

# **Bell Ranch**

## **Wildfire Fire Safe Plan**

**Prepared for:**

**Bell Ranch Properties, LLC.**

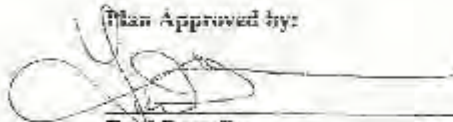
**Prepared by:**

**CDS Fire Prevention Planning  
William F. Draper  
Registered Professional Forester  
#898  
4645 Meadowlark Way  
Placerville, CA 95667**

**October, 2005**

**Bell Ranch**

Plan Approved by:



**Fred Russell**  
**Division Chief-Fire Marshall**  
**El Dorado Hills Fire Department**

10-24-05  
Date



**Ben Scott, Battalion Chief**  
**Fire Prevention**  
**California Department of Forestry**  
**and Fire Protection**

10/24/05  
Date

Prepared by:



**William F. Draper**  
**RPF 898**

10-24-05  
Date



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## **I. PURPOSE AND SCOPE**

Communities are increasingly concerned about wildfire safety. Drought years coupled with flammable vegetation and annual periods of severe fire weather insure the potential for periodic wildfires.

The purpose of this plan is to assess the wildfire hazards and risks of Bell Ranch. To identify measures to reduce these hazards and risks and protect the native vegetation. There are moderate fuel hazards and topography associated with this proposed development both on and adjacent to the project.

The possibility of large fires occurring when the Bell Ranch project is complete will be greatly reduced. However, small wildfires in the open space areas and on the larger lots may occur due to the increase in public uses.

Incorporation of the fire hazard reduction measures into the design and maintenance of the development will reduce the size and intensity of wildfires and help prevent catastrophic fire losses. State and County regulations provide the basic guidelines and requirements for fire safe mitigation measures and defensible space around dwellings. This plan builds on these basic rules and provides additional fire hazard reduction measures customized to the topography and vegetation of the development with special emphases on the interface of homes and wildland fuels.

The scope of the Bell Ranch Wildfire Fire Safe Plan recognizes the extraordinary natural features of the area and designs wildfire safety measures which are meant to compliment and become part of the community design. The Plan contains measures for providing and maintaining defensible space along utility easements, open space areas and around future homes. Plan implementation measures must be maintained in order to assure adequate wildfire protection.

Homeowners who live in and adjacent to the wildfire environment must take primary responsibility along with the fire services for ensuring their homes have sufficient low ignitability and surrounding fuel reduction treatment. The fire services should become a community partner providing homeowners with technical assistance as well as fire response. For this to succeed it must be shared and implemented equally by homeowners and the fire services.

## **I. FIRE PLAN LIMITATIONS**

The Wildfire Fire Safe Plan for the Bell Ranch development does not guarantee that wildfire will not threaten, damage or destroy natural resources, homes or endanger residents. However, the full implementation of the mitigation measures will greatly reduce the exposure of homes to potential loss from wildfire and provide defensible space for firefighters and residents as well as protect the native vegetation. Specific items are listed for homeowner attention to aid in home wildfire safety.

## **II. BELL RANCH WILDFIRE FIRE SAFE PLAN**

### **1. PROJECT DESCRIPTION**

Bell Ranch is located within the unincorporated community of El Dorado Hills generally on a ridge top with east and west facing slopes. The area is east of Bass Lake and north of Highway 50. This project is planned to have 113 lots ranging in size from 7,400 sq. ft to 251,136 sq.ft. covering 112 acres. Twelve lots that are over 1 acre in size. Lots 1-12 must meet full fire safe clearance requirements. Access from the south is Country Club Drive to Tierra De Dios Drive to Morrison Road. The area can be accessed from Bass Lake Road to Hollow Oak Road to Morrison Road. The key topographic features are the broad ridge top, gentle west aspect and steeper east facing slopes. Elevations generally range from 1,270 to 1,450 feet. Slopes range generally less than 5-20% with some steeper areas in excess of 30%.

Residential lots 1-12 have undeveloped parcels containing wildland adjacent to them. Lots 14,15,18-25, and 54-55, 57-62, 66-78 are adjacent to open space. Lots 27-31, 40, 41, and 101 face a small open space island. This is a gated community. Only lots 1-12 may have a gated driveway. All lots within the gated portion of the development shall not have gated driveways. Structural fire protection is provided by the El Dorado Hills Fire Department and wildland fire protection by the California Department of Forestry and Fire Protection (CDF). A fire hydrant system will serve the new area.

### **2. PROJECT VEGETATION (FUELS)**

For wildfire planning purposes the vegetation is classified as follows:

- (a) ground fuels- annual grasses with scattered down trees and limbs, coffeeberry and poison oak
- (b) overstory- scattered stands of Black, Blue and Live Oak along with individual oak trees, California Buckeye, and scattered grey pine (digger pine)

The heaviest fuel loading is along open space K. There are a few down trees. There are oak stands along "L", "M" and "R" Way, Court "C", and "A" Drive. The problem of fuel laddering exists. Oak canopy crown closure may require some thinning of the overstory trees. Work needs to be done to reduce the understory and to isolate clumps of the oaks. Limbing of the oaks trees will be essential. Grasses and thistles need to be treated annually to reduce the volume of flashy fuels on the ground. (See Appendix B)

All dead limbs and trees need to be removed. Buckeye trees need to be limbed up to 4' above the ground. They should be isolated from the poison oak. Oaks need to be limbed up a minimum of 6' and all dead limbs removed. Trees with mistletoe need to be evaluated to long term health. Mistletoe should be pruned out and trees with over 50% mistletoe in their canopy should be replaced. Coffeeberry bushes should be isolated for their wildlife value.

Grey pines need to be eliminated. They are a hazardous tree. Any commercial remove of wood products, either oak or pine, must have the necessary permits issued through the California Department of Forestry and Fire Protection prior to removal. The issuance of the proper permits can be a lengthy process.

### **3. PROBLEM STATEMENTS**

**A. The grass fuels on the slopes will ignite and have a rapid rate of spread.**

Fire in the grass fuels on the side slopes of the ridge is the most serious wildfire problem for this project.

**B. A high percentage of the projects open space has steep slopes which increases the rate of wildfire spread.**

Wildfires rate of spread increases dramatically as slope increases. This project has steep grassy slopes.

**C. Risk of fire starts will increase with development.**

The greatest risk from fire ignition will be along roads, in open space areas and on large lots as human uses on these areas increase.

**D. Provisions must be made to maintain all fuel treatments.**

The wildfire protection values of fuel reduction are rapidly lost if not maintained. Annual maintenance by June 1 of each year is necessary.

**E. Typical home design and siting often does not recognize adequate wildfire mitigation measures.**

A review of many wildfires has conclusively shown that most home losses occur when: (1) there is inadequate clearing of flammable vegetation around a house, (2) roofs are not fire resistant, (3) homes are sited in hazardous locations, (4) firebrand ignition points and heat traps are not adequately protected and (5) there is a lack of water for suppression.

### **4. GOALS**

- A. Modify the continuity of high hazard vegetation fuels.
- B. Reduce the size and intensity of wildfires.
- C. Ensure defensible space is provided around all structures.
- D. Design fuel treatments to minimize tree removal.
- E. Ensure fuel treatment measures are maintained.
- F. Identify fire safe structural features.
- G. Help homeowners protect their homes from wildfire.

### **5. WILDFIRE MITIGATION MEASURES**

Wildfire mitigation measures are designed to accomplish the Goals by providing and maintaining defensible space and treating high hazard fuel areas. Fire hazard severity is reduced through these mitigation measures. The Wildfire Fire Safe Plan places emphasis on defensible space around structures.

## **Bell Ranch**

Lot 1 sits between Country Club Drive and Tierra De Dios. It has some steeper slopes, up to 26% with a heavy oak canopy. Lots 2-12, except 3 and 6, border larger parcels that are mostly undeveloped at this time and considered wildland. Lots 13-17 are adjacent to the El Dorado Irrigation District storage tanks which has a landscape buffer between them. Lot 2 and 4 will have a designated building envelop. Lots 26-53, 56, 63-65, and 79-113 are interior lots on less than one acre each.

### **Mitigation Measures:**

- **Lots over 1 acre shall be landscaped to Firescaping Standards Zones I and II (100feet). (See Appendix A)**
  - a. **Responsibility- homeowner within one year of occupancy**
- **Lots less than 1 acre shall be landscaped to Firescaping Standards for Zone I. (See Appendix A)**
  - a. **Responsibility- homeowner within one year of occupancy**
- **On lots less than one acre, firescaping standards will be implemented to the building front, side and back yards to the lot lines, regardless of the distance to these lines.**
  - a. **Responsibility- homeowner within one year of occupancy**
- **Lots 14, 15, 18-25, and 54-78 shall have a 30 foot setback from rear property line along the open space.**
  - a. **Responsibility- builder/homeowner**
- **All fences that border on the wildland and /or open space areas shall be of noncombustible material. Pedestrian gates to the open space shall be provided and may be lockable.**
  - a. **Responsibility- homeowner**
- **Driveways over 150 feet shall provide for a turnout near the midpoint of the driveway. Vertical clearance for the entire length of the driveway will be 15 feet. (Lots 1-12)**
  - a. **Responsibility- homeowner**
- **Driveways with gates shall be a minimum of 10 feet wide. Gates shall be 2 feet wider than the driveway width and at least 30 feet setback from the roadway. (Lots 1-12 only)**
  - a. **Responsibility- homeowner**

- If the driveway exceeds 20% in grade and over 50 feet in length, the residence shall have an approved residential fire sprinkler system built into the residence. (Lot 1)
  - a. Responsibility- homeowner
- Driveways shall have all weather surface capable of supporting a 40,000 pound emergency vehicle. All driveways over 16% grade shall be paved.
  - a. Responsibility- homeowner
- All homes shall have Class A listed roof assembly and siding of fire resistant material. One/two coat stucco over foam insulation is not acceptable.
  - a. Responsibility- homeowner
- Decks that are cantilevered over the natural slope shall be enclosed.
  - a. Responsibility- homeowner (See Appendix D for guidelines)
- El Dorado Hills Fire Department Weed Abatement Resolution shall apply to vacant lots adjacent to lots with structures.
  - a. Responsibility- lot owner and Fire Department
- All gates shall meet standards of the El Dorado Hills Fire Department
  - a. Responsibility- developer
- No dips or “speed bumps” on any interior roadway
  - a. Responsibility- developer
- Fifty foot vehicle and pedestrian access to Open Space “K” east of lot 67 shall be installed with a locked gate for emergency vehicle access as described in Appendix C
  - a. Responsibility- developer
- The 10 foot wide trail easement between Lots 75 and 76 shall have the fuels treated, within the easement, annually to the specifications in Appendix B.
  - a. Responsibility- developer
- The trail easement between Lots 75-76 shall have a 12 foot wide gate with a Knox Box lock and an all weather surface capable of supporting a 40,000 pound emergency vehicle.
  - a. Responsibility- developer
- All lots over 1 acre shall have a 30 foot setback for buildings and accessory buildings or to all property lines which ever is less and a 30 foot setback from the center of the road. (See Item 6, page 8- lots for setback exception)
  - a. Responsibility- builder
- All lots less than 1 acre shall have setbacks as specified in El Dorado County Zoning Ordinance 17.28.040(D)
  - a. Responsibility- builder

6. **BUILDING SETBACKS ON ONE ACRE OR LARGER LOTS**



State SRA Regulations (1276.01) requires a minimum of a 30 foot setback from all property lines or to the center of the road for lots 1 acre or larger.

All the lots can not meet the State setback on one or more sides. Criteria for identification of these lots are; (a) access road frontage less than 100 feet, (b) steep topography, (c) rock outcroppings, (d) lot shape.

### **Request for SRA Exception**

**As authorized representative, the consultant requests an Exception to 1276.01, Setback Standards for the 1 acre or larger lots.**

**Mitigation practices providing the same overall practical effect as 1276.01 Regulations are:**

- 1. Firescaping standards will be implemented to the building front and side yards to the lot lines, regardless of distances to these lines. (See Appendix A)**
  - a. This will ensure a continuous belt of Firescaping to neighboring lots.**
  - b. If adjacent lot is vacant, El Dorado Hills Fire Department Weed Abatement Resolution will apply and the vacant lot fuels will be treated for 30 feet from any structure.**
- 2. Setbacks will not be less than those required by El Dorado County Zoning Ordinance 17.28.040(D).**
- 3. Rock outcroppings are part of the Firescaping.**
- 4. Windows and doors on the side(s) of the structure that is less than 30 feet from a property line shall be tempered glass.**
- 5. Rafter tails will be enclosed with noncombustible material on the side(s) of the structure that is less than 30 feet from the property line.**
- 6. Exterior wall sheathing shall be one hour rated noncombustible sheathing on the side(s) of the structure that is less than 30 feet from the property line.**
- 7. Gutters and downspouts shall be noncombustible.**
- 8. Attic and floor vents shall be covered with ¼ inch or less noncombustible mesh and horizontal to the ground.**
- 9. If a driveway must exceed 20% grade and longer than 50 feet in length, the house shall have a residential fire sprinkler system to be appropriately engineered for the residence.**

**Approval of this Plan by the CDF and the El Dorado Hills Fire Department will constitute the approval of this Exception.**

### **7. OTHER FIRE SAFE REQUIREMENTS**

- A. Every 5 years the Fire Department shall review Open Space areas with the HOA to determine if additional fuel hazard reduction work is necessary.**
- B. A Notice of Restriction shall be filed with the final subdivision map which stipulates that a Wildfire Fire Safe Plan has been prepared and wildfire mitigation measures must be implemented.**

- C. The project shall meet all the Public Resource Codes 4290 as amended (the 1991 SRA Fire Safe Regulations- Article 2 Access, Article 3 Signing, Article 4 Water, Article 5 Fuels), County and Fire Department ordinances.
- D. A legal entity (HOA, CSD etc.) shall be created with authority for maintaining and enforcing all fuel treatment mitigation measures if homeowners fail to implement or maintain. Covenants, Conditions and Restrictions must be developed to ensure the enforcement of the structural Fire Safe regulations.
- E. The water hydrant system shall meet the Uniform Fire Code specifications to water volume and pressure.
- F. The homeowner/property owner is responsible for any future fire safe or building code changes adopted by the State or local authority.
- G. Court "D" and "G" shall have emergency vehicle access points to Open Space "K" as described in Appendix C
- H. Landscape Lots "A"- "H" and Lot "J" shall not use bark as a ground cover unless completely irrigated. (No drip irrigation)
- I. Lots 14, 15, 18-25, and 54-78 will have a minimum of a 30 foot setback for any structure from the Open Space "K"
- J. All trails in Open Space "I" and "K" will have a 10 foot wide shoulder brushed and mowed annually.
- K. No smoking signs will be posted at public entry points into the open spaces.

## **F. Appendix**

## Appendix A

### Bell Ranch

#### Firescaping Standards

Firescaping is an approach to landscaping to help protect homes from wildland fires. The goal is to create a landscape that will slow the advance of a wildfire and create a Defensible Space that provides the key point for fire fighting agencies to defend the home. This approach has a landscape zone surrounding the home containing a balance of native and exotic plants that are fire and drought resistant, help control erosion, and are visually pleasing. Firescaping is designed not only to protect the home but to reduce damage to oaks and other plants.

##### Zone I

The zone extends to not less than 30 feet from the house **or to the property line** in all directions and has a traditional look of irrigated shrubs, flowers gardens, trees and lawns. All dead trees, brush, concentrations of dead ground fuels (tree limbs, logs etc. exceeding 1 inch in diameter) are removed. All native oak trees and brush species are pruned 6-8 feet above the ground as measured on the uphill side but no more than 1/3 of the live crown is removed. The plants in this zone are generally less than 18 inches in height, must be slow to ignite from wind blown sparks and flames. Such plants produce only small amounts of litter and retain high levels of moisture in their foliage year around. Native and exotic trees are permitted inside the Zone, but foliage may not be within 10 feet of the roof or chimney. Grass and other herbaceous growth within this zone must be irrigated or if left to cure must be mowed to a 2 inch stubble, chemically treated or removed. Such treatment must be accomplished by June 1, annually. This zone has built in firebreaks created by driveways, sidewalks etc.

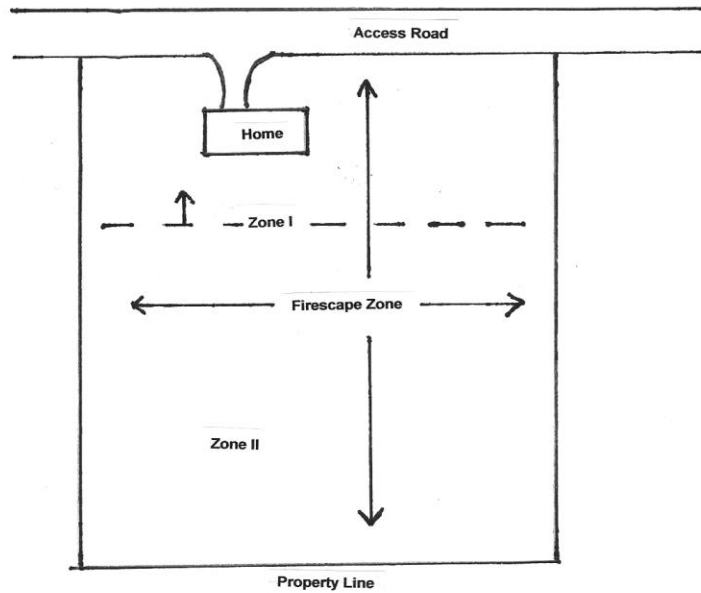
##### Zone II

This Zone adds 70 feet to Zone I and extends a minimum of 100 feet from the house in all directions, **or to the property line** and is a transition area to the outlying vegetation. The zone is a band of low growing succulent and ground covers designed to reduce the intensity, flame length and rate of spread of an approaching wildfire. Irrigation may be necessary to maintain a quality appearance and retain the retardant ability of the plants. All dead trees, brush, concentration of dead ground fuels (tree limbs, logs etc.) exceeding 2 inches in diameter are removed. Annual grasses are mowed after they have cured to a 2 inch stubble by June 1, annually. Native trees and brush species are preserved and pruned of limbs 8 feet above the ground as measured on the uphill side. Specimen brush species may occur in this zone if isolated from the overstory tree canopy and the flashy ground fuels.

For All Zones With Live Oaks

Mature, multi stemmed Live Oaks can present a serious wildfire problem if untreated. Treat the Live Oaks as to the following specifications: (a) remove all dead limbs and stems and (b) cut off green stems at 8 feet above the ground as measured on the uphill side that arch over and are growing down towards the ground. Remove clumps of mistletoe.

**APPENDIX A-1  
FIRESCAPING ZONES  
EXHIBIT**



## **Typical Lot in Oak Woodland**

(schematic, no scale)

### **APPENDIX B**

#### **BELL RANCH**

### **FUEL TREATMENT SPECIFICATIONS**

**For**

### **OAK WOODLAND VEGETATION**

**And**

### **OPEN SPACE**

#### **Within The Designated Fuel Treatment Areas**

1. Leave all live trees.
2. Remove all dead trees.
3. Remove all brush.
4. Prune all live trees of dead branches and green branched for 8 feet from the ground as measured on the uphill side of the tree, except no more than 1/3 of the live crown is removed. All slash created by pruning must be disposed of by chipping or hauling off site.
5. Annually by June 1, reduce the grass or weeds to a 2 inch stubble by mowing, chemical treatment, disking or a combination of treatments.
6. Mature, multi stem Live Oak trees: remove all dead limbs and stems, cut off green stems at 8 feet above the ground as measured on the uphill side that arch over and are growing down towards the ground.
7. Remove mistletoe from all trees.
8. Oaks trees with fire scars on the trunks need to be removed/replaced.
9. Post "No Smoking" signs at all public access points to open space areas.

## **APPENDIX C**

### **BELL RANCH**

#### **EMERGENCY VEHICLE OPEN SPACE ACCESS SPECIFICATIONS**

The purpose of the Emergency Vehicle Access to Open Space areas is to provide rapid access to wildland fuels in open space areas for wildfire suppression resources such as bulldozers, 4-wheeldrive fire engines, firefighters, hoselays etc.

Specifications are:

- a. 15 feet in width
- b. "Break" in the curb
- c. Signed
- d. Gated and gate equipped with a Knox Lock

## **APPENDIX D**

### **BELL RANCH**

#### **ENCLOSED DECK GUIDELINES**

The purpose of enclosing decks that are cantilevered out over the natural slope is to help prevent heat traps and fire brands from a wildfire igniting the deck or fuels under the deck.

1. Does not apply to decks that are constructed using fire resistant materials such as concrete, steel, stucco etc.
2. Applies to decks one story or less above natural slopes.
3. Combustible material must not be stored under the deck

