest Ecological Concern in California. Most Invasive Wildland Pest Plants. www.caleppc.org/info/99lista.html.

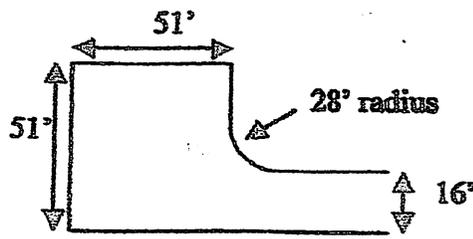
Appendix B

Fire Apparatus Turnaround Configurations

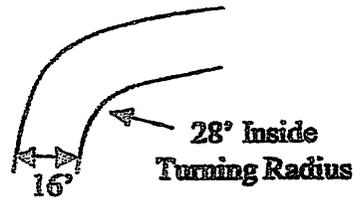
Number of pages 2



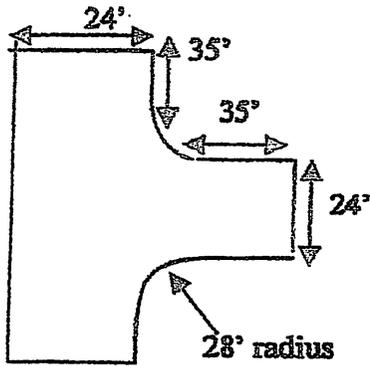
Private Driveway Hammerhead



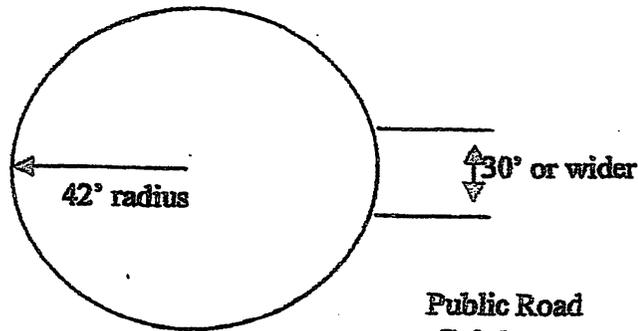
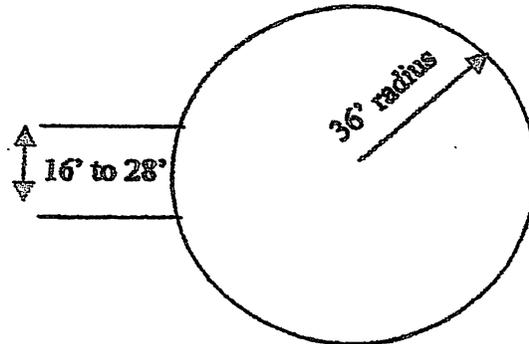
Alternate Private Driveway Hammerhead



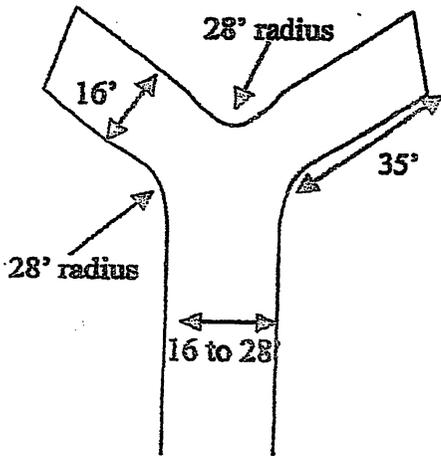
Private Road or Driveway Cul-de-sac



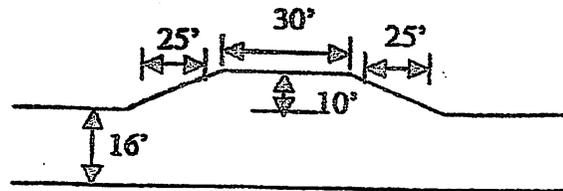
Private Road Hammerhead



Public Road Cul-de-sac



Hammerhead Incorporating Radius

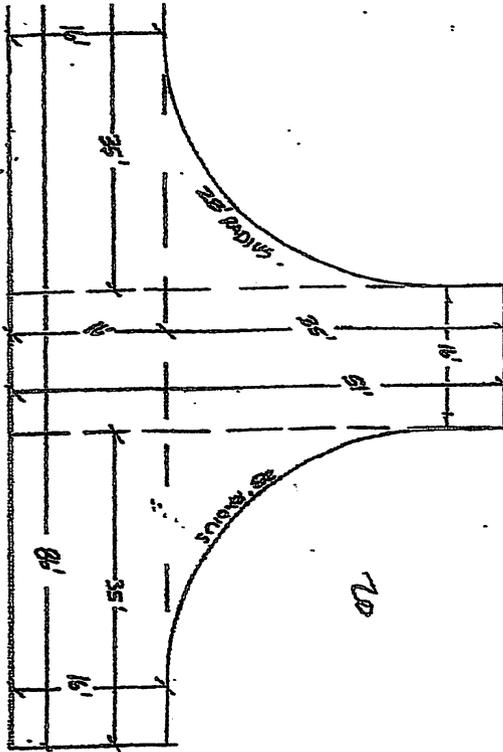
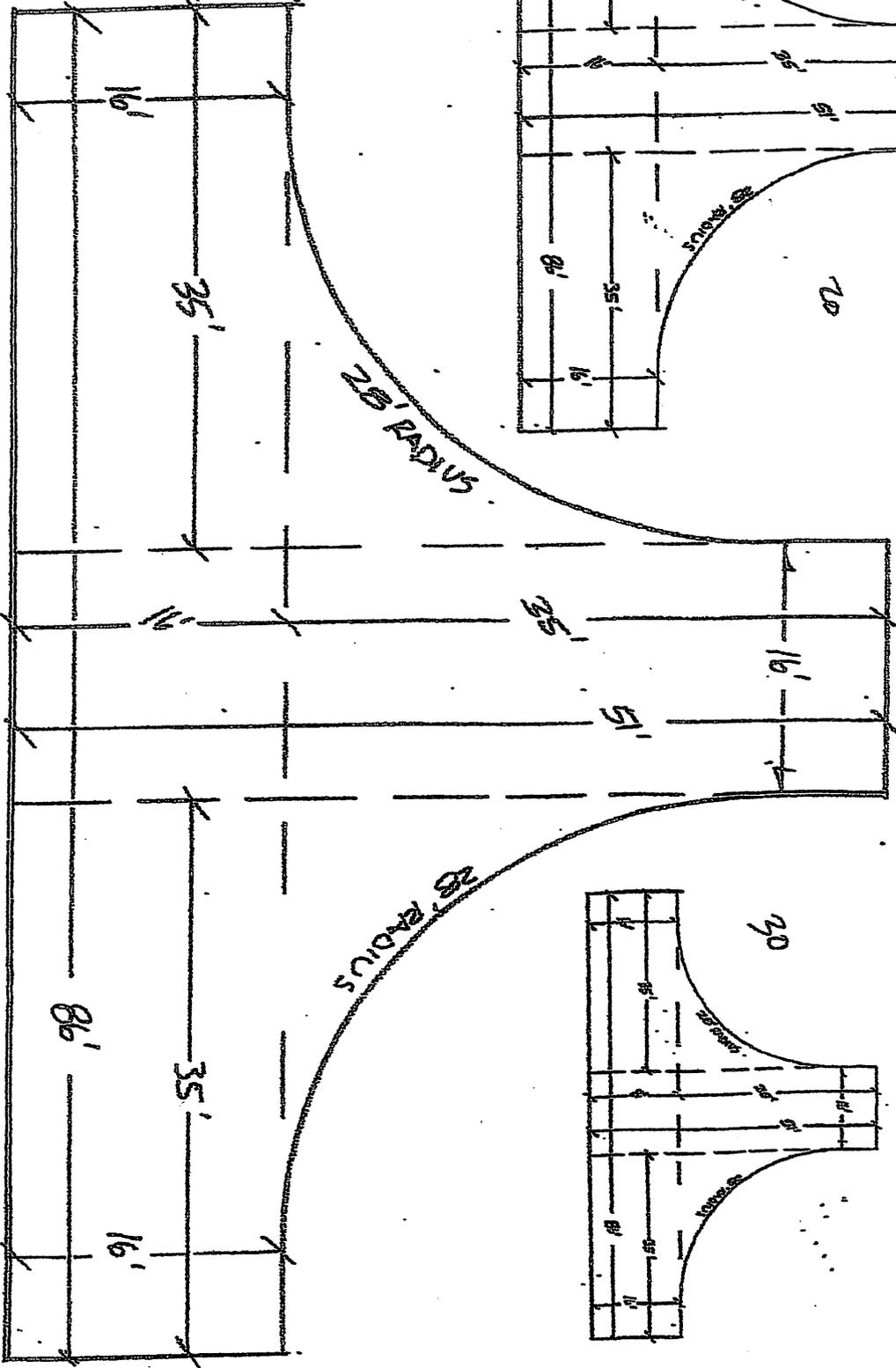


Turnout—Required for driveways In excess of 300-400'

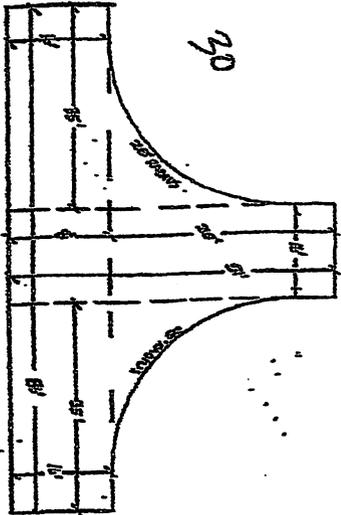
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(OVER)

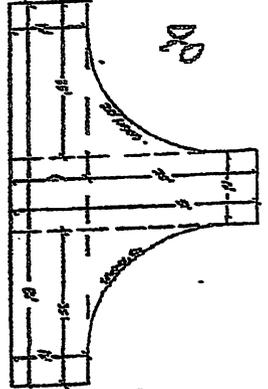
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03



04

Appendix C

Photos

Number of pages 4



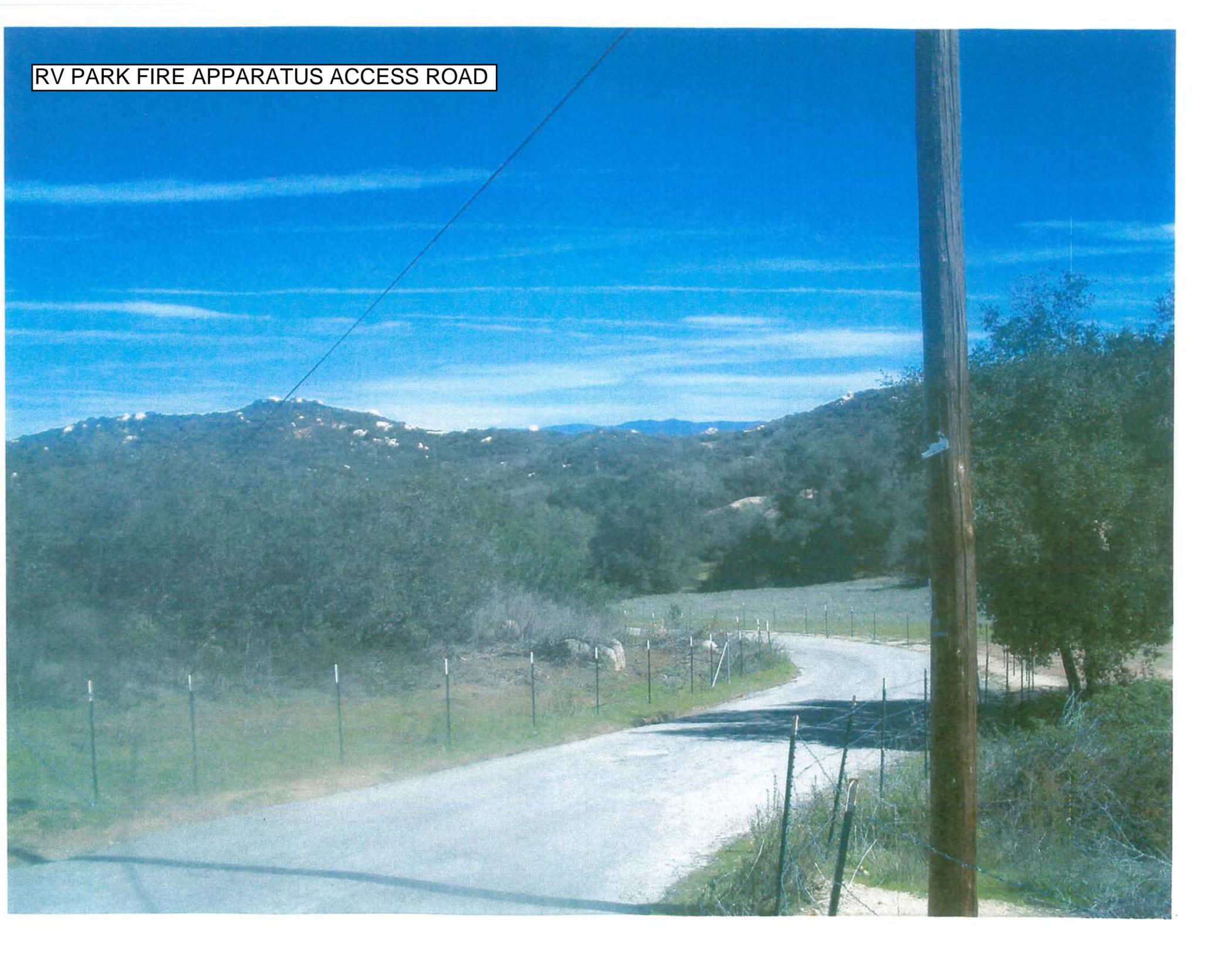
Site Overhead

TPM 21107

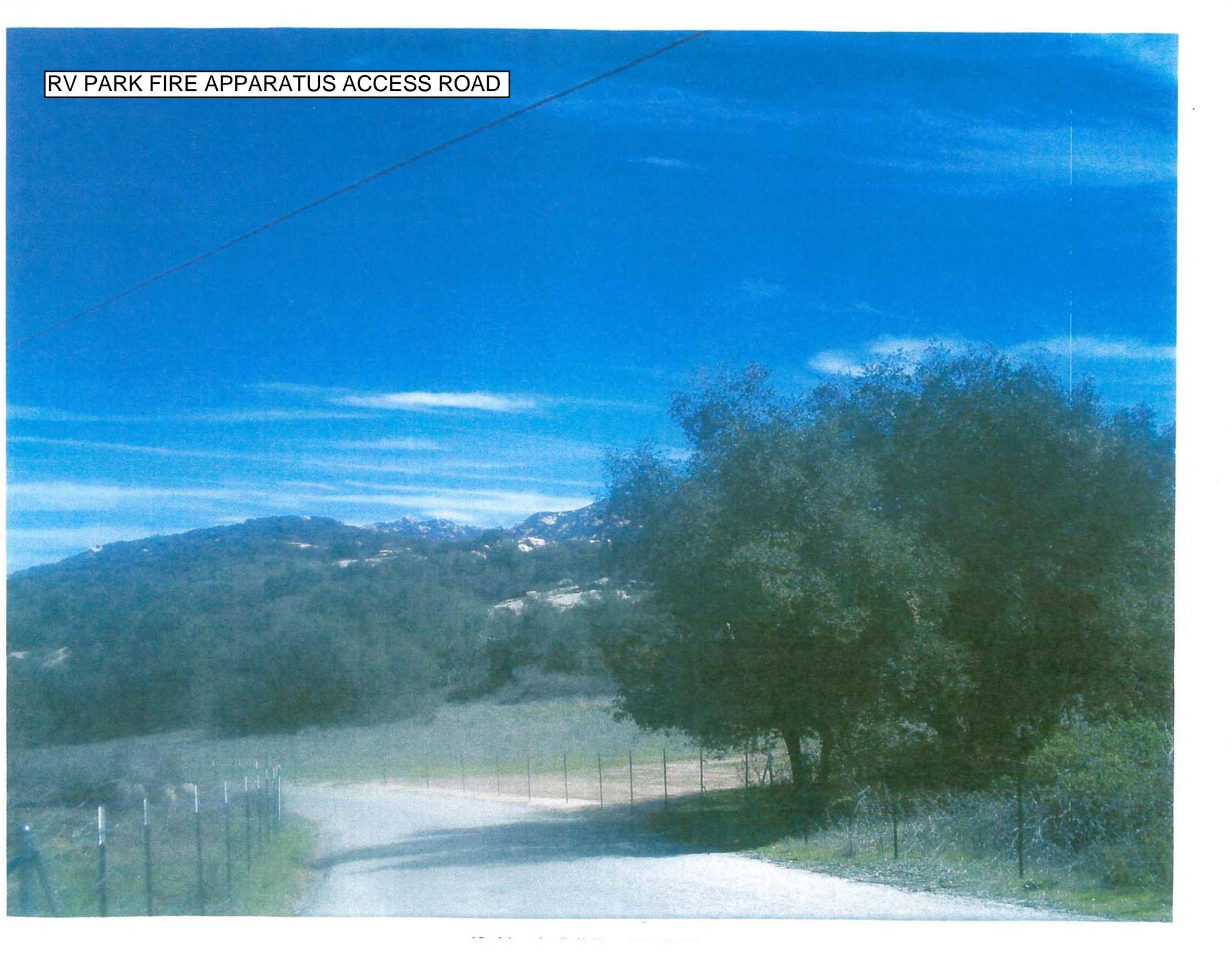
CENTER OF PROJECT - SOUTH SIDE
NEXT TO SKYLINE TRUCK TRAIL



RV PARK FIRE APPARATUS ACCESS ROAD



RV PARK FIRE APPARATUS ACCESS ROAD



Appendix D

Behaveplus 5.0.2 Fire Model

Number of pages 8

**Inputs: SURFACE, SPOT, IGNITE**

Description

Fuel/Vegetation, Surface/Understory

Fuel Model

1

Fuel/Vegetation, Overstory

Downwind Canopy Height

ft

6

Fuel Moisture

1-h Moisture

%

2

10-h Moisture

%

100-h Moisture

%

Live Herbaceous Moisture

%

Live Woody Moisture

%

Weather

20-ft Wind Speed (upslope)

mi/h

70

Wind Adjustment Factor

0.50

Air Temperature

oF

100

Fuel Shading from the Sun

%

70

Terrain

Slope Steepness

%

100

Ridge-to-Valley Elevation Difference

ft

800

Ridge-to-Valley Horizontal Distance

mi

.25

Spotting Source Location

vb

Run Option Notes

Maximum reliable effective wind speed limit IS imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

Spot Dist from a Wind Driven Surface Fire (mi) [SPOT]
(continued on next page)



Input Worksheet (continued)

Probability of Ignition from a Firebrand (%) [IGNITE]

Notes



| | |
|---|---------------|
| Surface Rate of Spread (maximum) | 665.6 ch/h |
| Fireline Intensity | 1415 Btu/ft/s |
| Flame Length | 12.7 ft |
| Spot Dist from a Wind Driven Surface Fire | 1.3 mi |
| Probability of Ignition from a Firebrand | 100 % |



Discrete Variable Codes Used

Fuel Model

1 Short grass (S)

Spotting Source Location

VB Valley Bottom

**Inputs: SURFACE, SPOT, IGNITE**

Description

Fuel/Vegetation, Surface/Understory

Fuel Model sh7

Fuel/Vegetation, Overstory

Downwind Canopy Height ft 6

Fuel Moisture

1-h Moisture % 2

10-h Moisture % 3

100-h Moisture % 5

Live Herbaceous Moisture %

Live Woody Moisture % 50

Weather

20-ft Wind Speed (upslope) mi/h 70

Wind Adjustment Factor 0.50

Air Temperature oF 100

Fuel Shading from the Sun % 70

Terrain

Slope Steepness % 100

Ridge-to-Valley Elevation Difference ft 800

Ridge-to-Valley Horizontal Distance mi .25

Spotting Source Location vb

Run Option Notes

Maximum reliable effective wind speed limit IS imposed [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind is blowing upslope [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Fireline Intensity (Btu/ft/s) [SURFACE]

Flame Length (ft) [SURFACE]

Spot Dist from a Wind Driven Surface Fire (mi) [SPOT]
(continued on next page)



Input Worksheet (continued)

Probability of Ignition from a Firebrand (%) [IGNITE]

Notes



| | |
|---|----------------|
| Surface Rate of Spread (maximum) | 793.4 ch/h |
| Fireline Intensity | 40402 Btu/ft/s |
| Flame Length | 59.2 ft |
| Spot Dist from a Wind Driven Surface Fire | 3.7 mi |
| Probability of Ignition from a Firebrand | 100 % |



Discrete Variable Codes Used

Fuel Model

sh7 Very high load, dry climate shrub (S) (147)

Spotting Source Location

VB Valley Bottom

Appendix E

Project Facility Availability Water

Number of pages 0

No water available from district

Appendix F

Project Facility Availability Fire

Number of pages 1



PROJECT FACILITY AVAILABILITY FORM

FIRE

Please type or use pen

| | |
|--|---|
| <p>ALPNOSO RENTERIA 619-397-0953</p> <p>Owner's Name Phone</p> <p>559 MERLOT PLACE</p> <p>Owner's Mailing Address Street</p> <p>CHULA VISTA CA 91913</p> <p>City State Zip</p> | <p>ORG _____</p> <p>ACCT _____</p> <p>ACT _____</p> <p>TASK _____</p> <p>DATE _____ AMT \$ _____</p> <p style="text-align: center;">DISTRICT CASHIER'S USE ONLY</p> |
|--|---|

F

SECTION 1. PROJECT DESCRIPTION TO BE COMPLETED BY APPLICANT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|--|--|--|--|--|--|--|--|--|---|---|---|--|--|--|--|--|--|--|--|--|---|---|--|--|--|--|--|--|
| <p>A. <input type="checkbox"/> Major Subdivision (TM) <input type="checkbox"/> Specific Plan or Specific Plan Amendment</p> <p><input checked="" type="checkbox"/> Minor Subdivision (TPM) <input type="checkbox"/> Certificate of Compliance: _____</p> <p><input type="checkbox"/> Boundary Adjustment</p> <p><input type="checkbox"/> Rezone (Reclassification) from _____ to _____ zone.</p> <p><input type="checkbox"/> Major Use Permit (MUP), purpose: _____</p> <p><input type="checkbox"/> Time Extension...Case No. _____</p> <p><input type="checkbox"/> Expired Map...Case No. _____</p> <p><input type="checkbox"/> Other _____</p> <p>B. <input checked="" type="checkbox"/> Residential Total number of dwelling units <u>4</u></p> <p><input type="checkbox"/> Commercial Gross floor area _____</p> <p><input type="checkbox"/> Industrial Gross floor area _____</p> <p><input type="checkbox"/> Other Gross floor area _____</p> <p>C. Total Project acreage <u>51.2</u> Total lots <u>4</u> <u>RMND- PCL.</u> Smallest proposed lot <u>10.0 AC.</u></p> | <p>Assessor's Parcel Number(s) (Add extra if necessary)</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 5px;">5</td> <td style="border: 1px solid black; padding: 5px;">9</td> <td style="border: 1px solid black; padding: 5px;">9</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> </table> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">5</td> <td style="border: 1px solid black; padding: 5px;">2</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> </table> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">1</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> </td> <td style="border: 1px solid black; padding: 5px;"> </td> </tr> </table> <p>Thomas Bros. Page <u>1274</u> Grid <u>B7</u></p> <p>SKYLINE TRUCK TRAIL</p> <p>Project address <u>JAMUL</u> Street <u>91935</u></p> <p>Community Planning Area/Subregion _____ Zip _____</p> | 5 | 9 | 9 | | | | | | | | | | 0 | 5 | 2 | | | | | | | | | | 0 | 1 | | | | | | |
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OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: JOHN KOERWER (AS AGENT FOR OWNER) Date: 10/19/07

Address: 5725 KEARNY VILLA RD. STE. D Phone: 858-671-0555

(On completion of above, present to the district that provides fire protection to complete Section 2 and 3 below.)

SECTION 2: FACILITY AVAILABILITY TO BE COMPLETED BY DISTRICT

District name: San Diego Rural Fire Protection District

Indicate the location and distance of the primary fire station that will serve the proposed project: STATION 66
14145 Highway 94, Jamul CA - 5 miles

A. Project is in the District and eligible for service.

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 not within its Sphere of Influence boundary.

Project is not located entirely within the District and a potential boundary issue exists with the _____ District.

B. Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 7-6 minutes.

Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.

C. District conditions are attached. Number of sheets attached: _____

District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

Within the proposed project 100 feet of clearing will be required around all structures.

The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

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: [Signature] Print name and title: Deborah Bowers, Inspector Phone: 619-669-1188 Date: 10/31/07

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123

Appendix G

San Diego Rural Fire Protection District

Letter of Approval

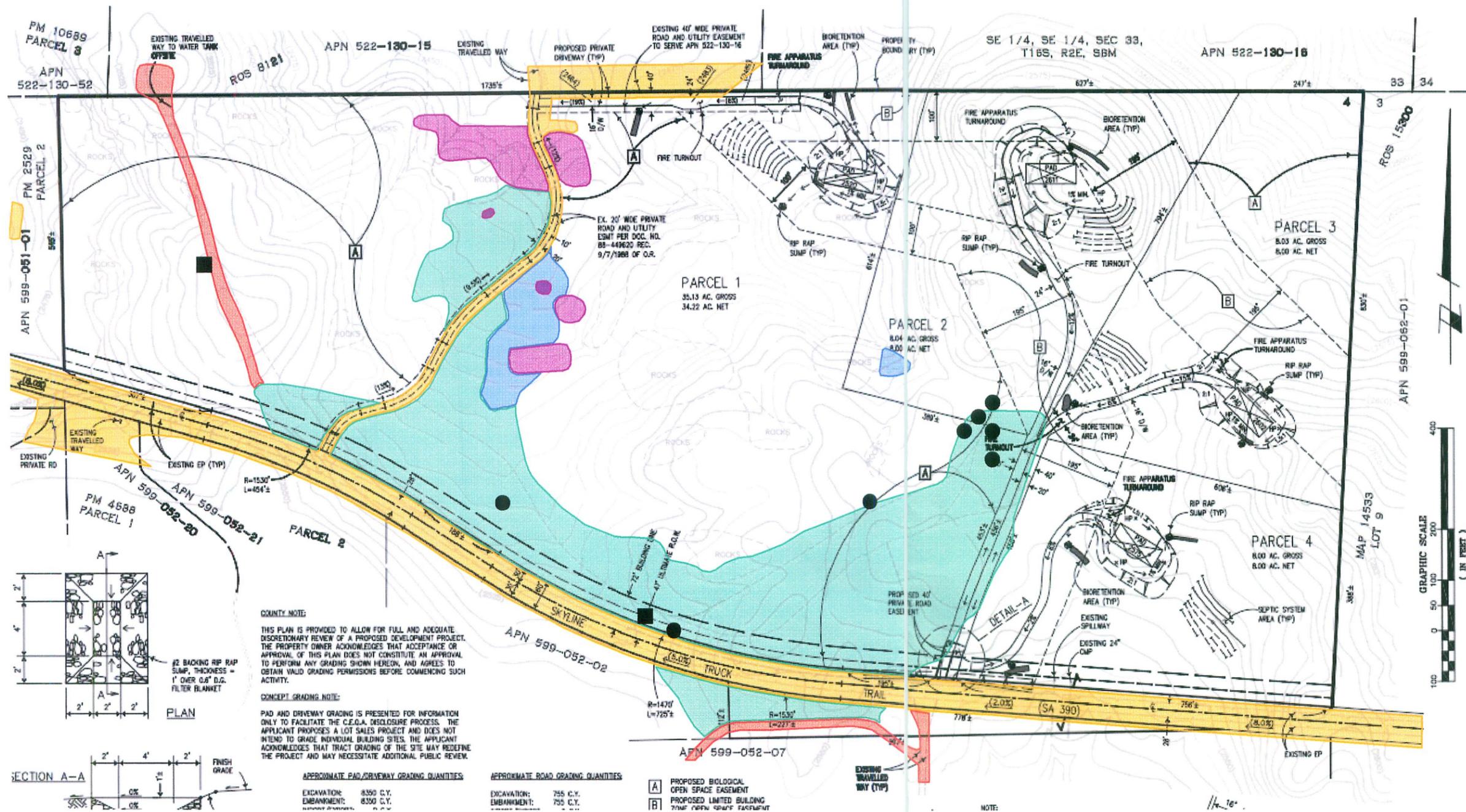
Number of Pages (pending)

Appendix H

Vegetation Map

Number of Pages 2

FIGURE 2. BIOLOGICAL RESOURCES ON PROJECT PRELIMINARY GRADING PLAN (PGP)



Legend

- = Southern Mixed Chaparral
- = Urban/Developed
- = Disturbed Habitat
- = Southern Coast Live Oak Riparian Forest
- = Freshwater Seep
- = Non-native Grassland
- = Hermes Copper Butterfly
- = San Diego Horned Lizard

Not shown:

- * San Diego Sagewort – occasional in mesic locations along existing paved road
- * Cooper's Hawk – flying over woodland area of site
- * Turkey Vulture – soaring over site
- * Bobcat – scat in various areas
- * Coastal Western Whiptail – widely distributed in open areas

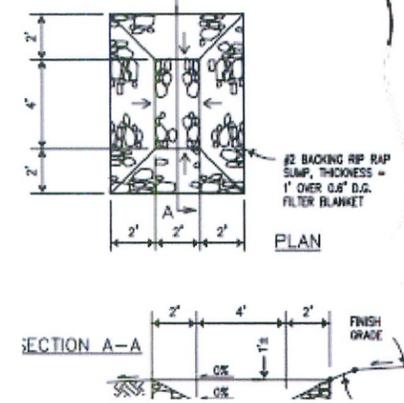
COUNTY NOTE:
THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMITS BEFORE COMMENCING SUCH ACTIVITY.

CONCEPT GRADING NOTE:
PAD AND DRIVEWAY GRADING IS PRESENTED FOR INFORMATION ONLY TO FACILITATE THE C.E.D.A. DISCLOSURE PROCESS. THE APPLICANT PROPOSES A LOT SALES PROJECT AND DOES NOT INTEND TO GRADE INDIVIDUAL BUILDING SITES. THE APPLICANT ACKNOWLEDGES THAT TRACT GRADING OF THE SITE MAY REDEFINE THE PROJECT AND MAY NECESSITATE ADDITIONAL PUBLIC REVIEW.

| | |
|---|---|
| APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES: | APPROXIMATE ROAD GRADING QUANTITIES: |
| EXCAVATION: 8350 C.Y. | EXCAVATION: 755 C.Y. |
| EMBANKMENT: 8350 C.Y. | EMBANKMENT: 750 C.Y. |

- A PROPOSED BIOLOGICAL OPEN SPACE EASEMENT
- B PROPOSED LIMITED BUILDING TRAIL OPEN SPACE EASEMENT

NOTE: 1/4" = 10'



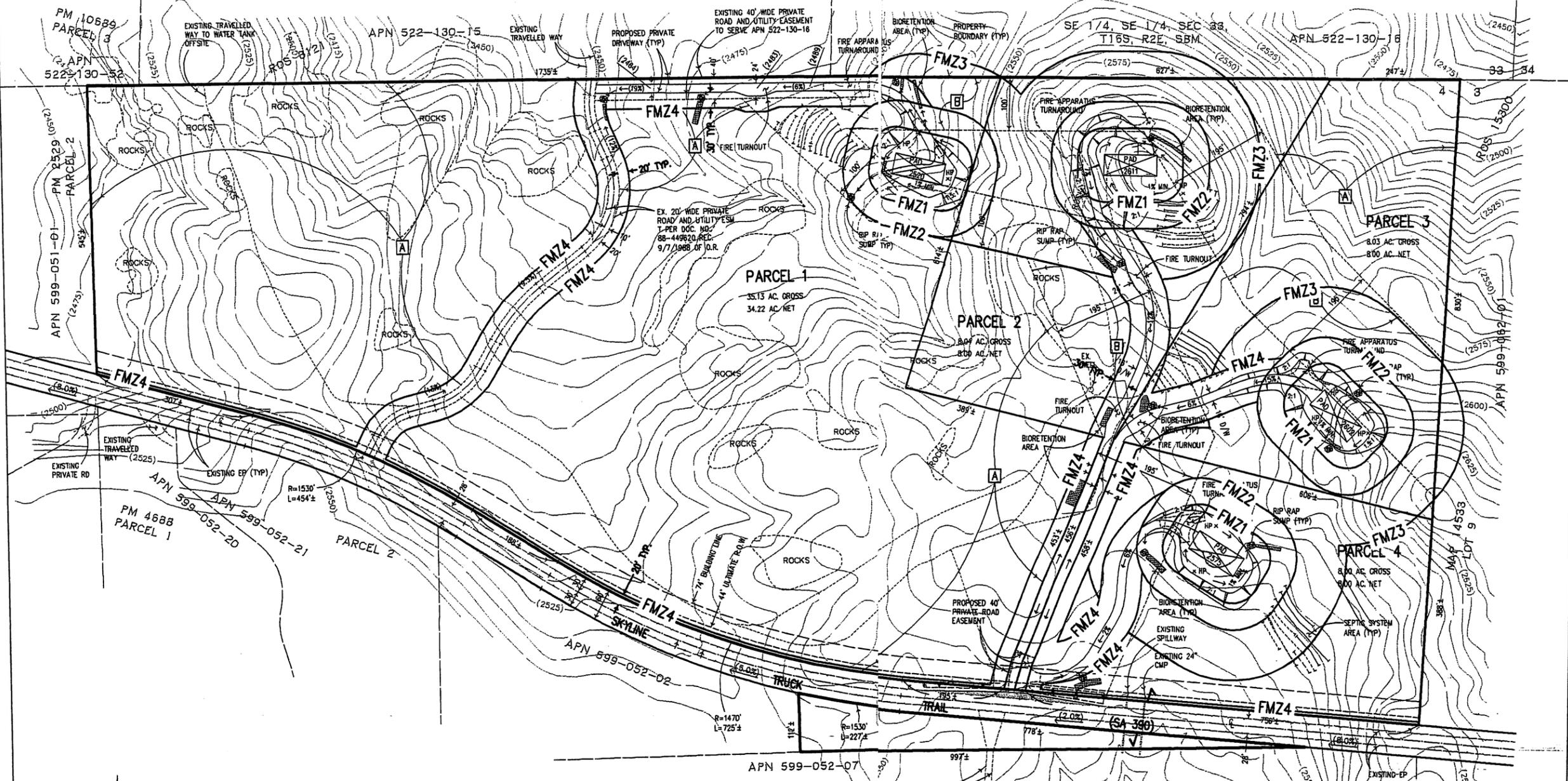
Appendix I

Fuel Modification Map

Number of Pages 1

R.O.S. 8121

P.M. 12

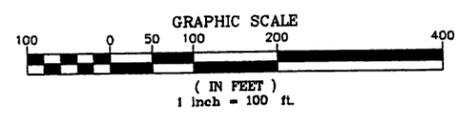


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FUEL MODIFICATION MAP
SKYLINE TRUCK TRAIL

FUEL MANAGEMENT ZONE LEGEND:

- FMZ1— 50' FROM STRUCTURE
- FMZ2— 100' FROM STRUCTURE
- FMZ3— 195' FROM STRUCTURE
- FMZ4— 20' FROM EDGE OF EXISTING ROAD OR DRIVEWAY
30' FROM EDGE OF PROPOSED ROAD OR DRIVEWAY



PREPARED BY:
CREW ENGINEERING AND SURVEYING
 5725 KEARNY VILLA ROAD, STE. "D"
 SAN DIEGO, CA. 92123
 (858) 571-0555
 RONALD C. ASHMAN
 RCE 34300 EXPIRES: SEPT. 30, 2009

| |
|----------------|
| DATE: 08/19/08 |
| SCALE: 1"=100' |
| DRAWN: RD |
| APPROVED: R.A. |
| JOB: 1304 |
| SHEET: 1 OF 1 |