Conceptual Fire Protection Plan
GREEN HILLS RANCH PHASE 2

APN's 395-151-16/60/61
Prepared for the County of San Diego and
Lakeside Fire Protection District

July 30, 2009 (revised January 29, 2016, January 10, 2018)

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CONCEPTUAL FIRE PROTECTION PLAN

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Executive Summary

This Fire Protection Plan (FPP) evaluates the proposed Greenhills Ranch Phase 2 development to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions and fire history. It considers water supply, access, structure ignitability and fire resistive building materials, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management.

The project was analyzed to identify potential adverse impacts and to identify adequate measures for impacts resulting from wildland fire hazards. The evaluation determined that the Lakeside Fire Protection District along with the California Department of Forestry and Fire Protection (CAL FIRE) and other nearby fire departments will be able to provide adequate emergency services. CAL FIRE (under the State Responsibility Area Agreement) as well as other fire departments and fire protection districts, can be requested under a Mutual Aid agreement to respond in the event of wildfire event in the area. Response times and the proximity of the development to the Wildland Urban Interface (WUI), in a Very High Fire Hazard Severity Zone require that fire sprinklers be installed in all new residences.

In addition this FPP lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury or death from wildland fires. Zone 1 will be an irrigated landscaped zone and is commonly called the defensible space zone for fire suppression forces and protects structures from radiant and convective heat. This landscaped zone is permanently irrigated and consists of fire resistant and maintained plantings. Zone 2 is the area beyond Zone 1, including manufactured slopes and excludes all prohibited highly combustible native vegetation, but permits plantings with very specific criteria and reduces the existing native vegetation by 50%. A Home Owners Association will be responsible to the Lakeside Fire Protection District Fire Marshal for the annual completion of all designated Fuel Modification Treatments in common areas prior to June 15th or when fuels become cured.

Finally, this plan and its requirements will be incorporated by reference into the final project Conditions of Approval to ensure compliance with codes/regulations and significance standards.

Greenhills Ranch Phase 2
CONCEPTUAL FIRE PROTECTION PLAN

1.0 INTRODUCTION

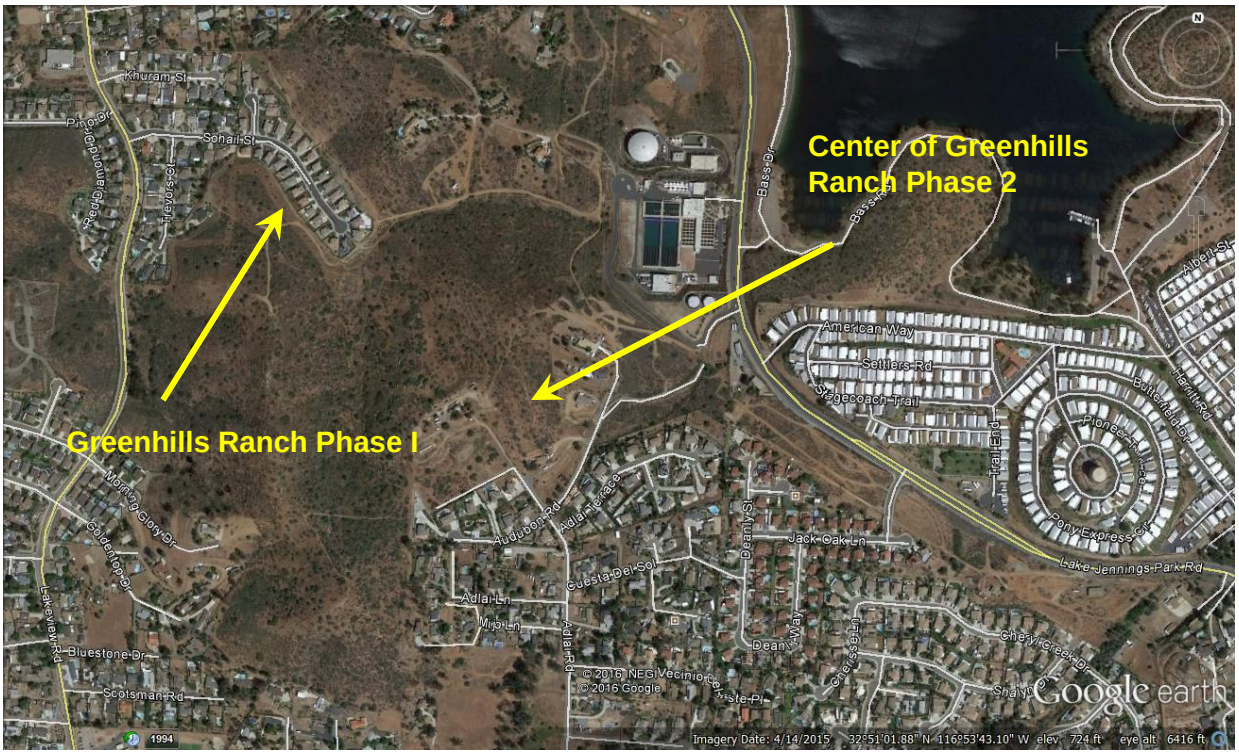
This Fire Protection Plan (FPP) has been prepared for the Greenhills Ranch Phase 2 development. The purpose of this FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The FPP 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 FPP also identifies and prioritizes areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more-at-risk communities and essential infrastructures. The FPP recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan.

The FPP will be submitted to and approved by the San Diego County Department of Land Use and Planning (SDCDPLU) and is based upon requirements of San Diego County regarding Wildland Fire Protection Plans, including pertinent local Fire Ordinances, the Wildland-Urban Interface (WUI) Development Standard Guidelines; 2017 San Diego County Consolidated Fire Code; California Code of Regulations Title 24, Part 9; 2016 California Fire Code and Local Amendments including appendices to Chapters 1 & 4 and appendices B, F & H; the International Fire Code (2015 edition); Chapter 7A-California Building Code; the California State and Local Responsibility Area Fire Hazard Severity Zone Map; California Government Code, sections 51175 through 51189; the California Code of Regulations, Title 14, section 1280; California Public Resources Codes sections 4201 through 4204;; the National Fire Protection Association Standards 13, 13-R & 13-D, 2016 Editions; and San Diego Co. Ordinance No. 9915 (N.S.) adopting a new Title 9 to the County Code entitled "Construction Codes and Fire Code".

1.1 PROJECT LOCATION, DESCRIPTION AND ENVIRONMENTAL SETTING

1.1.1 Project Location

The proposed Greenhills Ranch Phase 2 development (APN's 395-151-16/60/61 & 73; 395-160-12; and 398-400-08, 09, 10, 20 & 47) is located northwesterly of the intersection of Lake Jennings Park Road and Jack Oak Road in the rural community of Lakeside in San Diego County. The total project area consists of approximately 59 acres of private land (see Photo # 1). The primary access to the majority of the project is from the east via Lake Jennings Park Road.



↑ **Photo # 1 – Aerial View of Project Area – The Community Of Lakeside Is Located In The Upper Left Portion Of The Photograph. The Greenhills Ranch Phase I Project Is Located To The Northwest**

1.1.2 Project Description

The proposed Greenhills Ranch Phase 2 subdivision by Goodman Irrevocable Trust Dated December 11, 1992 consists of the building of sixty-four (64) single-family homes on sixty-four (64) lots. In addition there are six (6) street lots and six (6) open space lots. Each lot will be a minimum of 6,000 square feet. Actual home locations have not been sited as of the date of this report therefore this is a Conceptual Fire Protection Plan. The total project encompasses 58.88 acres of which approximately 41.58 acres will be designated as Open Space. Designated Open Space will exist throughout the project with the majority to the north and west. The most significant portion of this open space is located between Greenhills Ranch Phase 2 and the previously approved Greenhills Ranch Phase I development. All the lots are located along a broad ridge southwest of Lake Jennings, a major land feature. Road access will be via Audubon Road from Lake Jennings Park Road and through existing development located to the south of the project.

The land is currently partially developed and used for a horse/equestrian center. The site is surrounded by a mix of designated open space, existing residential and undeveloped land (see Photo #2). There are numerous easements through the property for water lines, roadways, and electric power.

↑ **Photo # 2 - Northwest View Towards The Greenhills Ranch Phase 1 Project Located In The Canyon Below.**

1.1.3 Environmental Setting

1.1.3.1 Dates of Site Inspections/Visits Conducted - Two site visits were conducted between Nov, 2008 and March, 2009, as well as several telephone calls to determine pertinent information regarding the environmental setting.

Site Visit & Purpose	Date
#1 Initial field visit Evaluate lot layout and primary and secondary access road locations	February 5, 2009
#2 Field visit Evaluate vegetation, topography, road conditions, and fire access	March 10, 2009
#3 Field visit Evaluate any changes to vegetation and access	November 19, 2015

1.1.3.2 Topography - The project site is mostly undeveloped and located along a ridge in a High Fire Hazard Severity Zone approximately twenty-one (21) miles inland from the Pacific Ocean. Slopes on and adjacent to the site range between nearly level to 70% and on-site elevations range between 575 feet to 780 feet.

1.1.3.3 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 off-shore 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) 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-MPH.

Fire agencies throughout the western United States rely on a sophisticated system of Remote Automated Weather Stations (RAWS) to monitor weather conditions and aid in the forecasting of fire danger. The closest RAWS to the project is the Alpine RAWS. The data acquired from RAWS is important to modeling wildland fire behavior. ***FIREWISE* 2000, Inc.** determined that the Alpine RAWS is relatively new, having only been in operation since April of 2001. Another RAWS that was evaluated was the San Miguel RAWS which has only been in operation since March of 2002. This RAWS is located westerly of the Project where winds are likely to be lower and relative humidity levels higher. The Alpine RAWS captured significant weather data during the major southern California fires of October 2007 as shown in Figures 1 and 2. In reviewing the figures, note that in late October the winds were strong and relative humidity was very low, an indicator of a Santa Ana wind event.

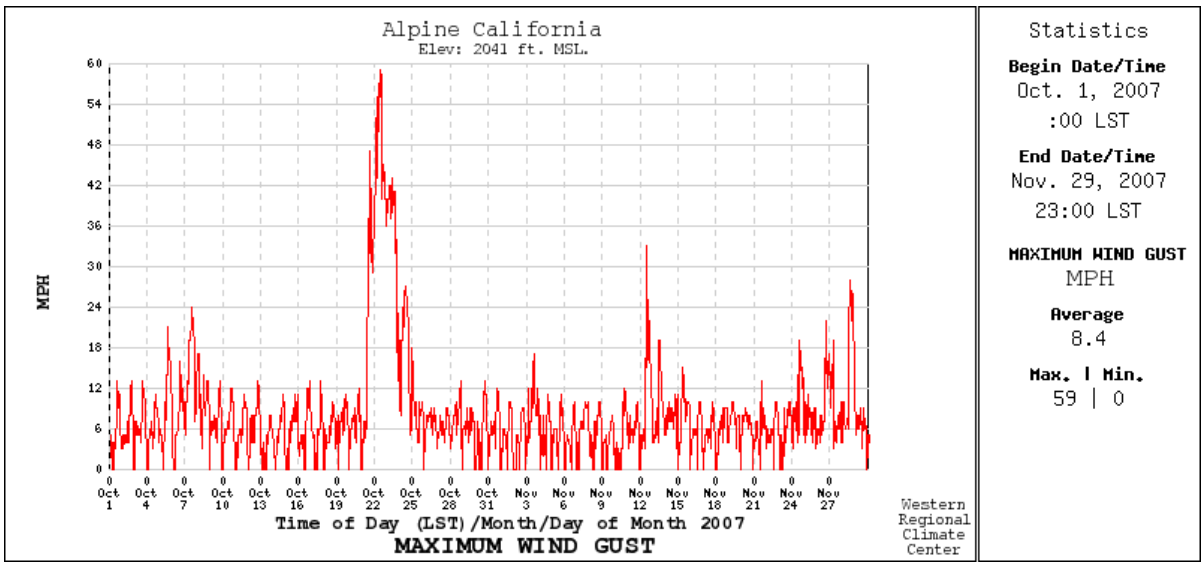


Figure 1 – Maximum Wind Gust – Fall, 2007

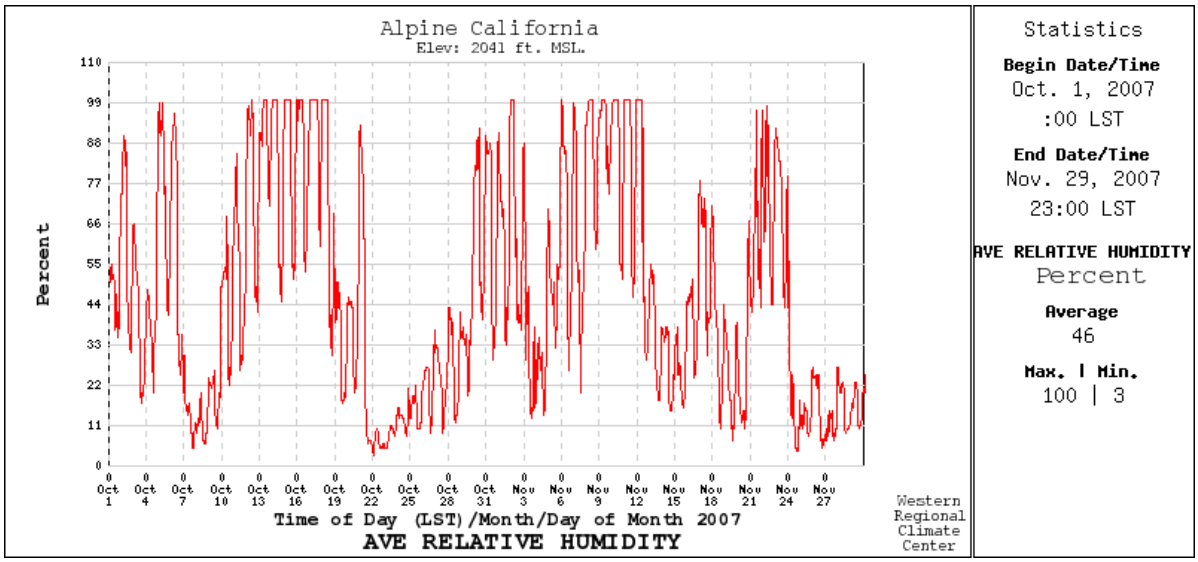
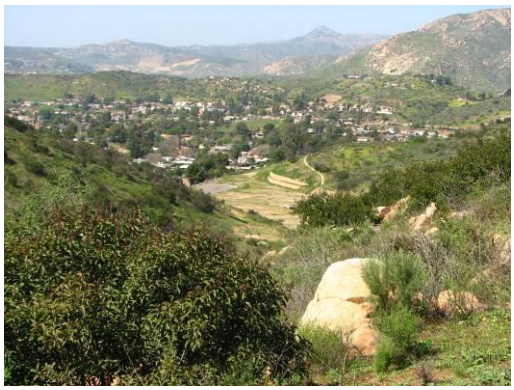


Figure 2 – Relative Humidity. Note That When The Peak Wind Gusts Occurred On October 23, 2007, This Was Also When Relative Humidity Was In The Single Digits.

The above weather event combined with dry brush combined with an ignition resulted in several major wildland fires in San Diego County including the Cedar and Paradise Fires. Combined, these fires destroyed over 2,400 homes and lead to several deaths, most of which occurred to residents trying to flee.

1.1.3.4 On-site Vegetation – The project area consists of several native plant communities of which Diegan Coastal Sage Scrub and Non-native grasslands are the predominant vegetation types per the preliminary biological survey by Helix Environmental



↑ **Photo #3 –Fuels in the Northern Portion of the Project Area**

↑ **Photo #4 – Looking East**

Planning, Inc. Species found in the area include, various scattered Ceanothus species, chamise, black sage, California buckwheat, deer weed, mountain mahogany interior scrub oak, toyon, a small pocket of Eucalyptus and native and non-native grasses (See Photos #3 and #4). If left undisturbed the natural vegetation in the project area along the northern boundary can be characterized as a Combined Fuel Model [sh7 – Very High Load Dry Climate Shrub with 1 hour fuels of 3.5 tons/acre and 10 hours fuels of 5.3 tons/acre and SCAL 18 – Sage/Buckwheat with 1 hour fuels of 5.5 tons/ac and 10 hour fuels of 0.8 tons/acre]. The grass and shorter Sage/Buckwheat are considered ladder fuels to spread fire to taller shrub and tree species. The western boundary of the project can be characterized as a Combined Fuel Model [FM sh5 – High Load Dry Climate Shrub with 1 hour fuels of 3.6 tons/acre and 10 hours fuels of 2.1 tons/acre and SCAL 18 – Sage/Buckwheat with 1 hour fuels of 5.5 tons/ac and 10 hour fuels of 0.8 tons/acre].

↑ **Photo # 5 – Looking Southwest From The Existing Equestrian Center. Note The Small Area Of Eucalyptus Trees In The Upper Left Portion Of The Photo That Is Outside The Building Envelope.**

The south and west facing slopes in the southern portion of the project are dominated by Diego Coastal Sage Scrub species, as described above, and scattered brush species (see Photo #5).

The most notable wildland fire threat to this proposed development is from firebrands/burning embers from both off-site and on-site highly flammable native and non-native vegetation, particularly from the northern and eastern

boundary areas as embers from these areas are likely during strong winds to travel over a mile.

1.1.3.5 Fire History - The available data suggests that in the second half of the 20th Century the frequency of small fires increased in southern California while their average size decreased. This was due primarily to human caused fires and rapid fire suppression. In San Diego County, this has resulted in an increased rate of burning in low elevation coastal scrubland, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 large fires of over 100 acres in the foothills and mountains from 1910-1999. Recently however several years of drought have contributed to major fires (in excess of 50,000 acres) that have swept through San Diego County resulting in large losses of property and damaged watershed.

The most recent major wildfire in the surrounding area was the Cedar Fire (shown in pink on Figure 3). It burned 280,278 acres to the north and east of the project area, resulting in the loss of over 2,232 homes and 15 deaths. Several smaller fires burned in the vicinity of the project (shown in various shades of green in Figure 3).

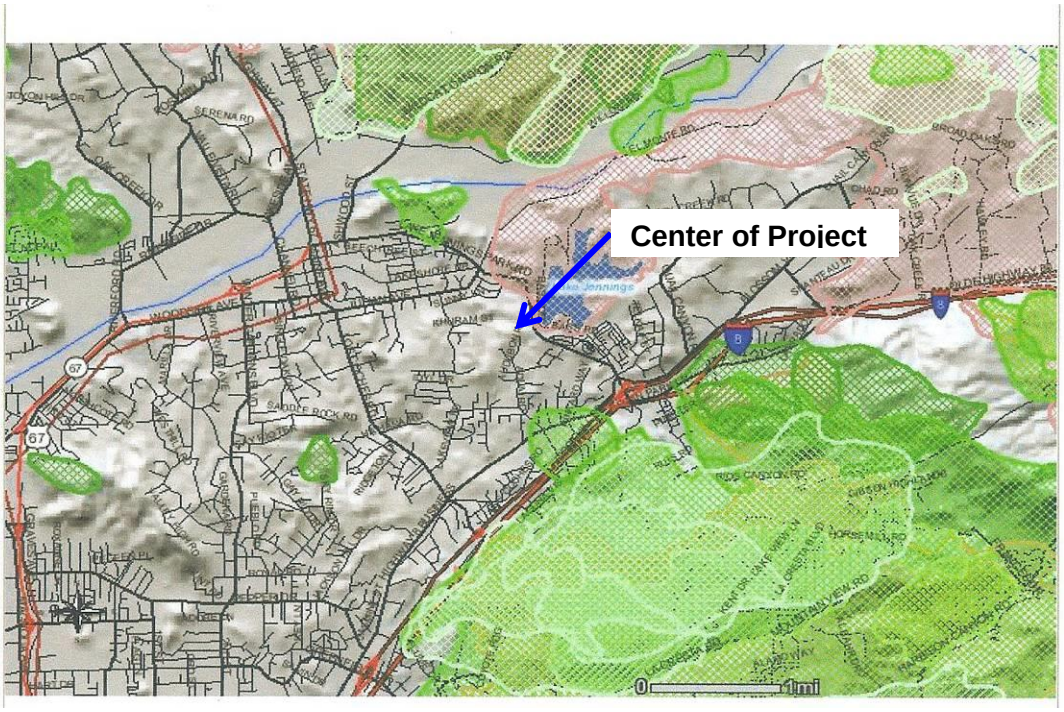


Figure 3 – Major Fire History Provided By The California Fire Alliance's Fire Mapping And Planning Tools Internet Site From 1950 Through 2008. This Map Includes Mapped Fires Of 100 Acres Or More. The Closest Large Fire To The Project Was The 2003 Cedar Fire Shown in Pink And Discussed Above. Note The Lack Of Recent Large Wildfire Activity Within The Project Site. Smaller Fire May Have Occurred But There is No Record.

Based on the above information, the fuel modeling in this report reflects the worst case scenarios that could be expected in future wildfire events.

1.1.3.6 On-site and Off-site Land Uses - The existing parcels of land proposed for development are currently in both a natural state and partially developed for an equestrian center for the handicapped. There is no evidence of previous agricultural activity and the surrounding land is either rural residential developed and undeveloped land or protected open space. A major land feature to the northeast is Lake Jennings. Several electrical distribution lines exist along the eastern perimeter of the project.

1.1.3.7 Public and Private Ownership of Land in the Vicinity - The applicant owns all property within Greenhills Ranch Phase 2. All other properties in the vicinity are existing undeveloped and developed private parcels or set aside open space. Within Greenhills Ranch Phase 1, Lot 32 was designated as an Open Space Easement (Habitat Conservancy) on September 28, 2006, document number 2006-0691608. A portion of this lot abuts Phase 2. The underlying Agreement For Operation Of Open Space Easement And Common Area (Greenhills Ranch Open Space Easement, Lakeside) between Greenhills Ranch Development Company, LLC, the Helix Community Conservancy, a California nonprofit mutual public benefit corporation, the Greenhills Ranch Homeowner's Association and the County of San Diego).

2.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

A Fire Protection Plan evaluates the potential adverse environmental effects that the Greenhills Ranch Phase 2 residential development may have from wildland fire and proposes appropriate mitigations 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 wildland fire. The following guidelines for the determination of significance are used:

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

   The project is partially bordered by existing development and where wildlands are adjacent to the project, fuel modification and other requirements outlined in this FPP reduce the exposure of people or structures to a less than significant risk of loss, injury or death involving wildland fires.

2. Would the project result in inadequate emergency access?

   The addition of a secondary access road and roads throughout the project built to upgraded county standards will provide improved 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 could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection?

   As described in Section 4.1 and in the Fire Availability Form provided by Lakeside Fire Protection District (see Appendix 'F'), existing facilities are more than adequate to provide acceptable emergency service and response times.

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?

   There is sufficient water available provided by the Helix Water District as outlined in the Water Availability Form (see Appendix 'F').

3.0 ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

Based on the vegeation, topography and fire history outlined in Section 2, the table below shows a summary of the anticpated fire behavior in the project vicinity for the two worst case scenarios (north/east and south/west) and the change in fire rate of spread, intensity and flame length following the completion of the required fuel modification. See Section 4.6 for details of the Fire Behave Modeling.

TABLE 3.1

(Fire Scenario #1 – 60 mph Northeast Wind)

Prior to Fuel Treatment			After Fuel Treatment	
Rate of Spread	435.1 ft/min		Rate of Spread	87.8 ft/min
Fireline Intensity	36,109 BTU/ft/sec	VS.	Fireline Intensity	893 BTU/ft/sec
Flame Length	**56.2 Feet**		Flame Length	**10.2 Feet**

(Fire Scenario #3 – 30 mph Southwest Wind)

Prior to Fuel Treatment			After Fuel Treatment	
Rate of Spread	221.1 ft/min		Rate of Spread	39.2 ft/min
Fireline Intensity	16,693 BTU/ft/sec	VS.	Fireline Intensity	311 BTU/ft/sec
Flame Length	**39.4 Feet**		Flame Length	**6.5 Feet**

4.0 ANALYSIS OF PROJECT EFFECTS

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

The comprehensive Fire Protection Plan and the project design are consistent with the San Diego County DPLU recommendations including fuel modification.
The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan or offers Same Practical Effect.

4.1 Adequate Emergency Services

The project site is located within the Lakeside Fire Protection District (LFPD). The LFPD serves over 65,000 residents and provides fire suppression, fire prevention, and medical aid to the residents of Lakeside and surrounding communities. The closest fire station to the project is the LFPD Fire Station #3 located at 14008 Highway 8 Business, approximately 1.75 miles from the furthest lot in the northwestern portion of the project site. Using NFPA Standard 1142 (2007 ed) Table C1.11 (b) the expected emergency travel time to the furthest

lot in the northwest portion of the project from this station is estimated at 3.6 minutes via the new access road.

LFPD Station #23 is the next closest fire station located at 15245 Oak Creek Road, Flinn Springs, approximately 3.6 miles from the most northwest portion of the project. Estimated response time from this station is approximately six (6) minutes via the new access road using NFPA Standard 1142 (2007 ed) Table C1.11 (b).

The project would not directly result in the expansion of area fire protection services. CAL FIRE (under the SRA Agreement), the San Diego Rural Fire Protection District, as well as other fire departments, can be requested under a Mutual Aid agreement to respond to wildfire events.

4.2 Fire Access

The proposed main access into the project is from Lake Jennings Road, via Audubon, a private street. A secondary point of access is provided from Adlai Road, which will connect to Audubon Road ~~from~~ on the south side of the subdivision. All access ways shall be established by in perpetuity and irrevocable easements. The Greenhills Ranch Phase 2 subdivision is responsible for constructing the new Audubon Road private access road from Lake Jennings Road into the subdivision from the east and improvement of Audubon Road from the south. These two roads will serve to provide both primary and secondary access for the entire Greenhills Ranch Phase 2 subdivision. The new roadways will also serve to improve secondary access for the existing tract located to the south of the project.

The distance from the furthest parcel in the project to the extension of Audubon Road is approximately 1000 feet. This is longer that the maximum allowable dead-end road length of 800 feet for parcels with this density. Therefore, to mitigate the additional 200 feet, all streets serving Greenhills Ranch Phase 2 shall comply with San Diego County standards and shall be a minimum of 36 feet of unobstructed improved width to allow for parking on both sides of the street, except for existing Adlai Road, which is a minimum of 24 feet in wide. In addition, the unobstructed radius width for cul-de-sacs and turn around locations shall be a minimum of 42 feet to allow parking within the cul-de-sac. The cul-de-sac at the end of Adlai Road should have a radius of 36 feet. All roadways shall have an unobstructed vertical clearance of not less than 13 feet and 6 inches. Single-family residential driveways serving no more than two homes shall have a minimum of 16 feet of improved width.

All roads within the development and the access roads to Greenhills Ranch Phase 2 shall be all-weather approved paved surfaces capable of supporting fire apparatus weighing not less than 75,000 pounds. No roadways accessing or within the subdivision shall exceed a grade of 20%. Roadways or sections of roadways that are over 15% shall not be permitted without mitigation. Minimal mitigation for roads over 15% must include a Portland cement concrete [PCC] surface with a deep broom finish perpendicular to the direction of travel to enhance traction. The angle of departure and angle of approach of a fire access roadway shall not exceed 7 degrees or 12% or as approved by the Chief of the LFPD.

All dead end roadways exceeding 150 feet in length shall be provided with approved means for the turning around of emergency apparatus. All fire apparatus access roads shall have a minimum 28-30 foot turning radius measured from the inside edge of the improvement width per Section 503.2.4 regarding Fire Apparatus Access Roads. Roadway design features (speed bumps, humps, dips, etc.) that may interfere with emergency apparatus responses

shall not be installed on fire access roadways, unless they meet design criteria approved by the Chief of the LFPD.

Greenhills Ranch Phase 2 will not be a gated community and all roadways shall be private roads. However, any future gates that may be installed, including gates on private driveways or roadways, shall be set back 30 feet from the roadway, be automatic, and be equipped with approved emergency key-operated switches overriding all command functions and opening the gate(s). Gates shall also be equipped with an approved emergency tract control-activating strobe light sensor(s) or other devices approved by the County Fire Marshal, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure. Gates shall allow automatic egress without the use of codes or remote devices (e.g. the use of pressure pads, metal detection or infrared sensors).

Road name signs shall comply with County of San Diego Department of Public Works Design Standard #DS-13. Signs, postings, red curbs and white stencils shall conform to the requirements of Section 22500.1 of the California Vehicle Code and shall be maintained in perpetuity. On paved roads, "blue dot" markers shall be installed on the pavement to indicate the location of each fire hydrant. Signs or notices shall be maintained in a clean and legible condition at all times and replaced or repaired when necessary to provide adequate visibility.

4.3 Water

The project will obtain its water supply from the Helix Water District. An extension of the public water system with new pipelines and hydrants will be built to serve the area.

The required fire flow for the project is 2500 gpm, per Section 903.4.2.2, of the San Diego Consolidated Fire Code requirements, at pressures required to supply fire sprinklers and provide 20 PSI residual pressure at hydrants during periods of maximum peak domestic demand. Pressure demands for fire sprinklers will be higher. The LFPD requires that a letter from the water provider be provided by the developer stating that the required fire flow in gallons per minute is available to the site.

The LFPD in its letter of June 19, 2009 regarding standard conditions states that a minimum of eleven fire hydrants will be required. Fire hydrants shall be accessible to fire department apparatus by roads meeting the requirements of Section 902.2 of the County Fire Code. Fire hydrants along roadways shall be located a maximum of every 350 feet with hydrants installed at intersections, at the beginning radius of cul-de-sacs and at intervals as located and approved by the LFPD Fire Marshal.

The design of the water system shall be submitted to the Lakeside Fire Protection District, the Helix Water District and the Lakeside Water District for approval prior to issuance of a building permit for any parcel created by the subdivision. The water supply system and fire hydrants shall be installed, tested and approved by the LFPD Fire Marshal prior to bring any combustible building materials onto the development.

4.4 Ignition Resistant Construction and Fire Protection Systems

All structures shall comply with the ignition-resistive construction requirements: Wildland-Urban Interface areas of Chapter 7A and 7B of the County Building Code (see APPENDIX 'E'). All habitable structures shall have automatic residental fire sprinklers per San Diego County Code, including the attics and garages. The fire sprinkler system for interior fire protection shall meet the requirements of National Fire Protection Standard (NFPA) 13D,

those of the County of San Diego and to the satisfaction of the LFPD. The LFPD shall review and approve fire sprinkler installations prior to the issuance of an occupancy permit. Each homeowner shall inspect and maintain their ignition resistant construction features listed in APPENDICES 'D' and 'E'.

4.4.1 Structure Setbacks From Protected Land - Minimum setback from property lines abutting national forests, open space preserves, and designated riparian areas is 100 feet.

4.4.2 Setbacks From Slopes - Single story structures shall have a minimum setback of fifteen (15) feet, measured horizontally, from the top of slopes to the farthest projection of the roof. A single story structure shall be less than twelve (12) feet above grade. A two-story structure shall have a minimum setback of thirty (30) feet, measured horizontally, from the top of slopes to the furthest projection of the roof. Structures greater than two-stories in height may be required to have a greater slope setback to be determined by the LFPD Fire Marshal.

4.5 Defensible Space and Vegetation Management

4.5.1 Off-site Fire Hazard and Risk Assessment - Greenhills Ranch Phase 2 is located in a High Fire Hazard Severity Zone approximately twenty (20) miles inland from the ocean. The southern portion of the proposed subdivision is bordered mostly by developed private land on the south and east and designated open space on the north and west. As of the date of this plan most of the vegetation to the north and east of the project area burned in the 2003 Cedar Fire.

A notable wildland fire threat will come from a wildland wildfire burning in the off-site highly flammable native and non-native vegetation north and east of this proposed subdivision. This is a mix of rural developed and undeveloped land and the greatest threat to this development will be firebrands carried a long distance (one mile or more) by fire drafts or strong winds. An additional wildfire threat is possible from the Open Space Easement land to the southwest under typical or extreme prevailing southwest wind conditions. However, south and east of Lots 57 - 65 the threat is much less due to already developed land, the projected flame lengths in the riparian area and mitigation measures outlined in Section 5.0.

4.5.2 On-site Fire Hazard and Risk Assessment - A portion of the area within the project has had periodic disturbances. There is a high likelihood that the project area experienced small wildfires in the past. Little physical evidence exists to support large fire activity. Regardless, the conditions exist for structures to be exposed to wildland fire. If left undisturbed by natural events or without any fire hazard abatement practices the project area's vegetation would again become a mature chaparral/Coastal Sage Scrub community.

The mixed chaparral, characterized as a combined Fuel Model SCAL 18 – Sage/Buckwheat and FM sh7 – Very High Load Dry Climate Shrubs, will be of the most concern for the project area during a worst case scenario northeastern wind pattern (Santa Ana) with hot dry wind speeds that could reach 60 MPH. These conditions would be similar to what was experienced for the recent Cedar Fire and Witch Creek Fire (2007). In this vegetation type, a high percentage of the vegetation would have an abundance of dead material. This is due to the effects of the local Mediterranean

climate where warm wet winters promote new growth, and long, hot and very dry summer seasons sometimes occur. Occasionally, multi-year droughts cause significant parts of these plants to die back. All of these plants are adapted to the intense wildfires that they need for species regeneration. However, when fire occurs at too frequent intervals, the coastal sage scrub plant community reverts to a more flammable, less desirable community of short-lived annual grasses with little wildlife value and poor ability to protect the soil. The on-site wildland fire threat from this native vegetation can be mitigated within the development with the required fuel modification and utilization of "*firewise*" landscaping criteria.

In summary, any wind or topography driven wildfire burning under a northeast (*Santa Ana*) wind pattern creates a very high wildland fire hazard, especially for wildland fires starting northeast of the development. Also, a typical fire day with a southwest wind will create a high wildland wildfire hazard. However, the proposed fuel modification treatments, "*firewise*" landscaping, and the use of ignition resistant building construction standards (which include the use of Class "A" roof and non-combustible fire resistive exterior wall materials) will mitigate the potential loss of structures to less than significant levels due to direct fire impingement, wind driven embers or radiant heat around the perimeter of the houses.

4.6 Vegetative Fuels Assessment/Fire Behavior

The minute-by-minute movement of a wildland fire will probably never be totally predictable; certainly not from weather conditions forecast many hours before the fire. Nevertheless, practice and experienced judgment in assessing the fire environment coupled with a systematic method of calculating fire behavior, yields surprisingly good results (Rothermel 1983).

The BehavePlus Fire Modeling System has been used to predict the wildland fire behavior (rate-of-spread, fireline intensity and flame length) for the vegetative fuels in the Greenhills Ranch project. The BEHAVE: Fire Behavior Prediction and Fuel Modeling System–Burn Subsystem, Part 1 by Patricia L. Andrews, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE fire behavior computer modeling system was developed by USDA–Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts including fire behavior analysts nationwide. Since the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations are the dead fuels less than one-fourth inch in diameter; these are the fine fuels that carry the fire. Fuels larger than three (3") inches in diameter are not included in the calculations at all (Andrews 1986)".

BehavePlus, Version 4.0 is an updated and enhanced form of the original BEHAVE System. The BEHAVE fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six (6') feet of the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in fire protection planning purposes.

The ***FIREWISE*** **2000, Inc.** evaluation team used the computer based BEHAVE Plus 4.0 Fire Behavior Prediction Model to make the fire behavior assessments and projections for the hazardous vegetative fuels on the areas in proximity to the proposed residential building lots in Greenhills Ranch Phase 2 (See APPENDIX 'C' for actual calculations from the BEHAVE

Plus program). The projections are based on scenarios that are “worst case” of San Diego County fire assumptions within this region.
Eight (8) different fire scenarios are presented below based on “worst case” fire weather assumptions for the project area, and one (1) fire scenario based on “typical” fire weather projections for comparison. Each fire scenario displays the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second) and Flame Length (expressed in feet) for two (2) separate BEHAVE Plus predications: one for the untreated fuels, and one for the treated fuels following the completion of the required fuel modification work. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations, expected climax vegetation type and fuel moisture levels typically observed during the local fire season. All of the detailed fire behavior calculations can be found in APPENDIX ‘C’.

Table 4.6.1
Fire Scenario # 1 - Lots 60-64, 24-30, 35
(Late Fire Season With 60 MPH North, Northeast And East Wind Conditions)

Fire Behavior Calculation Input Data	**Anticipated Fuel Moistures**
• **40 percent slope** • **60 mph 20-foot wind speed** • **335º aspect from north** • **45º wind direction from north**	*** 1-Hour Fine Fuel Moisture of……..…2%** *** 10-Hour Fuel Moisture of……..……3%** *** 100-Hour Fuel Moisture of.....……..…….5%** *** Live Herbaceous Fuel Moisture of…….30%** *** Live Woody Fuel Moisture of…….....50%**
Expected Fire Behavior **Combined Fuel Model [sh7 – Very High Load Dry Climate Shrub 50% and SCAL 18 - Sage/Buckwheat 50%]**	
Rate of Spread - 435.1 feet/minute	
Fireline Intensity - 36,109 BTU's/foot/second	
Flame Length - 56.2 feet in length	
Expected Fire Behavior in Treated Fuels **Combined Fuel Model - [tl6 – Moderate Load Broadleaf Litter 70% and gr1 - Short, Sparse Dry Climate Grass 30%]**	
Rate of Spread - 87.8 feet/minute	
Fireline Intensity - 893 BTU's/foot/second	
Flame Length - 10.2 feet in length	

Table 4.6.2 ***Fire Scenario # 2 – Lots 60-64*** ***(Late Fire Season With Above Average 30 MPH South, West and Southwest Wind Conditions)***	
Fire Behavior Calculation Input Data • 35 percent slope • 30 mph 20-foot wind speed • 160º aspect from north • 225º wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of ……..…2% * 10-Hour Fuel Moisture of....……..……3% * 100-Hour Fuel Moisture of ……..…….5% * Live Herbaceous Fuel Moisture of…....30% * Live Woody Fuel Moisture of…….....60%
Expected Fire Behavior **Combined Fuel Model [SCAL 18 - Sage/Buckwheat 70% and sh2 – Moderate Load, Dry Climate Shrub]**	
Rate of Spread - 138.5 feet/minute	
Fireline Intensity - 5,378 BTU's/foot/second	
Flame Length - 23.4 feet in length	
Expected Fire Behavior in Treated Fuels **Combined Fuel Model [tl6 – Moderate Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]**	
Rate of Spread - 38.3 feet/minute	
Fireline Intensity - 326 BTU's/foot/second	
Flame Length - 6.4 feet in length	

Table 4.6.3 ***Fire Scenario # 3 - Lots 15-22*** ***(Late Fire Season With Above Average 30 MPH South, West and Southwest Wind Conditions)***	
Fire Behavior Calculation Input Data • 35 percent slope • 30 mph 20-foot wind speed • 270º aspect from north • 225º wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of ……..…2% * 10-Hour Fuel Moisture of……..……3% * 100-Hour Fuel Moisture of ……..…….5% * Live Herbaceous Fuel Moisture of…....30% * Live Woody Fuel Moisture of…….....60%
Expected Fire Behavior **Combined Fuel Model [sh5 – High Load, Dry Climate Shrub 50% and SCAL 18 - Sage/Buckwheat 50%]**	
Rate of Spread - 221.1 feet/minute	
Fireline Intensity - 16,693 BTU's/foot/second	
Flame Length - 39.4 feet in length	
Expected Fire Behavior in Treated Fuels **Combined Fuel Model [tl6 – Moderate Load Broadleaf Litter 60% and gr1 - Short, Sparse Dry Climate Grass 40%]**	
Rate of Spread - 39.2 feet/minute	
Fireline Intensity - 331 BTU's/foot/second	
Flame Length - 6.5 feet in length	

Table 4.6.4 *Fire Scenario # 4 - Lots 15-22* *(Typical 10 MPH South, West and Southwest Wind Conditions)*	
Fire Behavior Calculation Input Data • **35 percent slope** • **10 mph 20-foot wind speed** • **270º aspect from north** • **225º wind direction from north**	**Anticipated Fuel Moistures** *** 1-Hour Fine Fuel Moisture of …..……..…4%** *** 10-Hour Fuel Moisture of....……..……6%** *** 100-Hour Fuel Moisture of ……..…….8%** *** Live Herbaceous Fuel Moisture of…...50%** *** Live Woody Fuel Moisture of…….....60%**
Expected Fire Behavior **Combined Fuel Model [sh5 – High Load, Dry Climate Shrub 50% and SCAL 18 - Sage/Buckwheat 50%]**	
Rate of Spread - 66.1 feet/minute	
Fireline Intensity - 3,951 BTU's/foot/second	
Flame Length - 20.3 feet in length	

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

Projects located in Hazardous Fire Areas shall include Fuel Management Zones (FMZ) surrounding all structures that are greater than 250 square feet in size. San Diego County Fire Code stipulates that the FMZ be a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified, **except for:**

- Single specimens of trees or other vegetation that are well-pruned and maintained
- Grass and other vegetation located more than 50 feet from the structure and less than 18 inches in height above the ground
- All ornamental landscaping that is consistent with the customized County Wildland Interface plant list (See APPENDIX 'A')

Maintenance of fuel treatment zones is highly important. Latham (1989) found that ember ignitions of surface fuels were primarily a function of ground fuels, especially litter depth. Also imporant to ignition of a ground fuel is moisture content, size of the litter material as well as the mineral content of the dead vegetation. To the benefit of the eventual homeowners, surface fires burn with less intensity and spread more slowly than an aerial fuel.

Below are the detailed definiitions and required treatments for the Fuel Modification Zones within the project. See Fuel Treatment Map, Section 5.3, for all fuel treatments. There are two basic fuel modifcation zones required for the Greenhills Ranch Phase 2 subdivision, an irrigated zone and a 50% thinning zone, including the removal of target species, for a total of 100 feet of fuel treatment. In many cases, the required fuel treatments are interlinked to adjacent homes both within and adjacent to the project. Due riparian and open space restrictions there is insuffcient space for 100 feet of fuel modificaiton southeast of Lots 57 – 65 and east of Lot 65. However additional requirements are outlined in Section 5.0 which should mitigate for the projected 10.2 foot flame lengths from the east and 6.4 flame lengths from the southwest after fuel treatments. The edge of roadways and driveways must also be fuel treated to prevent ignition starts and to provide relatively safe ingress and egress should a wildfire occur. Each of these zones is described below in greater detail.

All distances in this plan are measured horizontally. These distances are depicted on the attached Fuel Treatment Map. Prior to construction on any building site, all roads (primary and secondary) for this development shall be accepted by the County Fire Marshal.

The responsibility for the fuel modification maintainence defined below shall remain with the current owners and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to Greenhills Ranch Phase 2 property will be responsible for such maintenance. Fuel Modification Zones will be the responsibility of the individual homeowners on their respective lots and the responsibility of the Greenhills Ranch Phase 2 HOA in common areas.

Fuel Modification Zone 1A (Lot Owner or HOA Maintained) - *(Shown as <u>No Color</u> on the Fuel Treatment Map)*

<u>Defined</u>

Zone 1 comprises the entire lot around a structure (front, back and side yards) and is commonly called the defensible space zone. It is an irrigated zone and shall be free of all combustible construction and materials. Concrete patios, concrete walkways, swimming pools or other non-combustible structures are permitted within this zone. See APPENDIX 'D' for possible non-combustible decks, patio covers, and railing considerations within Zone 1A. Because actual house locations have not been established, this zone is shown covering each residential lot in its entirity. For all residential lots, Zone 1A shall be interlinked with adjacent lot owners. It shall be the responsibility of each lot owner of the Greenhills Ranch Phase 2 project to maintain their lot to Zone 1A criteria. When Zone 1A extends beyond the boundaries of residential lots within the project, it shall be be the responsibity of the HOA to maintain (See Fuel Treatment Map – Section 5.3).

<u>Required Landscaping</u>

Zone 1A will be cleared of all existing native vegetation and replanted with drought tolerant and irrigated fire resistant lawns, ground covers and shrubs. Landscaping shall be irrigated and primarily consist of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. However, this zone may contain occasional fire resistant trees and single well spaced ornamental shrubs up to 48 inches in height, intermixed with ground covers and lawn. Shrubs and ground covers may be located no closer than 5 feet from the structure provided these plants will not carry fire to the structure. Non-flammable concrete patios, driveways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1A.

Plants in this zone need to be fire resistant and should not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most "fire resistant". Refer to APPENDIX 'A' for a customized plant list specific to the project site based on the County of San Diego's desirable plant list and APPENDIX 'B' for Prohibited Plants for landscape plant selection.

Trees must be planted so that when they reach maturity the tips of their branches are at least 10 feet away from any structure and must have a minimum of 6 feet of vertical separation from low growing irrigated vegetation beneath the canopy of the tree.

Required Maintenance

The residential lots shall be maintained year round by the individual property owner(s) within their property boundary (lot lines) as required by this FPP or the County Fire Marshal. The HOA shall maintain all fuel modication zones in open space lots and for any fuel treatment easements. Shrubs and trees are to be annually maintained free of dead material. Trees will be maintained so that their crown cover will be more than ten (10) feet from any structure. All mature tree crowns will be separated by twenty (20) feet and maintained to keep a separation of 6 feet between the ground fuels (shrubs and ground covers) and the lower limbs thus eliminating ladder fuels. All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)]* (see www.treecareindustry.org/public/gov_standards_a300.htm).

Fuel Modification Zone 1B (HOA Maintained)- *(Shown as Pink on the Fuel Treatment Map)*

Defined

Zone 1B is an irrigated zone that includes manufactured slopes and is maintained to Zone 1A criteria.

No Build Zone (Lot Owner Maintained – (Shown as *Blue* on the Fuel Treatment Map)

Defined

The No Build Zone is 15 feet in width and has the same landscaping and maintenance requirements as Zone 1A. No combustible structures, which include the house, can be built within this zone.

Fuel Modification Zone 2A (HOA Maintained)- *(Shown as Blue Green on the Fuel Treatment Map)*

Defined

Zone 2A begins at the outer edge of Zone 1A or 1B depending on location. This zone includes areas distrurbed by grading and will be planted and temporarily irrigated until such time as the plants area established.

Required Landscaping and Maintenance

Same requirements as Zone 2B

Fuel Modification Zone 2B (HOA Maintained)- *(Shown as Green on the Fuel Treatment Map)*

Defined

Zone 2B is a non-irrigated thinning zone beginning at the outer edge of Zone 1B.

Required Landscaping

All flammable native plants (see San Diego County prohibited plant list in APPENDIX 'B') shall be removed with the resulting treated area containing low growing (maximum 18 inches in height) and low fuel volume "ground cover" vegetation or native grasses and occasional well spaced (separated by a minimum of twenty (20) feet), low growing (maximum height 15 feet) fire resistant trees (see APPENDIX 'A').

Required Maintenance

The intent is to achieve and maintain an overall 50 percent reduction of the vegetative canopy cover spacing, a 50 percent reduction of the original fuel loading and the 100 percent removal of all dead and dying plant material including prohibited plants. Low

growing plants and ground covers are to be maintained to a height of 18 inches or less. Each tree will be limbed to maintain a separation of 6 feet between the ground fuels (shrubs and ground covers) and the lower limbs. Maintenance shall be on-going throughout the year as needed. Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to 4 inches or less in height.

Streets and Roadways – HOA Maintained *(Shown as Purple on the Fuel Treatment Map)*

Required Maintenance

Clearance of brush or vegetative growth along new and existing on and off-site roadways will comply with the Consolidated Fire Code for the 17 Fire Protection Districts in San Diego County. Twenty (20) feet on each side of of the pavement edge on new improved width access roads shall be annually cleared of vegetative growth or maintained to Zone 1A requirements (See Fuel Treatment Map -Section 5.3).

4.8 Cumulative Impact Analysis

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

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with wildlands. As the population of San Diego County increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. Increased vehicular access for this residential subdivision by way of improving existing roads and building a new secondary access road will increase human activities in the immediate area and therefore increase the risk of property loss, injury or death within the interface with wildlands.

The approval of this proposal, the already approved developments in the area, dedicated open space, and future development proposals will increase the concern of wildland fires as the area becomes more urbanized. At present, the density of development in the hilly Lakeside portion of San Diego County, is relatively low and includes properties compliant with the fuel modification and weed abatement requirements of the County of San Diego.

5.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

- All newly constructed structures will be built to ignition resistant building requirements (see APPENDIX 'E') which includes the installation of automatic fire sprinkler systems (National Fire Protection Association – NFPA Standard 13D), including residential attics and garages.

- A minimum of 100 feet of fuel treatment shall be placed around all structures that abut flammable native vegetation, which includes an irrigated zone and a thinning zone.

- A solid six (6) foot non-combustible wall shall be built on the southern lot lines of Lots 57 – 65 and the east property line of Lot 65 as shown on the Fuel Treatment Map. Any access gates to the open space or trails must be non-combustible. If non-solid gates are used metal screens such as security screens with minimum ½ inch mesh must be installed over

any grillwork or openings. Any access gates into the open space shall be equipped with Knox padlocks or Knox boxes with keys for fire department access.

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

- All vents in structures shall be "Brandguard", "O'Hagin Fire & Ice® Line – Flame and Ember Resistant" or equivalent type vents.

- This report and its recommendations shall be incorporated by reference into the final project Conditions of Approval to ensure compliance with codes/regulations and significance standards. This plan also sets forth a requirement to manage and control invasive (exotics) in open space easements.

5.1 Requirements for Inclusion in the CC&R's:

1. Each lot owner is personally responsible for all fuel treatment measures within their propertys. Where these zones extend onto an adjoining lot within the development, the HOA shall perform the work on the adjacent property.

2. The HOA shall not allow a lot owner to store any combustible materials beneath any projection, deck or overhang exposed to wildland fuels.

3. All property owners will be members of a Home Owners Association (HOA) and will financially support the annual maintenance of all required Fuel Modification Areas within the common areas of the subdivision.

4. All roadside fuel treatment within the subdivision is the maintenance responsibility of the HOA except for private driveways which are the maintenance responsibility of individual lot owners.

5. Each lot owner will be responsible to keep their roof area including gutters and downspouts free of combustible debris including leaves, limbs and similar materials.

6. The Greenhills Ranch Phase 2 HOA will have the authority for enforcing required fuel treatment measures on all lots and restrictions on combustible structures in all restricted areas.

7. The HOA shall not allow TRASH DUMPING OR DISPOSAL OF YARD TRIMMINGS IN THE FUEL TREATMENT ZONES.

8. The Fuel Treatment Zones, as depicted on the Fire Protection Plan Map, shall be shown on the CC&R's and recorded against all lots. The HOA will be responsible for enforcing all required fuel modification treatments on all lots.

9. The Greenhills Ranch Phase 2 HOA Board will be responsible to the Lakeside Fire Protection District Fire Marshal for the completion of all required Fuel Modification Treatments prior to the annual fire season. This includes the perpetual management of invasive (exotic) and prohibited plant species in any fuel treatment zone within the development.

10. All individual yard landscaping plans, including additional structures, shall be approved by the HOA Board and will comply with the Fire Protection Plan. Any disputes relating to HOA Board approval of individual yard landscaping or fuel treatment, with regard to interpretation of the Fire Protection Plan, will be decided by the Lakeside Fire Protection District Fire Marshal. The Fire Marshal's decision will be final and binding on the landowner.

11. Trees shall be placed and maintained so that their crown cover at maturity will be more than ten (10) feet from any structure.

12. All plants will be in accordance with the customized San Diego County recommended plant list (See APPENDIX 'A'), or as approved by the County Fire Marshal.

13. Upon the sale of a lot to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.

14. The Lakeside Fire Protection District (LFPD) will be designated as a third party beneficiary of a homeowners' association's duty to perform "Fire Prevention Maintenance" (as defined below) for all portions of the Association Property (or Common Area) that constitute Fuel Modification Zones and designated interior/manufactured slopes to be maintained by the homeowners' association, and of any owner's duty to comply with any Fuel Modification Zone restrictions applicable to their Lot. Additionally, the LFPD shall have the right, but not the obligation, to enforce the homeowners' association's duty to perform such Fire Prevention Maintenance, and to enforce compliance by any owner with any Fuel Modification Zone restrictions applicable to their Lot. In furtherance of such right, the LFPD shall be entitled to recover its costs of suit, including its actual attorneys' fees, if it prevails in an enforcement action against the homeowners' association and/or an individual lot owner.

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

5.2 Additional Requirements

- Brush removal shall be completed prior to commencing any flammable construction. During construction at least 50 feet of clearance around the structures shall be kept free of all flammable vegetation as an interim fuel modification zone during construction of structures.

- If the landowner is aware of any state or federal listed species on their property, the U.S. Fish and Wildlife Service should be notified prior to the abatement.

- Debris and trimmings produced by thinning and pruning will be removed from the site, or, if left, shall be converted into mulch and evenly dispersed to a maximum depth of four inches. Such trimmings will not be located within 50 feet of structures.

- Any damaged or replacement window, siding, roof coverings, and specific non-combustible wall will meet or exceed the original intent of the fire protection discussed in this plan.
- This plan and its requirements shall be incorporated by reference into the final project Conditions of Approval.

5.3 FUEL TREATMENT MAP

A pocket folder containing Exhibit 1 – FUEL TREATMENT MAP can be found following this FPP depicting the location of all proposed fuel modification treatment locations and other mitigation measures for the Greenhills Ranch Phase 2 development.

6.0 CONCLUSION

This FPP evaluated the adverse environmental effects that a proposed residential development may have from wildland fire and identified means to properly mitigate those impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death involving wildland fires.

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. Zone 1A consists of each lot including the level building pad and provides the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will be a landscaped zone that is permanently irrigated and consists of fire resistant and maintained plantings. Zones 2A and 2B are the next 50-100 feet from a structure and include all manufactured slopes and provide removal of 50 percent of the native vegetation at a minimum, including all prohibited highly combustible native vegetation, but permits plantings with very specific criteria.

- The development will have adequate emergency access in terms of access and construction standards for roadways and streets. LFPD, the San Diego Rural Fire Protection District, CAL FIRE and nearby fire departments through mutual aid, will provide fire protection. Response times and the proximity of the development to the Wildland Urban Interface (WUI), and a subdivision in a Very High Fire Hazard Severity Zone require fire sprinklers in all residences.

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

7.0 LIST OF PREPARERS, PERSONS AND ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this Fire Protection Plan is David C. Bacon, President of ***FIRE*****WISE 2000, Inc.,** a San Diego County DPLU certified wildland fire consultant. Other ***FIRE*****WISE 2000, Inc.** members contributed to this plan with comments and peer review. These members include Herb Spitzer, Senior Wildland Fire Associate, Ron Woychak a San Diego County DPLU certified wildland fire consultant and Mel Johnson, Senior Wildland Fire Associate.

7.2 List of Persons Contacted During the Course of this Project

1. Stephen Goodman, Goodman Revocable Trust dated 12/11/92

2. Richard Grabhorn, Grabhorn Engineering Corp.
3. Joel Paulson, Grabhorn Engineering Corp.
4. Greg Schreiner, Fire Marshal – LFPD
5. Chuck Weber, Deputy Fire Marshal – LFPD
6. James Pine – San Diego County Deputy Fire Marshal
7. Jacob Watson – REC Consultants
8. Robert Furey – Groundwurk, Inc
9. Anita Hayworth – Dudek Engineering + Environmental
10. Dana Goodman – Atlas Investments, LLC
11. Lee Vance – Atlas Investments, LLC

8.0 DEFINITIONS

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

ASPECT - Compass direction toward which a slope faces.

AUTHORITY HAVING JURISDICTION (AHJ) – An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

LIMITED BUILDING ZONE – A protective buffer that surrounds a biological open space area. A LBZ would prohibit the building of structures that would require vegetation clearing within the protected open space for fuel management purposes.

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

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

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

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

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

SHALL - Indicates a mandatory requirement.

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

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

STANDPIPE – A type of rigid water piping which is built into multi-story buildings in a vertical position, to which fire hoses can be connected, allowing manual application of water to a fire. Within buildings, standpipes thus serve the same purpose as fire hydrants.

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

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

WILDFIRE EXPOSURE – One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.
WILDLAND-URBAN INTERFACE – The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

9.0 REFERENCES

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APPENDIX ‘A’

Recommended Plant List

APPENDIX 'A'

COUNTY OF SAN DIEGO
ACCEPTABLE PLANTS FOR DEFENSIBLE SPACE
IN FIRE PRONE AREAS

ALL NATIVE PLANTS ON THE FOLLOWING LIST are considered to be drought-tolerant in the particular climate zone they are found. Those that grow best in riparian areas, as indicated by the "R", are generally the least drought-tolerant plants on the list.

SPECIAL NOTE: When planting, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. This watering should continue for at least three years to allow the plants to naturalize. More water should be provided in summer and less (if any) in the winter. These plants should be weaned off the supplemental irrigation and become less dependent on it over the establishment period.

No plant is totally fire resistant. The plants listed were chosen to due to their high water content, minimum amount of flammable resins and/or low fuel volume.

Definitions:

Drought-Tolerant Plant Materials: Trees, shrubs, groundcovers, and other vegetation capable of sustained growth and reproduction with only natural moisture. Occasional supplemental irrigation is necessary only in extreme drought situations.

Establishment Period: The time it takes for a plant to become drought-resistant. This is usually a period of three years and is the time when supplemental irrigation is necessary.

Native or Naturalizing Plant Species: Plant species native to the region or introduced which, once established, are capable of sustaining growth and reproduction under local climatic conditions without supplemental irrigation.

***FIREWISE* 2000, Inc. Note:** The plant list which follows was developed using the plants found on the San Diego County approved plant list. This list was then compared to those plants which are suitable for the climatic zone in which the project is located. Only those plants suitable for the project area are listed below. The list is therefore shorter than that provided by the County. By providing this custom list, plants that are likely to be killed or seriously damaged by frost or will not perform in hot dry conditions have been eliminated. ***FIREWISE* 2000, Inc.** believes that the planting of species suited to the site is essential to fire management goals and is an environmentally sound practice.

San Diego County
Customized Acceptable Plant List
For The Greenhills Ranch-Phase 2 Project

No.	Type	Genus	Species	Common Name
1	Annual	Lupinus spp.	nanus	Lupine
2	Groundcover	Achillea	millefolium	Yarrow
3	Groundcover	Aptenia	cordifolia	Aptenia
4	Groundcover	Arctostaphylos spp.		Manzanita
5	Groundcover	Cerastium	tomentosum	Snow-in-Summer
6	Groundcover	Coprosma	kirkii	Creeping Coprosma
7	Groundcover	Cotoneaster spp.		Redberry
8	Groundcover	Drosanthemum	hispidum	Rosea Ice Plant
9	Groundcover	Dudleya	brittonii	Britton's Chalk Dudleya
10	Groundcover	Dudleya	pulverulenta	Chalk Dudleya
11	Groundcover	Dudleya	virens	Island Live-Forever
12	Groundcover	Eschscholzia	californica	California Poppy
13	Groundcover	Ferocactus	viridescens	Coast Barrel Cactus
14	Groundcover	Gaillardia	grandiflora	Blanket Flower
15	Groundcover	Gazania spp.		Gazania
16	Groundcover	Helianthemum spp.		Sunrose
17	Groundcover	Lantana spp.		Lantana
18	Groundcover	Lasthenia	californica	Common Goldfields
19	Groundcover	Lasthenia	glabrata	Coastal Goldfields
20	Groundcover	Lupinus spp.		Lupine
21	Groundcover	Myoporum spp.		Myoporum
22	Groundcover	Pyracantha spp.		Firethorn
23	Groundcover	Rosmarinus	officinalis	Rosemary
24	Groundcover	Santolina	chamaecyparissus	Lavender Cotton
25	Groundcover	Santolina	virens	Santolina
26	Groundcover	Trifolium	frageriferum	O'Connor's Legume
27	Groundcover	Verbena	rigida	Verbena
28	Groundcover	Viguiera	laciniata	San Diego Sunflower
29	Groundcover	Vinca	major	Periwinkle
30	Groundcover	Vinca	minor	Dwarf Periwinkle
31	Perennial	Coreopsis	gigantea	Giant Coreopsis
32	Perennial	Coreopsis	grandiflora	Coreopsis
33	Perennial	Coreopsis	maritima	Sea Dahlia
34	Perennial	Coreopsis	verticillata	Coreopsis
35	Perennial	Heuchera	maxima	Island Coral Bells
36	Perennial	Iris	douglasiana	Douglas Iris
37	Perennial	Kniphofia	uvaria	Red-Hot Poker
38	Perennial	Lavandula spp.		Lavender
39	Perennial	Limonium	californicum perezii	Coastal Statice
40	Perennial	Limonium	californicum var. mexicanum	Coastal Statice
41	Perennial	Oenothera spp.		Primrose
42	Perennial	Penstemon spp.		Penstemon
43	Perennial	Satureja	douglasii	Yerba Buena
44	Perennial	Sisyrinchium	bellum	Blue-Eyed Grass

45	Perennial	Sisyrinchium	californicum	Golden-Eyed Grass
46	Perennial	Solanum	xantii	Purple Nightshade
47	Perennial	Zauschneria	‘Catalina’	Catalina Fuschia
48	Perennial	Zauschneria	californica	California Fuschia
49	Perennial	Zauschneria	cana	Hoary California Fuschia
50	Shrub	Agave	americana	Desert Century Plant
51	Shrub	Agave	Amorpha fruticosa	False Indigobush
52	Shrub	Agave	deserti	Shaw’s Century Plant
53	Shrub	Agave	shawii	NCN
54	Shrub	Agave		Century Plant
55	Shrub	Arctostaphylos spp		Manzanita
56	Shrub	Atriplex	canescens	Hoary Saltbush
57	Shrub	Baccharis	pilularis	Coyote Bush
58	Shrub	Baccharis	salicifolia	Mule Fat "R"
59	Shrub	Carissa	macrocarpa	Natal Plum
60	Shrub	Ceanothus spp.		California Lilac
61	Shrub	Cistus spp.		Rockrose
62	Shrub	Cneoridium	dumosum	Bush rue
63	Shrub	Comarostaphylis	diversifolia	Summer Holly
64	Shrub	Convolvulus	cneorum	Bush Morning Glory
65	Shrub	Dalea	attenuata v orcuttii	Orcutt’s Delea
66	Shrub	Elaeagnus	pungens	Silverberry
67	Shrub	Encelia	californica	Coast Sunflower
68	Shrub	Encelia	farinosa	White Brittlebush
69	Shrub	Eriobotrya	deflexa	Bronze Loquat
70	Shrub	Eriophyllum	confertiflorum	Golden Yarrow
71	Shrub	Escallonia spp.		Escallonia
72	Shrub	Feijoa	sellowiana	Pineapple Guava
73	Shrub	Fremontodendron	californicum	Flannelbush
74	Shrub	Fremontodendron	mexicanum	Southern Flannelbush
75	Shrub	Galvezia	juncea	Baja Bush-Snapdragon
76	Shrub	Galvezia	speciosa	Island Bush-Snapdragon
77	Shrub	Garrya	elliptica	Coast Silktassel
78	Shrub	Garrya	flavescens	Ashy Silktassel
79	Shrub	Heteromeles	arbutifolia	Toyon
80	Shrub	Lantana spp.		Lantana
81	Shrub	Lotus	scoparius	Deerweed
82	Shrub	Mahonia spp.		Barberry
83	Shrub	Malacothamnus	clementinus	San Clemente Island Bush Mallow
84	Shrub	Malacothamnus	fasciculatus	Mesa Bushmallow
85	Shrub	Melaleuca spp.		Melaleuca
86	Shrub	Mimulus spp.		Monkeyflower
87	Shrub	Nolina	parryi	Parry’s Nolina
88	Shrub	Photinia spp.		Photinia
89	Shrub	Pittosporum	crassifolium	NCN
90	Shrub	Pittosporum	rhombifolium	Queensland Pittosporum
91	Shrub	Pittosporum	tobira ‘Wheeleri’	Wheeler’s Dwarf
92	Shrub	Pittosporum	undulatum	Victorian Box
93	Shrub	Pittosporum	viridiflorum	Cape Pittosporum
94	Shrub	Plumbago	auriculata	Cape Plumbago

95	Shrub	Prunus	caroliniana	Carolina Laurel Cherry
96	Shrub	Prunus	ilicifolia	Hollyleaf Cherry
97	Shrub	Prunus	lyonii	Catalina Cherry
98	Shrub	Puncia	granatum	Pomegranate
99	Shrub	Pyracantha spp.		Firethorn
100	Shrub	Quercus	dumosa	Scrub Oak
101	Shrub	Rhamus	alaternus	Italian Buckthorn
102	Shrub	Rhamus	californica	Coffeeberry
103	Shrub	Rhaphiolepis spp.		Rhaphiolepis
104	Shrub	Rhus	continus	Smoke Tree
105	Shrub	Rhus	integrifolia	Lemonade Berry
106	Shrub	Rhus	laurina	Laurel Sumac
107	Shrub	Rhus	ovata	Sugarbush
108	Shrub	Rhus	trilobata	Squawbush
109	Shrub	Romneya	coulteri	Matilija Poppy
110	Shrub	Rosa	californica	California Wild Rose
111	Shrub	Rosa	minutifolia	Baja California Wild Rose
112	Shrub	Salvia spp.		Sage
113	Shrub	Sambucus spp.		Elderberry
114	Shrub	Symphoricarpos	mollis	Creeping Snowberry
115	Shrub	Syringa	vulgaris	Lilac
116	Shrub	Tecomaria	capensis	Cape Honeysuckle
117	Shrub	Teucrium	fruticans	Bush Germander
118	Shrub	Verbena	lilacina	Lilac Verbena
119	Shrub	Xylosma	congestum	Shiny Xylosma
120	Shrub	Yucca	schidigera	Mojave Yucca
121	Shrub	Yucca	whipplei	Foothill Yucca
121	Tree	Acer	macrophyllum	Big Leaf Maple
122	Tree	Acer	saccharinum	Silver Maple
123	Tree	Alnus	rhombifolia	White Alder "R"
124	Tree	Arbutus	unedo	Strawberry Tree
125	Tree	Archontophoenix	cunninghamiana	King Palm
126	Tree	Brahea	armata	Blue Mexican Palm
127	Tree	Brahea	edulis	Guadalupe Palm
128	Tree	Ceratonia	siliqua	Carob
129	Tree	Cercis	occidentalis	Western Redbud
130	Tree	Cornus	stolonifera	Redtwig Dogwood
131	Tree	Eriobotrya	japonica	Loquat
132	Tree	Erythrina	caffra	Kaffirboom Coral Tree
133	Tree	Gingko	biloba "Fairmount"	Fairmount Maidenhair Tree
134	Tree	Juglans	californica	California Walnut
135	Tree	Lagerstroemia	indica	Crape Myrtle
136	Tree	Ligustrum	lucidum	Glossy Privet
137	Tree	Liquidambar	styraciflua	Sweet Gum
138	Tree	Liriodendron	tulipifera	Tulip Tree
139	Tree	Lyonothamnus	floribundus asplenifolius	Fernleaf Catalina Ironwood
140	Tree	Melaleuca spp.		Melaleuca
141	Tree	Myoporum spp.		Myoporum
142	Tree	Nerium	oleander	Oleander
143	Tree	Parkinsonia	aculeata	Mexican Palo Verde

144	Tree	Pistacia	chinensis	Chinese Pistache
145	Tree	Pistacia	vera	Pistachio Nut
146	Tree	Pittosporum	phillyreoides	Willow Pittosporum
147	Tree	Pittosporum	viridiflorum	Cape Pittosporum
148	Tree	Platanus	acerifolia	London Plane Tree
149	Tree	Platanus	racemosa	California Sycamore "R"
150	Tree	Populus	alba	White Poplar
151	Tree	Populus	fremontii	Western Cottonwood "R"
152	Tree	Populus	trichocarpa	Black Cottonwood "R"
153	Tree	Prunus	caroliniana	Carolina Laurel Cherry
154	Tree	Prunus	cersifera ‘Newport’	Newport Purple-Leaf Plum
155	Tree	Prunus	ilicifolia	Hollyleaf Cherry
156	Tree	Prunus	lyonii	Catalina Cherry
157	Tree	Prunus	xblireiana	Flowering Plum
158	Tree	Quercus	agrifolia	Coast Live Oak
159	Tree	Quercus	engelmannii	Engelmann Oak
160	Tree	Quercus	suber	Cork Oak
161	Tree	Rhus	lancea	African Sumac
162	Tree	Salix spp.		Willow "R"
163	Tree	Tristania	conferta	Brisbane Box
164	Tree	Ulmus	parvifolia	Chinese Elm
165	Tree	Ulmus	pumila	Siberian Elm
166	Tree	Umbellularia	californica	California Bay Laurel "R"
167	Vine	Antigonon	leptopus	San Miguel Coral Vine
168	Vine	Distictis	buccinatoria	Blood-Red Trumpet Vine
169	Vine	Keckiella	cordifolia	Heart-Leaved Penstemon
170	Vine	Lonicera	japonica ‘Halliana’	Hall’s Honeysuckle
171	Vine	Lonicera	subspicata	Chaparral Honeysuckle
172	Vine	Solanum	jasminoides	Potato Vine

For plants to be used in fuel treatment Zones A or B that are not found on this list, acquire approval from your local fire department first before installing them. Only "*firewise"* plants can be used in these zones.

APPENDIX ‘B’

Prohibited/Invasive Plant List

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.

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

** San Diego County native species

APPENDIX ‘B’ References:

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

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

APPENDIX ‘C’

FIRE BEHAVIOR CALCULATIONS
BEHAVE PLUS 4.0.0

BehavePlus 4.0.0 (Build 276)

Greenhills Ranch Phase II Project

Sat, May 02, 2009 at 20:20:28

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		North 60 MPH Santa Ana Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		sh7
Second Fuel Model		SCAL18
First Fuel Model Coverage	%	50
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	60.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	45
Terrain		
Slope Steepness	%	40
Aspect	deg	335

BehavePlus 4.0.0 (Build 276)

Greenhills Ranch Phase II Southern Exposure
Sat, May 02, 2009 at 20:23:33

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		South 30 MPH Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		SCAL18
Second Fuel Model		sh2
First Fuel Model Coverage	%	70
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	35
Aspect	deg	160

BehavePlus 4.0.0 (Build 276)

Greenhills Ranch Phase II Western Exposure

Sat, May 02, 2009 at 20:24:51

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		South 30 MPH Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		SCAL18
Second Fuel Model		sh5
First Fuel Model Coverage	%	70
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	35
Aspect	deg	270

BehavePlus 4.0.0 (Build 276)

Greenhills Ranch Phase II Western Exposure Typical

Sat, May 02, 2009 at 20:26:08

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		South 30 MPH Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		SCAL18
Second Fuel Model		sh5
First Fuel Model Coverage	%	70
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	4
10-h Moisture	%	6
100-h Moisture	%	8
Live Herbaceous Moisture	%	50
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	10.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	35
Aspect	deg	270

Greenhills Ranch Phase II North Treated
Sat, May 02, 2009 at 20:21:16

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		North 60 MPH Santa Ana Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl6
Second Fuel Model		gr1
First Fuel Model Coverage	%	70
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	60.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	45
Terrain		
Slope Steepness	%	40
Aspect	deg	335

BehavePlus 4.0.0 (Build 276)

Greenhills Ranch Phase II Southern Exposure

Sat, May 02, 2009 at 20:24:13

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		South 30 MPH Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl6
Second Fuel Model		gr1
First Fuel Model Coverage	%	70
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	35
Aspect	deg	160

BehavePlus 4.0.0 (Build 276)

Greenhills Ranch Phase II Western Exposure

Sat, May 02, 2009 at 20:25:27

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fire Name		South 30 MPH Wind
Fire Date & Projection Period		Fall, Any Year
Fire Analyst		Herbert Spitzer, Firewise2000, Inc.
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl6
Second Fuel Model		gr1
First Fuel Model Coverage	%	60
Fuel Model Type		D
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	60
Weather		
20-ft Wind Speed	mi/h	30.0
Wind Adjustment Factor		0.40
Wind Direction (from north)	deg	225
Terrain		
Slope Steepness	%	35
Aspect	deg	270

APPENDIX 'D'

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

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

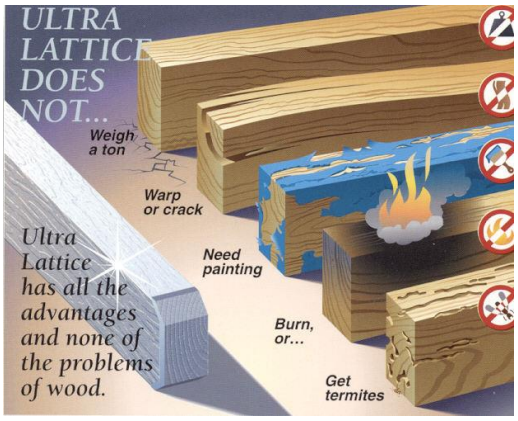
Examples of non-combustible & fire resistant building materials for balconies, carports decks, patio covers and floors are as follow:

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

Ultra-Lattice Stand Alone Patio Cover

Ultra-Lattice Attached Patio Cover

Ultra-Lattice Solid Patio Cover



Ultra-Lattice Vs. Wood

II.

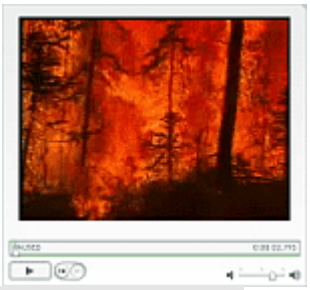
FRX Exterior Fire-Retardant Treated Wood

Exterior Fire Retardant Treated (FRT) Wood

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

Typical Exterior Uses

- Balconies
- Decks



Homeowners and Residential Architects: See this 2-minute video and the diagram below.

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

Decking (SFM Standard 12-7A-4)

III. TREX COMPANY, INC –"Trex Accents ®: Fire Defense ™ " wood and polyethylene composite deck board, nominal 5/4" thick x 5-1/2" width, nominal density of 0.036 lb/in^3.

Trex Accents®: Fire Defense™

The perfect blend of beauty and brawn.

Trex's #1 selling platform, Trex Accents®, exceeds the strict fire regulations set by the State of California and San Diego County.

- Offers superior safety performance:
  - Exceeds ASTM E84 Class B Flame Spread.
  - Exceeds 12-7A-4 Part A (underflame) and Part B (Burning Brand).
- Self-extinguishing even under extreme fire exposure.
- Approved for use by the California State Fire Marshal's Office and San Diego County. Read the California Department of Forestry and Fire Protection, Office of the State Fire Marshal WILDLAND URBAN INTERFACE (WUI)PRODUCTS Report. (PDF)

IV. SOLID “WOOD” DECKING

❖Company Name: Various Manufacturers
Product Description: Solid “Wood” decking: “Redwood”, “Western Red Cedar”, “Incense Cedar”, “Port Orford Cedar”, and “Alaska Yellow Cedar”.
Sizes: Minimum nominal 2” thickness (American Softwood Lumber Standard PS 20).
Lumber grades: Construction Common and better grades for Redwood, 3 Common and better grades for Cedars, and commercial decking or better grades for both Redwood and Cedars.

Special instructions: solid wood decking shall be installed over solid wood joists spacing 24” or less on center.

APPENDIX ‘E’

Ignition Resistant Building Requirements

APPENDIX 'E'

As of the date of this FPP, the following are the San Diego County requirements for ignition resistant construction requirements which include requirements under the County Building Code (CBC) Chapter 7A. In addition, exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments must meet the CBC Chapter 7A ignition resistance requirements at the time of building permit application.

1. All structures will be built with a Class A Roof Assembly, including a Class A roof covering, Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

2. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fire stopped with approved materials or have one layer of No. 72 ASTM cap sheet installed over the combustible decking.

3. When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.

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

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

6. All chimney, flue or stovepipe openings will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thicknesses or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.

7. The exterior walls surface materials shall be non-combustible or ignition resistant. In all construction, exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.

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

9. Paper-faced insulation shall be prohibited in attics or ventilated spaces.

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

11. Roof vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with 1/8-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall be equipped to allow, one-way direction rotation only; they shall not free spin in both directions.

12. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with 1/8-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection. Attic ventilation shall also comply with the requirements of the Uniform Building Code (U.B.C.). Ventilation louvers and openings may be incorporated as part of access assemblies.

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

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

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

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

17. Detached accessory structures located less than 50 feet from a building containing habitable space shall be constructed in accordance with Chapter 7A of the Building Code.

18. Exterior doors shall be approved non-combustible construction, solid core wood and shall conform to the performance requirements of standard SFM 12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 1⅜ inches thick with interior field panel thickness no less than 1¼ inches thick, or shall have a fire-resistance rating of not less than 20 minutes when tested according to ASTM E2074.

19. All glass or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass.

20. Vinyl window assemblies are deemed acceptable if the windows have the following characteristics:
    - Frame and sash are comprised of vinyl material with welded corners
    - Metal reinforcements in the interlock area
    - Glazed with insulating glass, annealed or tempered (one layer of which must be tempered glass).
    - Frame and sash profiles are certified in AAMA Lineal Certification Program
    - Certified and labeled to ANSI/AAMA/NWWDA 101/LS2-97 for Structural Requirements

Additional Construction Requirements

- A solid six (6) foot non-combustible wall shall be built on the southern lot lines of Lots 57 – 65 and the east property line of Lot 65 as shown on the Fuel Treatment Map. Any access gates to the open space or trails must be non-combustible. If non-solid gates are used metal screens such as security screens with minimum ½ inch mesh must be installed over any grillwork or openings. Any access gates into the open space shall be equipped with Knox padlocks or Knox boxes with keys for fire department access.

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

- All vents in structures shall be "Brandguard", "O'Hagin Fire & Ice® Line – Flame and Ember Resistant" or equivalent type vents.

APPENDIX ‘F’

Water and Fire Service Availability Forms

County of San Diego, Planning & Development Services

PROJECT FACILITY AVAILABILITY - FIRE

ZONING DIVISION

F

Please type or use pen

The Goodman Irrevocable Trust dated 12/11/82 — 310-850-4412
Owner's Name — Phone

12121 Wilshire Blvd. Suite 1300
Owner's Mailing Address — Street

Los Angeles — Ca — 90025
City — State — Zip

ORG_____
ACCT_____
ACT_____
TASK_____
DATE_____ AMT $_____
DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A.
- [x] Major Subdivision (TM)
- [ ] Minor Subdivision (TPM)
- [ ] Boundary Adjustment
- [ ] Rezone (Reclassification) from _____ to _____ zone
- [ ] Major Use Permit (MUP), purpose: _____
- [ ] Time Extension - Case No. _____
- [ ] Expired Map. Case No. _____
- [x] Other Site Plan (D Designator)
- [x] Specific Plan or Specific Plan Amendment
- [ ] Certificate of Compliance: _____

B.
- [x] Residential ..... Total number of dwelling units: 83
- [ ] Commercial ..... Gross floor area _____
- [ ] Industrial ..... Gross floor area _____
- [ ] Other ..... Gross floor area _____

C. Total Project acreage 36.2 Total lots 74 Smallest proposed lot 5,119

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

395-151-16-00	395-151-60-00
395-151-61-00	395-151-73-00
395-160-15-00	398-400-08-00
398-400-09-00	398-400-10-00

Thomas Guide, Page 1231 Grid U-4

9385 Adlai Road Lakeside, Ca
Project address — Street

Lakeside — 92040
Community Planning Area/Subregion — Zip

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: _____ Date: 2/08/17

Address: 224 Seaman Drive Encinitas, Ca 92024 Phone: 760-436-4593

(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: Lakeside FPD

Indicate the location and distance of the primary fire station that will serve the proposed project:
FS 3, 19008 Highway 8 Business, 1.5 miles

A.
- [x] 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. [x] 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 3.2 minutes.
- [ ] Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.

C.
- [x] District conditions are attached. Number of sheets attached: 3
- [ ] 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 Planning & Development Services.

- [x] 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	Print Name and Title	Phone	Date
	JAMES PINE, DFM	858.495.5439	2/17/17

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Planning & Development Services – Zoning Counter, 5510 Overland Ave, Suite 110, San Diego, CA 92123

County of San Diego

HERMAN REDDICK
PROGRAM MANAGER

(858) 974-5999
FAX (858) 467-9662

Public Safety Group
San Diego County Fire Authority
5510 Overland Ave, Suite 250, San Diego, CA 92123-1239
www.sdcountyfire.org

SUSAN QUASARANO
PROGRAM
COORDINATOR
(858) 974-5924
FAX (858) 467-9662

February 17, 2017

Vance & Associates
224 Seeman Dr.
Encinitas, CA 92024

Ref: Project Facility Availability Form (399F)
Multiple APNs
Greenhills Ranch — Phase Il Conditions

Following are the County Fire Marshal's Office comments in response to a request for a Project Facility Availability Form, and are preliminary in nature.

FIRE ACCESS ROADWAYS - Road design

1. Fire access roadways are required from building pads to a public way. The fire access roadway (including driveways) shall be extended to within 150 feet of acceptable fire fighter/ hoseline access to all ground level exterior portions of proposed buildings.

2. Proposed on-site roadways will be required to meet DPW Public or Private Road Standards and designed to support the imposed load of fire apparatus (not less than 75,000 lbs).

3. The onsite roadways shall be a minimum of 36 feet wide to accommodate parking on both sides of the street.

4. The onsite cul-de-sacs shall have a paved radius of 42 feet to allow parking within the cul-de-sac.

5. A vertical clearance of not less than 13 feet 6 inches shall be maintained.

6. All new public roads, afl private roads within major subdivisions, and all private road easements serving four or more parcels shall be named. Standard street name signs complying with DPW Design Standard DS#13 shall be provided at each intersection. Signs shall display both street names.

7. No construction involving combustible materials on the subject property can take place until fire access roads are installed and fully meet code requirements.

(Exception: If prearranged with the fire authority having jurisdiction, asphalt paving may be installed with the exception of the final lift, which may be postponed until just before building final if desired for roadway cosmetic purposes.)

FIRE ACCESS ROADWAYS - Gates or other obstructions

Any gate or other obstruction which could delay or otherwise impede emergency response must meet County Consolidated Fire Code and be approved by the County Fire Marshal.

FIRE ACCESS ROADWAYS - Maintenance

Ownership of roads (except individual driveways) must be such that all property owners within the project share in legal and fiscal responsibility for maintaining such roads in compliance with fire codes, both those codes currently in effect, and future code changes. The obligation must be legally binding on property owners and convey with ownership transfer.

FUEL MODIFICATION ZONE—Structures

1. A fuel modification zone of not less than 100-foot is required around all structures, in accordance with the specification of the County Fire Code. Additional clearance may be required after review and approval of a fire protection plan (discussed below.)

2. The fuel modification zone must be established and maintained by thinning, clearing away or modifying combustible vegetation within the zone. The fuel modification zone may be re-planted with either approved irrigated, fire-resistant planting material or approved non-irrigated, drought-tolerant, fire-resistant plant material. Re-planting with approved plant material may be required for erosion control.

   EXCEPTIONS:

   a) Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.

   b) Grass and other vegetation located more than 50 feet from buildings or structures and less than 18 inches in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

3. This does NOT authorize clearing beyond property line.

4. Fuel clearance meeting at least County Fire Code standards are required to protect off-site structures and roads adjacent to the parcels. The fire protection plan (discussed below) must address those adjacent off-site structures and roadways.

FIRE PROTECTION - Fire Protection Plan

A Fire Protection Plan, prepared by a PDS-approved consultant, shall be provided and be formatted per the County of San Diego Guidelines for

Determining Significance and Report Format and Content Requirements—Wildland Fire and Fire Protection

.

FIRE PROTECTION — Automatic fire sprinklers

All new dwellings shall be equipped with automatic fire sprinklers designed and installed to NFPA 13D and County of San Diego standards.

WATER SUPPLY—Fire hydrants and water mains

1. Fire hydrants shall be installed at intersections, at the beginning radius of cul-de-sacs and every 350 feet of fire apparatus access roadways.

2. The fire flow capacity for the water main serving the hydrants shall be a minimum of 2,500 gallons per minute.

3. Fire hydrants are be identified by a reflectorized blue marker, with a minimum dimension of 3 inches, in the center of the travel lane adjacent the water source, or by other methods approved by the fire code official.

BUILDING PLAN REVIEW (informational only)

At the time of building plan review, the Fire Marshal will check for fire code compliance with the County Consolidated Fire Code, County Building Codes, and other applicable standards. Plans will be reviewed for elements including (but not limited to):

- Class A roofing
- Non-combustible exterior walls
- Dual pane/tempered glazing
- Vent restrictions
- Eaves enclosed, not vented
- Smoke alarms
- Spark arresters
- Deck restrictions

Additional requirements or modification of these requirements may result from more detailed review. Please call or email me if you have any questions or need clarification — (858) 495-5434 or James.Pine@sdcounty.ca.gov.

Sincerely,

James Pine, Deputy Fire Marshal
San Diego County Fire Authority
Public Safety Group

County of San Diego, Planning & Development Services

PROJECT FACILITY AVAILABILITY – WATER

ZONING DIVISION

Please type or use pen

The Guardian Revocable Trust dated 12/1/92 (619-850-4442)
Owner(s) Name — Phone

12121 Wilshire Blvd. Suite 1300
Owner's Mailing Address — Street

Los Angeles — CA — 90025
City — State — Zip

ORG _____ W.O. 1418 **W**
ACCT _____ PLAT C-5-20-D
ACT _____
TASK _____
DATE _____ AMT $ _____

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A. [X] Major Subdivision (TM) [X] Specific Plan or Specific Plan Amendment
[ ] Minor Subdivision (TPM) [ ] Certificate of Compliance
[ ] Boundary Adjustment
[ ] Rezone (Reclassification) from _____ to _____ zone
[ ] Major Use Permit (MUP), purpose _____
[ ] Time Extension, Case No. _____
[ ] Expired Map, Case No. _____
[X] Other Site Plan (Job number) _____

B. [X] Residential Total number of dwelling units 93
[ ] Commercial Gross floor area _____
[ ] Industrial Gross floor area _____
[ ] Other Gross floor area _____

C. [X] Total Project acreage 38.25 Total number of lots 71

D. Is the project proposing the use of groundwater? [ ] Yes [X] No
Is the project proposing the use of reclaimed water? [ ] Yes [X] No

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

395-151-16-00	395-151-73-00
395-160-15-00	398-400-08-00
398-400-09-00	398-400-10-00
398-400-20-00	398-400-54+55

Thomas Guide Page 1231 Grid D-4

Vista Ada Road Lakeside Ca
Project Address — Street

Lakeside — 92040
Community Planning Area/Subregion — Zip

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

Applicant's Signature _____ Date 2/9/17

Address: 224 Rancho Drive Encinitas, Ca 92024 Phone: (760-436-4693)

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

SECTION 2: FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District Name: HELIX WATER DISTRICT Service area: DEHESA RUN, THUNDERHILL, HOMECLOUDS

A. [ ] Project is in the district
[ ] Project is not in the district but is will in its Sphere of Influence Boundary. Water must apply for annexation
[ ] Project is not in the district and is not within its Sphere of Influence but may apply for annexation
[✓] The project is not located entirely within the district and a possible boundary issue exists with the LAKESIDE WATER District.

B. [✓] Facilities to serve the project [✓] ARE [ ] ARE NOT available or planned to be available within the next 5 years based on the capacity/facility plans of the district. Explain in space below or on attached _____ (number of sheets)

[✓] Project will not be served for the following reason(s): APN'S 395-151-16, 395-151-73, 395-160-15 AND 398-400-55 WILL NEED TO BE ANNEXED INTO HELIX WATER DISTRICT PRIOR TO RECEIVING WATER SERVICE.

C. [✓] District conditions are attached. Number of sheets attached: 3
[ ] District has specific water reclamation conditions which are attached. Number of sheets attached: _____
[✓] District will submit conditions at a later date.

D. [✓] How far will the pipeline(s) have to be extended to serve the project? APPROXIMATELY 3,100 FEET

This Project Facility Availability Form is valid until the district's policies change pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Authorized Signature _____ Print Name ANGELO ANUS

Print Title ASSOCIATE ENGINEER Phone 619-667-6273 Date 2/9/17

NOTE: THIS DOCUMENT IS NOT A COMMITMENT OF SERVICE OR FACILITIES BY THE DISTRICT

On completion of Section 2 by the District, applicant is to submit this form with application to: Planning & Development Services – Zoning Counter, 5510 Overland Ave, Suite 310, San Diego, CA 92123