Appendix J

Fire & Emergency Operational Assessment

PROPOSED

ALPINE COUNTY PARK

FIRE & EMERGENCY OPERATIONAL ASSESSMENT



Prepared for the County of San Diego by:

ROHDE & ASSOCIATES

EMERGENCY MANAGEMENT

June 25, 2021

ALPINE COUNTY PARK
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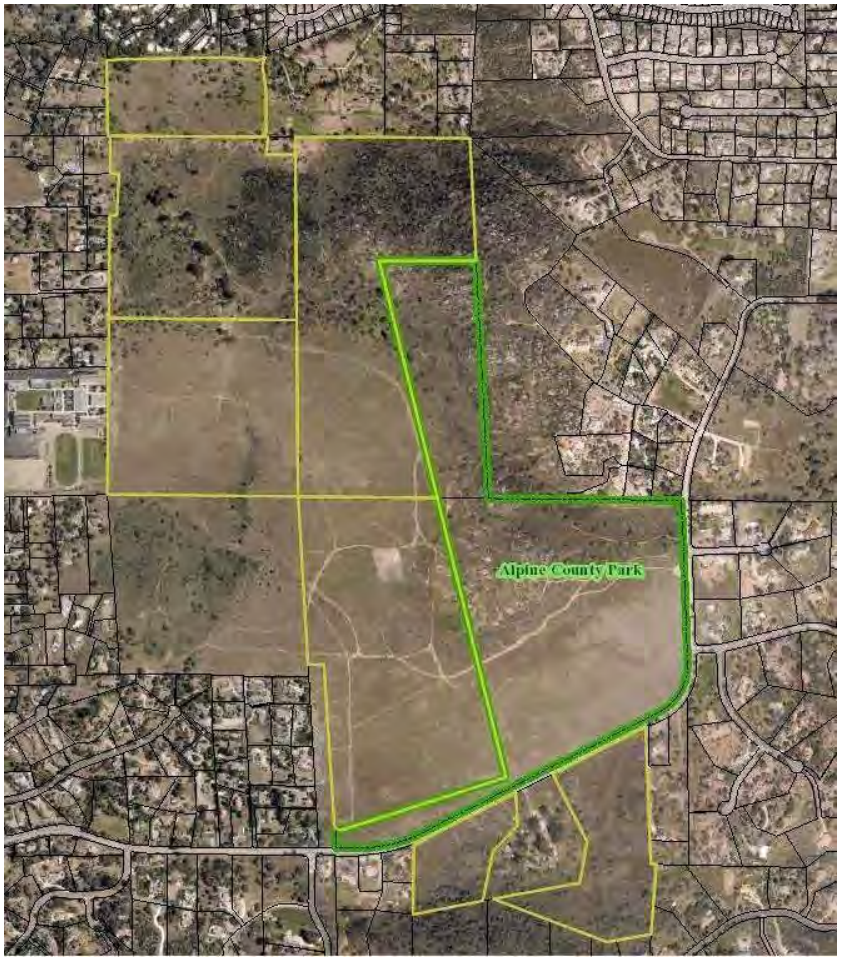
Table of Contents

Subject	Page
The Project	3
Analysis and Approach	4
Site Characteristics	4
Area Wildfire Risk	6
Expected Fire Behavior	9
Site Development Risk Factors	9
Facility Fire Safe Design	13
Alpine County Park Map	15
Fuel Modification	16
Treatment Prescription	16
Treatment Methods	18
Past Fuel Modification Efforts	19
Fuel Modification Limitations	20
Partner Collaboration for Fire Prevention	21
Regional Wildfire and Evacuation Plan	21
Assessment of Fire Services Impacts	23
Response Time Analysis	24
Fire Station Order	24
Fire Services Summary Analysis	25
Summary of Findings	26
References	28
Appendix A: WUI Fire Emergency Response Plan, Alpine South-East	A

The Project

The area designated for the Alpine County Park project, will be owned and operated by the San Diego County Department of Parks and Recreation (DPR, and is located within the unincorporated Community of Alpine, CA. The proposed improvement project is intended to provide a wide variety of public recreational use for residents and visitors in the Alpine area. The park is proposed to include significant developed facilities including three soccer fields, a baseball diamond, a basketball court, a pickleball court, a skateboard park, a bike trail, a dog parks, equestrian staging with a corral, a table game area, a community garden, and a temporary residence pad for park personnel and a small staff office. The developed park area would be confined to approximately 25 acres. The remaining 70 acres of DPR land will remain undeveloped as a natural preserve. Estimated public usage is 300-500 visitors per day at facility build-out. This usage increases to approximately 1,000 per day on weekends, and up to 2,000 per day during special events 5 or 6 times per year. There are six parcels totaling 245 acres adjacent to Park lands owned by the Back-Country Land Trust (BCLT) in ecological preserve status.

Relationship of County DPR lands (green) to BCLT lands (yellow)



The County Park lands and BCLT preserve lands are contiguous and form a common wildfire compartment. They are subject to impacts from a single wildfire event and pose a wildfire risk to impact the adjacent Wildland-Urban Interface in the Community of Alpine. Because of this, both facilities are assessed as a common parcel in this report. Collectively, these proprieties are referred to in this report as the "site". However, the County and BCLT shall maintain separate jurisdiction over these parcels.

Primary access to both County Park and preserve lands is via South Grade Road. From Interstate 8, the facility may be accessed via the Tavern Road exit, heading south on Tavern Road 1.75 miles, then left at the intersection of South Grade Road. The park is about 1.5 miles east of Tavern Road at 2500 South Grade Road.

Analysis Approach

Rohde and Associates (R&A) has assigned three staff members to this report who have over 100 years of collective fire service experience in Southern California. Additionally, a fourth member is a nationally recognized wildfire behavior analyst. This team has developed this Fire and Emergency Services Operational Assessment for the Alpine County Park project. References consulted during this review have included:

- San Diego County CEQA and planning documents relative to the project
- San Diego County Planning and Development Services website
- County of San Diego High/Very High Fire Severity Zone data
- San Diego County fuels and topographic mapping
- Potential Fire behavior data produced by BehavePlus, FlamMap, and LANDFIRE applications
- San Diego County Wildland-Urban Interface Fire Emergency Response Plans
- Google Earth Pro for geographical information
- Interview with San Diego County Fire Authority and San Diego County Department of Parks and Recreation staff, and stakeholders from the Alpine Fire Protection District, the Back-Country Land Trust, and County Parks consultants, ICF Environmental.

Site Characteristics

The site for the proposed Alpine County Park is primarily flat grasslands with coastal sage in its northern-most segment. Adjacent BCLT preserve lands are more sloping and contoured. While some areas are dominated by grass, most are mainly covered with a mix of sage scrub and chapparal with some oak woodlands. The combined 315 acres of the preserve and park lands include a range of elevation from 1900 to 2150 feet. Roughly 60% of the combined site is dominated by herbaceous fuels and light shrubs, including most of the southern end of the site. The remaining 40% of the site, especially its northeast quadrant is dominated by shrub fuels interspersed with oak.

Slopes are most significant on the northern end of the properties. Generally, the County parklands share an eastern frontage with South Grade Road. While some BCLT lands also front South Grade Road, most of the area is interior to many private properties where access is more limited.



Alpine County Park entry site off South Grade Road showing level slope and surrounding grasslands

Of the County DPR's 98 roughly acres, approximately 25 acres of relatively level topography would receive intensive recreational development. The remaining 70 acres of DPR land will remain open space for passive recreation and hiking trails. BCLT will continue independent management of its 245.62 acres. Of this acreage, 30 acres on the south side of South Grade Road are known as the "Findel Ranch" property, and 200 acres on the north side are known as the "grassland preserve", and an additional site known as the "Priest" property, is on 15.62 acres at the northwest end of the property. Collectively the BCLT owned properties are described as the "Wright's Field Ecological Preserve" The prior property ownership names are commonly used for local reference, however all these properties are managed as a single reserve. All preserve land dedications managed by BCLT have deed restrictions on development other than for parkland use.

The predominant flora of the County Park lands is native and annual grasses, buckwheat, and small coastal sage shrub. These biological characteristics continue south and west into BCLT lands. To the north, BCLT preserve lands are characterized by heavier chaparral and coastal sage plant communities, and some stands of native Engelman Oak. Some non-native Eucalyptus and non-native Russian Olive trees also exist as isolated specimens in this area.

Looking north from the park entry site, grasslands transition to coastal sage



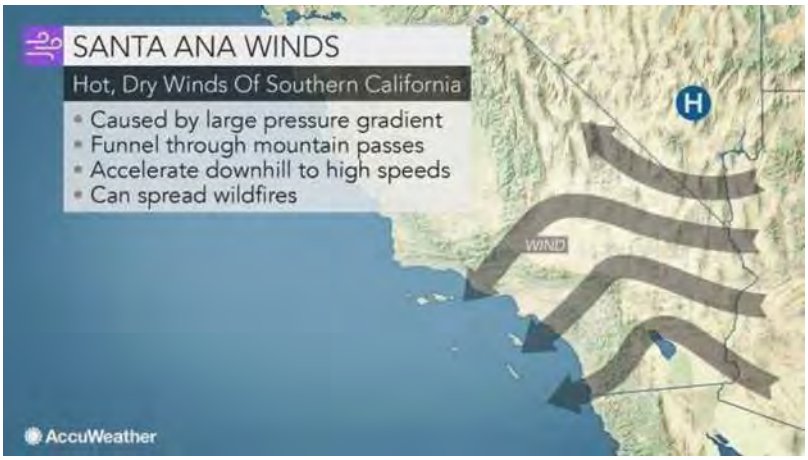
Area Wildfire Risks

The Community of Alpine is located at the foothills of the Peninsular Range of mountains which run through Southern California into Baja Mexico in a northwest to southeast trajectory. This topography allows Alpine to experience strong easterly Santa Ana winds. These winds most commonly reach their peak between September and March; however, Santa Ana winds have been experienced in every month of the year.

Santa Ana wind conditions occur when cooler and drier air masses form a high pressure in the Great Basin region of the Pacific Southwest. This causes a pressure gradient to occur with low pressure air masses along the Southern California coastline. This causes the high-pressure air mass to move southwest, across the Anza Borrego (Colorado) Desert from the four-corners region and over the Peninsular Ranges into the low-pressure air mass along the coast. With this phenomenon, winds are compressed and funneled through narrow drainages formed by the mountain ranges. If the pressure gradient is large, this compression combines with gravity to cause the wind to accelerate downhill to potential hurricane speeds (over 74 mph). It also causes the wind to warm and dry significantly. These winds wick moisture from the native flora causing fuel moistures to lower to a critical condition. This fire hazard condition is often referred to as “Red Flag” levels.

Fire agencies and the National Weather Service collaborate to issue “Red Flag Warnings” for periods of extreme and elevated wildfire risk, and the term is a well known phrase with the public. DPR/BCLT should integrate signage and other interpretive stations at key site entrance points indicating Red Flag conditions when they are announced by fire agencies.

Typical Santa Ana wind patterns in Southern California



The nearby Laguna and Viejas Mountains, the Sweetwater River drainage, and other significant topography of the Peninsular Range influence both winds and wildfire events. When these slopes are in alignment with Santa Ana winds, historically large and destructive wildfires have occurred. The Community of Alpine is situated to arguably pose one of the worst Wildland-Urban Interface conditions in the County of San Diego and is in a known location of repetitious major wildfire occurrence. Such locations of repeat occurrence are known as “historical wildfire corridors”. Some of San Diego County’s most infamous fires have passed near and through the Community of Alpine, including the Cedar Fire (2003), the Viejas Fire (2001), and the Laguna Fire (1970).

A relatively recent wildfire affected the proposed Alpine County Park site directly. The “West Fire” ignited on the eastbound I-8 exit of West Willows on July 6, 2018. Fanned by light to moderate Santa Ana winds, it quickly spread west, burning 504 acres, destroying 18 residences, and damaging 8 others before it was controlled. Fire line to contain this fire was physically placed in the location of the proposed park’s northern boundary.

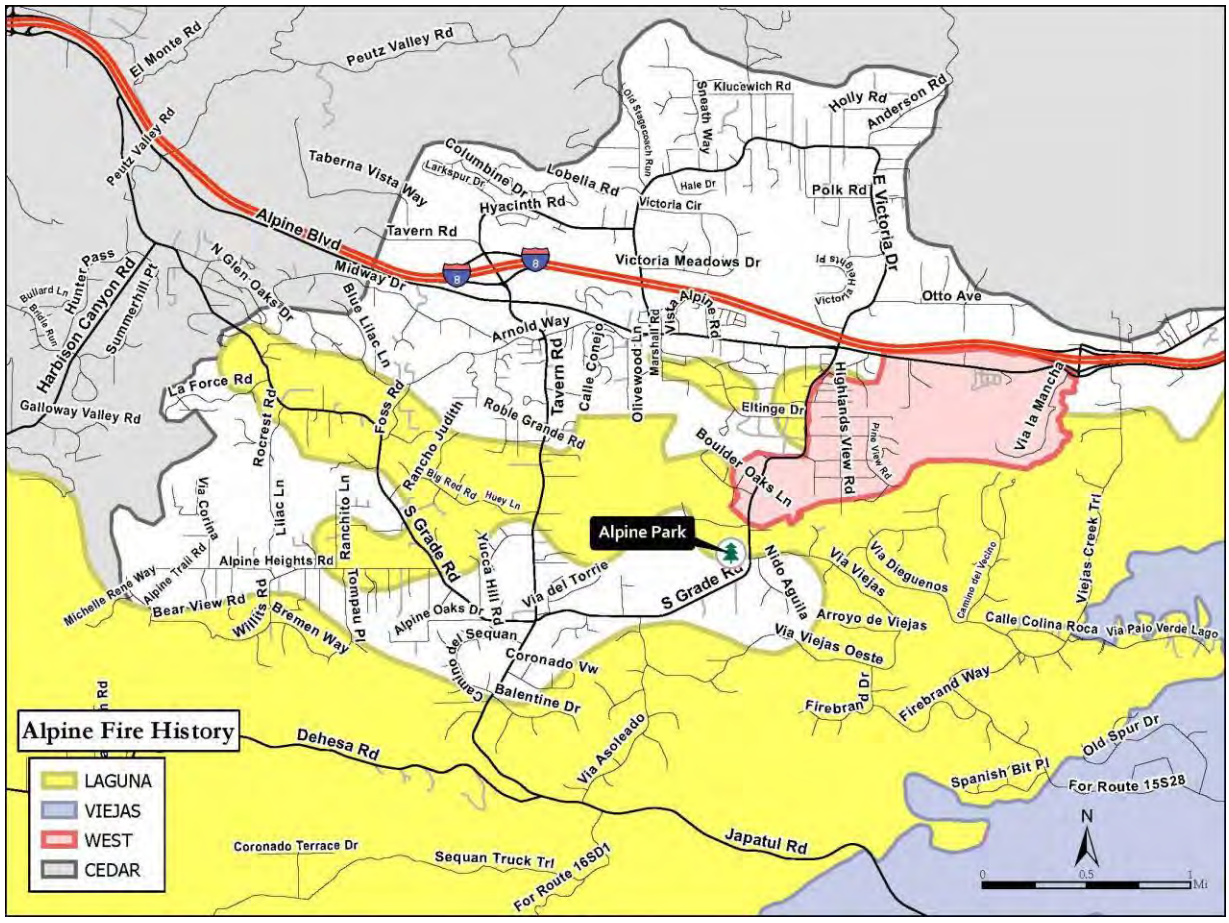


West Fire spread path in an Alpine drainage, looking northeast from South Grade Rd.

One of the most infamous fires to burn through Alpine was the Laguna Fire, started by high winds downing powerlines on September 26, 1970. Pushed by strong Santa Ana winds, it ran through the drainages leading from the Laguna Mountains, through the community of Alpine, extending west to the community of Bonita. It burned much of the proposed park area, scorched 175,425 acres, caused 8 deaths, and destroyed 382 structures.

The October 2003 Cedar Fire burned a similar pattern through the mountain drainages to the northeast of Alpine. Strong Santa Ana winds fanned the blaze with alarming rates of spread of 6-9 mph, burning up to 3600 acres/hour. This fire consumed 270,246 acres, caused 15 deaths and 113 injuries. The fire destroyed or damaged 2820 structures, costing over $1.33 billion.

The Viejas Fire started just east of Alpine on Jan. 3,2001. 65 mph Santa Ana winds caused it to blacken 10,353 acres, damaging or destroying 15 residences, 65 outbuildings and 15 trailers.



History of large wildfires in the vicinity of Alpine County Park

In addition to the Santa Ana wind threat, the predominant weather pattern for the Alpine area between March and September is onshore diurnal winds, often from a west trajectory averaging near 20 mph. Under these typical conditions Alpine can experience high daily temperatures and low relative humidity. During dry periods, this condition presents a near daily wildfire risk, even in the absence of Santa Ana winds.

Expected Wildfire Behavior

Potential for extreme fire behavior has been calculated for the Alpine County Park and adjacent BCLT ecological preserve lands. Extreme wildfire behavior is expressed in rapid rates of spread, spotting distance ahead of the main fire, flame lengths which correlate to high BTU output, and related factors. Results from fire behavior calculations are expressed in the charts below for both off-shore Sana Ana wind conditions and on-shore mid-summer daytime wind conditions.

Results are calculated below using average worst case fire behavior based upon 50 years of local weather records and past wildfire history. Fuel moisture during the displayed periods are seasonally at peak dryness.

Condition	Avg. wind speeds	Peak wind speeds	Avg. temp. (deg.F)	Avg, RH%	Avg Rate of Spread	Peak Rate of Spread	Spotting distance	Flame Lengths (feet)
Offshore winds	20-30 MPH	35-50 MPH	95+	<15%	5 MPH	8 MPH	1 mi.	Grass: 10-12’ Brush: 40-60’
Onshore winds	5-8 MPH	10-15MPH	85+	15-25%	1 MPH	3 MPH	1/4 mi.	Grass: 6-10’ Brush: 30-40’

CAL FIRE and the County of San Diego have identified the Community of Alpine as a Very High Fire Hazard Severity Zone under the California Government Code, section 51178. In response to this designation, both the San Diego County Fire Authority/California Department of Forestry and Fire Protection and the Alpine Fire Protection District maintain robust fire prevention regulations in the site area.

Site Development Risk Factors

Site-specific wildfire and ignition risks associated with the plan site include the following:

1. Proximity to South Grade Road, a known location of increased human related fire ignition factors
2. Adjacency of the site to significant human activity including homes and ranches
3. Robust public usage of the site for both dispersed and organized recreation

4. Location of the park site with respect to historical major wildfire corridors.
5. Heavy fuel concentrations on some DPR/BCLT lands
6. Current off-road parking and occasional vehicle trespass
7. Potential increase in demands on local public safety resources as a result of developed park use

In explanation of these factors and their risk, the following observations are offered:

Risk 1: Proximity to South Grade Road

The location of South Grade Road on the southeastern extremity of the County Park lands poses elevated ignition risks from vehicle passage due to motor vehicle exhaust, discard of hot materials from vehicles, vehicle accidents, off-road parking, dragging of tow chains, or related hazards. These hazards should be mitigated by continued agreement with County Roads to maintain 15-30 feet of vegetation clearance adjacent to the roadbed. DPR/BCLT should consider establishment of a 50-foot clearance in total, counting County Roads clearance, on the edge of this road to prevent establishment of wildfire from the roadway. This 50-foot clearance will also mitigate extension of wildfire from a historical wildfire corridor located on the east face of the site. This corridor has brought wildfire from the West Willows Road area, west onto the park site in the past. This clearance would enhance the ability of firefighters to utilize South Grade Road as a barrier to fire spread. County Park features, such as parking lot placement, may be counted as part of the recommended fuel modification zone.

Risk 2: Adjacency of neighboring homes and ranches

The proximity of homes and ranches to County DPR and BCLT lands poses a significant human risk for both wildfire ignition extending from these properties into the site, and Wildland-Urban Interface risk to these structures from wildfires traveling from or through DPR/BCLT lands. While these properties are already subject to rigorous fire prevention efforts by local fire agencies, additional mitigation should be provided by both County DPR and BCLT to provide enhanced protection to their individual properties through fuel modification and maintenance, (see Fuel Modification, page16).

Risk 3: Robust public recreational usage

Public use of both County DPR and BCLT lands is already extensive, even before site development. Hiking and equestrian usage of the site via existing trails and dirt roads is common, although no overnight use is permitted. Development of the County Parks site will add hard surface parking, equestrian staging, informational signage, trail development, sanitation facilities, and oversite services which will all assist fire prevention efforts. It is recommended that electric utility service for these facilities be placed underground. While It is likely that human introduced through park use will present fire prevention issues, this issue is mitigated in that historical unregulated public use of these lands will now be regulated and managed by the Parks agency, including the introduction of new and enhanced fire prevention measures.

Along with prudent site development, planned regulation of the site by DPR will include forbidding open fires, smoking and overnight use, along with increased patrol by park and volunteer staff. These steps will assist in mitigating the development's fire prevention concerns on County controlled lands. It is recommend that BCLT institute parrallel and coordinated fire prevention measures on their lands as well. Development of the intensive use sports fields, associated parking, public facilities, and support buildings will include landscaping to isolate these facilities from the surrounding wildland as a requirement of the fire and building code, reducing wildfire exposure and ignition risks. Additional fuel modification may be required to further isolate these uses for public safety and ignition resistance, as described in the fuel modification section of this report. Both County Parks and BCLT staff should consider increased patrols, signage, and public outreach during periods of elevated fire danger and consider closure of ecological preserve areas during periods of extreme fire danger, such as Red Flag conditions. Red Flag Warnings should be posted at prominent site locations when such conditions are present.

Risk 4: Park location with respect to major wildfire corridors

Historic wildfire corridors affect the site from both a Santa Ana wind-driven, and an onshore wind-driven conditions. The Santa Ana wind-driven fire corridor, also addressed in Risk #1, channels fire from the West Willows Road area to the eastern boundary of the site along South Grade Road. Past wildfires have traversed this corridor, and fire line has been established in the past within the Wright's Field site for containment. Fuel modification suggested in Risk #1 above, and the placement of developed park features will aid in containing wildfire movement within this corridor. A second route for significant wildfire movement exists on the north edge of the BCLT property, especially off the Eltinge Drive area where an ignition could allow fire to become established during Santa Ana winds in heavy fuel and pose immediate exposure to both BCLT lands and many homes downwind. Such a fire could move through BCLT lands towards the southwest. Finally, if fire were to become established in the southwest corner of the property behind homes and move with onshore winds under dry conditions, it will likely move into both BCLT and County Park lands. Currently no obstacle exists to fire movement in this area. As mitigation to these risks, fuel modification will be recommended (see Fuel Modification, page 16).

Risk #5: Heavy fuel concentrations

Where grass dominates lands within the site, fire behavior may be expected to include rapid burning but lower intensity thermal outputs. Here, fuel loading ranges to 5 tons per acre, and flame fronts may be significant enough to ignite unprotected homes. However,

firefighting can generally be more successful here. Where heavier fuels exist such as in coastal sage or mixed chaparral plant communities, burning conditions will be much more intense, as will be the difficulty of fire suppression. Heavier fuels may also present extreme burning characteristics during critical fire weather including high thermal outputs, rapid rates of spread, and spotting.

Heavy fuel concentrations are located within the site under both ownerships, however heavy fuel is primarily concentrated on BCLT lands. These heavy fuels include old-age, continuous chaparral and sage scrub fuels with fuel loading from 20 to 40 tons per acre and oak woodlands. Heavy fuel loading is capable of extreme fire behavior under either Santa Ana wind or onshore wind-driven wildfire conditions. These critical fuel beds are located near homes on both the north and west aspects of the site. Mitigation for this risk will require boundary area fuel modification to prevent fire from either entering the preserve from adjacent property or moving through preserve lands to affect private properties. Additional fuel modification to remove non-native trees, and to remove deadfall from native species such as pest infested oak groves is also recommended in these areas (see Fuel Modification, page 16)

Risk #6 Off-road vehicle access

Although vehicles access is currently blocked by light fencing, trespass does occasionally occur. Parking occurs haphazardly on either an unimproved dirt lot or on the shoulder of South Grade Road. Park development is expected to strengthen vehicle control barriers and offer improved and fire-safe parking.

Risk #7 Increasing demands on public safety resources

New demand on public safety resources in the Community of Alpine resulting from development of new park facilities was not expected to place unmitigable demands on local fire or law enforcement services. A full review of existing fire services response capability and impacts was conducted and is included in this report. The project will also include establishment of onsite staff that will provide new security for park facilities upon build-out.

Facility Fire-Safe Design

Through appropriate facility development design and County of San Diego fire and building code compliance, the project expects to mitigate wildfire risks for developed facilities within the site. The installation of manicured, irrigated landscaping such as lawns and other fire resistive plantings will offer a fire safe area where the two dog parks, three soccer fields and a baseball diamond are proposed. Additionally, the paved parking lot, basketball and pickleball courts, equestrian area and other cleared assets will serve as not only a buffer to protect the park from wildfire spread, but also provide a Temporary Safe Refuge Area (TSRA) for humans and animals for safe haven during wildfire. Current

fire safety development standards applicable to the site may be reviewed at the County of San Diego website: https://publicservices.sandiegocounty.gov.

All landscaped vegetation on park premises should be accomplished within the guidelines of the San Diego County Department of Planning and Land Use (DPLU) and be consistent with the County's fire resistive approved landscape plant palette. Generally, these plants have the following characteristics:

- Grow close to the ground.
- Have a low sap or resin content
- Grow without accumulating dead branches, needles, or leaves
- Be easily maintained and pruned
- Be drought-tolerant
- Be subject to sufficient irrigation to maintain a "green" state
- Do not present intense thermal outputs during combustion.

A temporary safe refuge/shelter-in-place concept should be integrated into park development. It is likely that park facilities such as its parking lot(s) and equestrian staging will serve as the nearest emergency safe refuge for park users recreating in its open space, and may also serve the emergency needs of nearby park neighbors during a regional wildfire. For this reason, parking and equestrian areas should provide broad expanses of non-combustible surfaces that are absent of combustible ground cover (including in planters) with at least two hundred feet of clearance from native vegetation whenever possible. Trees within these facilities should be maintained in a trimmed state, free of dead plant material and lower limbs removed. Fuel modification of adjacent native fuels may be used in coordination with development of these developed areas when necessary to achieve minimum recommended fuel clearance widths.

Vehicle access onto South Grade Road should be carefully evaluated since this route serves as a regional route for evacuation traffic and carries significant traffic daily. Care should be undertaken to promote best uninterrupted traffic flow while providing safe access and egress to park facilities. Use of median turn lanes and traffic visual constraints should be included in development of access design as blind corners currently exist on South Grade Road. Access lanes will need to be large enough to accommodate large fire apparatus and horse trailer entry.



Alpine County Park Development Plan

Since equestrians will likely use County facilities as temporary safe refuge during wildfire passage, equestrian facility design should be both substantial and fire resistive so as to promote secure and safe housing of large animals, and to prevent accidental release due to animal panic during wildfire. Large animals should continue to be targeted for ultimate evacuation during regional wildfire to the Lakeside Rodeo grounds as the longer-term option. This development will create large animal temporary safe refuge that is currently unavailable within the immediate Alpine community. The current nearest recognized large animal refuge is 15 miles west in Lakeside.

Fuel Modification

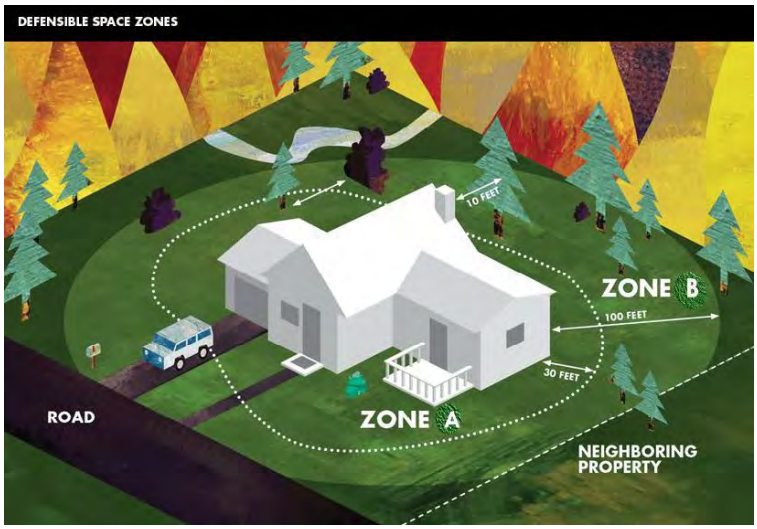
The principal means for mitigation of several wildfire risks associated with the DPR/BCLT site is fuel modification concentrated on specific locations, which offer highest protection value for the expense and effort. This management should be accomplished on a scale needed to mitigate identified fire behavior potential while limiting environmental impacts from the treatment itself.

Goals of fuel modification should be to reduce wildfire intensity sufficiently to offer reasonable protection to adjacent developed and habitable (by either human or animal) structural assets, to limit landowner liability from wildfire damage to adjoining properties, to provide protection for DPR/BCLT site development, and to ensure safe public refuge at key sites. Fuel modification works best when applied directly adjacent to targeted structures/sites or along improvements such as roads, trails, parking lots, or equestrian sites to establish fire compartments or safe refuge areas.

Treatment Prescription

Two forms of fuel modification are typically practiced for fire prevention purposes. The first is typically referred to as “Zone A” and focuses on replacement landscaping in the immediately adjacent yard of a structure. The goal is 100% fire exclusion from the property. This is required for structural development in the California Fire and Building Code in wildland areas. Immediately outside of Zone A is a contiguous “Zone B”, which is an area of fuel thinning to reduce fire intensity as it approaches developed property. The goal of fuel modification described in this report is to achieve Zone A compliance around County Park facilities per fire and building code requirements. For Zone B compliance, maintain reduction of fuels adjacent to Zone A where identified. These areas include: along property lines where practical, around key public facilities such as parking areas, equestrian staging, and similar locations. Fuel modification in Zone B should be designed to achieve fire prevention goals while maintaining viable habitat and preserving ecological values.

Fuel Modification zones around a structure



The objective to landscape replacement in Zone A will be to eliminate potential for wildfire occurrence through establishment of fire resistive landscape around principle park facilities and structures at minimum distances required by code. This has been designed through proposed landscape around sports fields and buildings and is subject to County Fire Marshal review and approval during the permitting process.

The objective of fuels treatment in Zone B is to achieve at least a 75% reduction in fireline intensity from a wildfire moving from native fuels into a constructed fuel modification zone, through accomplishment of the following criteria:

a. The minimum width of a fuel modification zone should be 100 feet in shrubs and 50 feet in grass.
b. The width of a fuel modification zone should be extended to 150 feet for slopes below structures when slopes exceed 45%
c. Shrub fuels within the zone should be reduced by a minimum of 50%
d. Grass/herb fuels within the zone should be reduced by a minimum 80% and what grass is retained should be no more than 4 inches in height
e. Shrub species continuity should be non-contiguous within the modified zone and include clump separations of up to 10 feet.
f. Remaining shrubs in fuel modification zones should be trimmed of dead material
g. All cut materials smaller than 1 inch diameter should be cut, chipped, and scattered for erosion control. Larger materials should be removed from the zone.
h. All gatherings of dead materials, rubbish, and rat nests should be removed.
i. All trees should be a minimum 6 inch diameter at breast height (DBH) and limbed up at least 8 feet
j. Tree canopies remaining must not be contiguous and have at least 10-15 feet of separation between adjacent tree canopies

k. Sensitive plant species should be preserved when possible along with a small buffer of native fuels. A buffer of 15 feet should be retained on each side of water courses.
l. Soils should not be left completely exposed for erosion control concerns. Cut native material less than 1-inch in diameter may be re-deposited and scattered onto soil surfaces to a depth not to exceed 12 inches.
m. Fuel modification may be placed along perimeter fencing or internal roads to serve to compartmentalize fire, when necessary.
n. Reduction of fuels beneath key species such as Engelman Oaks may be accomplished to enhance oak habitat and oak water uptake, and to reduce fire threats to individual species. In this case, remove all dead and down materials below the oak canopy for 5 feet beyond the crown "drip line". Remove any dead tree material that is structurally unsound and remove any ground shrub fuels below the tree canopy.
o. Fuel modification zones should be maintained annually after initial construction (value is lost after 5 years of no maintenance).

It is further recommended that a qualified biologist conduct a nesting bird survey for sensitive bird species when removing shrub fuels during the period March 1 through Sept. 1, annually. If nesting birds are found, secure the site and a buffer of 50 feet until birds fledge out before resuming clearance.

Treatment Methods

The following treatment method alternatives are recommended and available for use on the site:

a. Mechanical treatment: Mowing or plowing may be used to establish fuel modification in grass, where terrain is within mechanical limits of mowing equipment. Use of mastication equipment is recommended for shrub fueled areas that are absent of large trees in generally level terrain on the site perimeter (equipment is limited to maximum 30-degree slope). Moderate costs of $2000-3,000 per acre and rapid completion may be expected, 1-3 treated acres per day.

   Recommended sites: Mowing: Any grass area in the south half of the property in terrain within mechanical limitations. This may also be used to extend parking lot or equestrian staging area clearance for safe refuge. Mowing or mastication will require presence of basic firefighting capability in case of

accidental strike/sparking of ignition. Mastication: West and north-west boundary areas in terrain within mechanical limitations.



Masticator at work

b. Grazing: Treatment by goat grazing is recommended for grass and lighter fueled sites such as sage scrub. Herding and fencing are recommended to ensure goats achieve treatment prescriptions and do not overgraze sites. Goats are less successful in heavier chapparal and are not recommended for such sites. Low costs of $800-$1,000 per acre and rapid completion may be expected, ½-1 treated acres per day with 50-goat herd.

   Recommended sites: Any grass and sage fueled area in the south half or north-west quarter of the site



Goat grazing near the Reagan Presidential Library, Ventura County

c. Hand treatment: Treatment by hand crews is recommended for steep sites and sites with heavy fuels. Costs may be expected between $5,000-$15,000 per acre and crews may be unavailable during periods of active wildfire. Currently CAL FIRE hand crews are at a premium due to lack of availability. California Conservation Corps or contract crews may be more available. Crew clearance rates will average ½ to 1 treated acre per day.

Recommended areas: Shrub fueled and steep sloped areas in the northwest quarter of the combined site.



Brush clearance
by hand crew

d. Treatment by broadcast prescribed burning is not recommended for the site given the risks associated with escaped fire and smoke in the Wildland-Urban Interface, and the unnatural high frequency return of high intensity wildfire in the area.

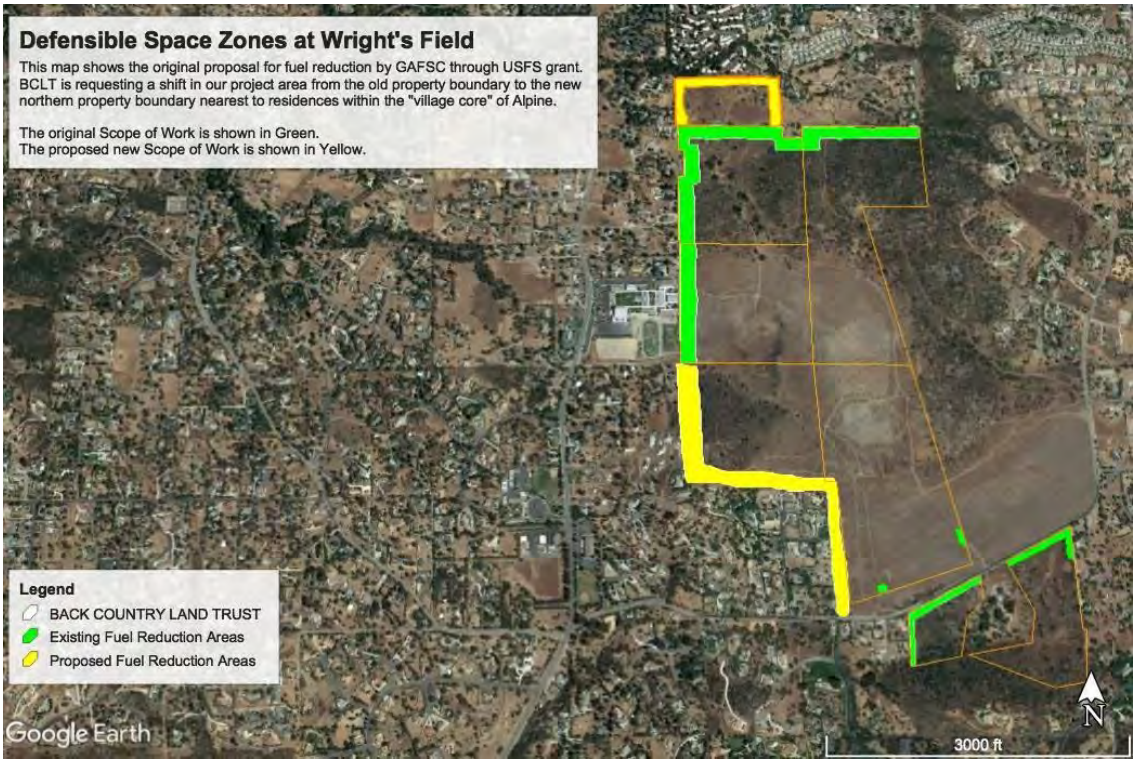
   Recommended use: Burning of brush piles in wet periods is an acceptable fire use, however, will likely require air quality permitting and manpower resources.

e. Treatment by herbicides: This form of broadcast treatment is not recommended due to water quality, environmental and public contact concerns.

   Recommended use: It may be acceptable for limited spot control of invasive plants when they pose critical risk to sensitive species. This may require permitting and involve significant cost.

<u>Past fuel modification efforts</u>

BCLT has conducted some fuel modification and planned other sites but has not completed all sites due to funding limitations. In 2020, BCLT accomplished fuel modification in accordance with the chart below:



The completed 2020 fuel reduction is in green, the proposed fuel reduction in yellow

Fuel Modification Limitations

On the northeast portion of the DPR/BCLT land, there is a property boundary on a mid-slope in heavy fuels. It is far from the nearest developed structures on Eltinge Drive and Boulder Oaks Lane. This site boundary is located in a position that fuel modification would not provide a reasonable firefighting control line or structure protection advantage.

It may be much more effective to have an alliance with the property owners in these areas that would achieve fuel modification more closely abutting structures rather than on property boundary lines. Collaboration is recommended with partner agencies and homeowners in this regard, rather than creation of limited value fuel modification at significant cost where it fails to achieve the best fire prevention advantage. Where County DPR lands and BCLT lands that are both dedicated as ecological preserve are adjoined, and no occupied structures are at risk, it is likely unnecessary for fuel modification to be conducted along the shared property line.

Looking south from Eltinge Pl. at heavy vegetation adjacent to a large residence. The BCLT property line is still at some distance from the home



Partner Collaboration for Fire Prevention

County DPR and BCLT should collaborate in and promote fire prevention and defensible space activities in coordination with neighboring entities including the Greater Alpine Fire Safe Counsel (GAFSC), the Alpine Fire District (ACP), the San Diego County Fire Authority/California Department of Forestry and Fire Protection, County Road Department, and the San Diego Gas and Electric Company. Cooperation should be sought on regional defensible space initiatives, fuel modification, and structural defense initiatives including sharing of resources, planning, and costs.

Regional Wildfire and Evacuation Plan

The San Diego County Wildland-Urban Interface Fire Emergency Response Plan has been updated for the Alpine South-East area as a part of this study. This document is attached to this report as Appendix A. This document is approved by the San Diego County Fire Chiefs and Police Chiefs and Sheriffs Associations and is the county standard emergency response and evacuation management plan format for wildfire. Staff are encouraged to become familiar with this plan and be prepared to integrate with public safety responders in response to emergencies at this site. Park staff are urged to develop additional emergency response plans consistent with this document and to develop the means and methods necessary for emergency communicating with the public. Staff should consider evacuation, “trigger point” criteria stated in this plan and determine if additional time is required to mobilize internal staff and implement this plan.

Assessment of Fire Services Impacts

Structural fire, rescue and emergency medical services are provided to Local government Responsibility Area (LRA) in the Alpine community by Alpine Fire Protection District (ACP). The District's Fire Station 17 staffs a Type-1 Advanced Life Support (ALS)/Paramedic Structure Fire Engine, cross staffs a Type-3 Wildland Fire Engine, has a Chief Officer and houses a Paramedic Ambulance, 24 hours every day. ACP also has a joint agreement for immediate services with neighboring fire agencies in the Central Zone of San Diego County and maintains dispatch services through the Heartland regional dispatch center.



Structure loss during the West Fire, Alpine, CA July 6, 2018

Wildland fire protection for the immediate area of Alpine is provided to "State Responsibility Area" (SRA) wildlands by California Department of Forestry and Fire Protection (CAL FIRE), San Diego Unit. CAL FIRE also provides structural fire and rescue services to the San Diego County unincorporated areas as the contract provider of services for the San Diego County Fire Authority. CAL FIRE provides regional dispatch services via the Monte Vista dispatch center. CAL FIRE also provides specialized wildfire support via air tankers, helicopters, bulldozers, hand crews, and related resources for wildfire suppression.

Some areas of Alpine pose concurrent responsibility for fire protection where LRA structural services are provided by the Alpine FPD and wildland fire protection is provided to SRA by CALFIRE. Both agencies respond concurrently in a coordinated manner for such response.

Nearby Federal lands of the Cleveland National Forest are under the jurisdiction of United States Department of Agriculture, Forest Service (USFS). The USFS is responsible for wildland fire protection on the National Forest and maintain a fire station in the Community of Alpine.

Automatic Aid agreements exists between CAL FIRE, USFS, and Alpine FPD for response of the closest appropriate resource to a reported emergency, regardless of jurisdictional boundary.

Response Time Analysis

With the ACP Fire Station 17 only 2.7 miles away from the Alpine County Park site, initial units for any type of fire or medical emergency to the Alpine County Park are within a five-minute response time. Augmentation of initial response resources may be required for certain call types including wildfires, structural fires, and heavy rescues. Augmentation is immediately provided to ACP when required by the Heartland dispatch center and surrounding fire agencies.

Initial structure fire response

Structure Fire Response	**Resource Numbers & Types Responded**
1st Alarm	5 Type-1 Engines, 1 Truck Company, 1 ALS Ambulance, 2 Chief Officers

Wildland response is tiered based upon the assessed daily wildfire risk.

Wildfire Hazard Level	**Resource Numbers & Types Responded**
Low	2 Type-1 Engines, 1 Type-3 Engine, 1 Chief Officer
Medium	3 Type-1 Eng., 2 Type-3 Eng., 1 Type-6 Eng., 1 Water Tender, 1 Type-2 Hand Crew, 1 Chief Officer, Aircraft
High	3 Type-1 Eng., 2 Type-3 Eng., 1 Type-6 Eng., 1 Water Tender, 1 Type-2 Hand Crew, 2 Chief Officers, Aircraft

Fire Station Order

Fire Stations are staffed by a number of fire service agencies in the Alpine region. The following chart indicates the location and types of fire resources available for response, based upon proximity to the Alpine County Park site:

Fire Station	**Location**	**Resources**	**Distance**	**Service Provided**
USFS, Descanso Ranger Dist. Alpine	3348 Alpine Blvd. Alpine	1 Type-3 Engine 1 Chief Officer	1.9 miles 4 minutes	Federal mission wildfire response only
Alpine Fire Protection District Station 17	1364 Tavern Rd. Alpine	1 Type-1 Engine ALS 1 ALS Ambulance 1 Chief Officer, Reserve: 1 Type-1 Eng, 1 Type-3 Eng	2.7 miles 5 mins.	All risk response

Viejas Indian Reservation Fire Department Station 25	1 Viejas Grade Rd. Alpine	1 Type-1 Eng., 1 ALS Amb. Reserve: 1 Type-1 Eng. ALS 1 Type-3 Eng. 1 Type-6 Eng. 1 Water Tender	3.4 miles 6 mins.	All risk response
SDCFA Station 24	551 Harbison Canyon Rd. El Cajon	1 Type-1 Engine ALS	6.3 miles 10 mins.	All risk response
Lakeside Fire Protection District Station 26	15245 Oak Creek Rd. El Cajon	1 Type-1 Engine ALS	7.6 miles 12 mins.	All risk response
CAL FIRE Station 21	9711 Flinn Springs Rd. El Cajon	1 Type-3 Engine	8.2 miles 13 mins.	All risk response-State wildfire mission
Lakeside Fire Protection District Station 3	15245 Oak Creek Rd. El Cajon	1 Type-1 Engine ALS 1 ALS Ambulance	10.0 miles 14 mins.	All risk response
SDCFA Station 45	24592 Viejas Grade Rd. Descanso	1 Type-1 Engine ALS Reserve: 1 Type-6	11.2 miles 15 mins.	All risk response
USFS Descanso Station	24321 Viejas Grade Rd.	2 Type-3 Engines	11.7 miles 15 mins.	Federal mission wildfire response only
Sycuan Indian Reservation Fire Department	5449 Sycuan Rd. El Cajon	1 Type-1 Engine ALS 1 Type-3 Eng., 1 Water Tender 1 ALS Amb., 1 Truck Company 1 Crew (Golden Eagles IHC)	7.3 miles 14 mins.	All risk response
SDCFA Station 44	28850 Old Hwy. 80 Pine Valley	1 Type-1 Engine 1 ALS Ambulance 1 Chief Officer Reserve: 1 Type-6 Engine 1 Water Tender, 1 USAR Unit	15.1 miles 16 mins.	All risk response
CAL FIRE Station 20	2249 Jamacha Rd. El Cajon	2 Type-3 Engines 1 Bulldozer Numerous Chief Officers	15.3 miles 25 mins.	All risk response
Santee Fire Sta. 4	8950 Cottonwood Ave., Santee	*Nearest truck company	18.7 miles 30 minutes	All risk response-nearest truck

Fire Service Summary Analysis

Fire services in the Alpine community area are designed for rural community all-risk services but are nevertheless robust. The significant resources available to the community ensure a full response of resources in under 5 minutes for the initial resource and within 15 minutes for most multi-unit responses. The single exception is for truck services which, if needed, must respond from the City of Santee. In the absence of this truck apparatus, other firefighters are trained to assume duties normally performed by truck company personnel.

Alpine Fire Station 17 incurs 1-3 service calls per day, a modest response workload. Significant capacity exists for additional service calls, and the development of the Alpine County Park facility is expected to add less than 1 call per day on average to this workload. This demand is estimated by the number of daily park users at estimated peak visitation. Therefore, no new or additional fire services beyond what is currently provided is necessary to support the proposed project, and no new or unreasonable wildfire risks will be created by the proposed development.

Summary of Findings

1. The two-adjoining park/preserve facilities, while managed separately by County Parks and BCLT, have many relationships and ties both geophysically and ecologically. They also share a similar wildfire risk, and fire prevention outcomes will be shared for better or worse by both facilities. A rich history of wildfire affects these lands, as does an annual experience of dangerous wildfire conditions.

2. The San Diego County Department of Parks and Recreation intends to establish signage, evacuation plans, and onsite volunteers as mitigations to wildfire and other types of foreseeable emergencies occurring at the park, They also plan to implement restrictions on overnight use, smoking, use of open flame, and vehicle access as part of its overall fire prevention program. These are appropriate and effective mitigations for the park given its fire history and onsite fire hazards.

3. A long-term fuel modification program is needed to protect the County Park/BCLT preserve from wildfire impacts due to offsite ignition, and to protect neighboring development from wildfire moving through or from park/preserve lands. Alternatives for completion of this effort are detailed in this study. The fuel modification program should be designed to achieve fire prevention needs while minimizing environmental impacts and maintaining habitat.

4. Funding resources for fuel modification maintenance has been inconsistent for BCLT preserve lands. County Parks and BCLT should collaborate with various stakeholders and government entities to acquire long-term funding and resources to support fuel modification.

5. Collaboration with adjacent property owners is needed to achieve best value and mitigation for wildfire threats to both Park/preserve lands and private property, especially where simple boundary treatment will not yield best fire prevention results.

6. Development of the Alpine County Park in accordance with the County of San Diego proposed park design and local fire and building codes will develop fire safe facilities that will be resilient to wildfire. The park will also be positioned to provide temporary safe refuge in its sports fields, parking, and equestrian facilities to the greater community in case of wildfire. Electrical utilities servicing park facilities should be placed underground.

7. Traffic turnouts on South Grade Road will need to be large enough to accommodate large vehicles with trailers and emergency apparatus, as well as be configured for safe turning. Parking areas should be able to accommodate large fire apparatus movement.

8. Development will not present unmitigable impacts or a significant increase in call volume for local emergency services and may be developed without addition to existing regional fire resources or establishment of new or unreasonable wildfire risks.

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