

The Myers Canyon Community Wildfire Protection Plan

**Created by
Wildfire Risk Management Group**

**for the
Kern River Valley Fire Safe Council
and the Community of Myers Canyon**

July 2005



The Myers Canyon Community Fire Safe Action Plan was funded by a Community Assistance Grant to the Kern River Valley Fire Safe Council from the United States Department of the Interior, Bureau of Land Management.


In accordance with Federal law and United States Department of Agriculture policy, Kern River Valley Fire Safe Council in cooperation with the Kern River Valley Revitalization Incorporated is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs).

Community Wildfire Protection Plan Certification and Agreement

The Community Wildfire Protection Plan for Myers Canyon:

- Was collaboratively developed. The Kern River Valley Fire Safe Council, the Kern County Fire Department, and the USDI Bureau of Land Management have been consulted.
- This Plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatments that will protect Myers Canyon.
- This Plan recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following entities attest that the standards listed above have been met and mutually agree with the contents of this Community Wildfire Protection Plan:



Marcine Hughes, President
Kern River Valley Fire Safe Council



Phil Castle, Deputy Chief
Kern County Fire Department



USDI Bureau of Land Management

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Members of the Kern River Valley Fire Safe Council:

Marcine Hughes, President
Robin Wyatt-Little, Secretary
Sharon Rooney, Treasurer
Emily Diggles, Myers Canyon Property Owners Representative

Department of the Interior, Bureau of Land Management, Bakersfield Office:

Kevin Chambers, Fire Management Officer
Debbie Santiago, Fire Mitigation and Education Specialist
Jennifer Mata, Fire Botanist

Department of Agriculture, U.S. Forest Service, Greenhorn District

Dan Kleinman, Division Chief
Mark Chambers, Battalion Chief
Margie Clack, Public Information

Kern County Fire Department

Ken Stevens, Battalion Chief
John Smith, Captain
Randy Griffin, Captain
Chuck Dickson, Captain
Jim Phillips, Firefighter
Richard Murillo, Geographic Information Systems Specialist

HangFire Environmental

Tim Walsh

Anyone else we may have forgotten, our apologies

Richard Olson

Matt Pontes

Executive Summary

The wildland fire scenario waiting to play out in Myers Canyon may be disastrous. The community is located at the upper end of a large canyon with an extensive history of wildfire. There is extensive vegetative fuel located throughout both Bodfish Canyon and Myers Canyon. Additionally, the terrain slopes upward toward Myers Canyon in alignment with the wind. Roads in and out of the community are narrow and mostly unimproved. The water system, for fire suppression purposes, is minimal. Most structures in the community are lightweight mobile homes with wood siding. In conjunction with these homes are an abundance of outbuildings ranging from detached garages, to sheds, and travel trailers. All of these factors combined create the potential for a catastrophic event.

The goals of this Community Wildfire Protection Plan are to quantify the fire problem and possible solutions. The vegetative fuel situation was assessed as well as, each and every residence in the community. Each home was evaluated for construction material types and treatment of the vegetation surrounding each home. Evacuation options were examined and a Fire Suppression Pre-Attack Plan is suggested.

Solutions are not simple, easy or cheap, either in sweat or dollars. Homes must be made more fire resistive and the surrounding vegetation needs to be treated to increase the survivability of the residence. It is up to the community, its individual members, their local government and federal agency partners to evaluate the recommendations of this plan and implement those measures they feel will provide them the best opportunity to survive the next wild fire in Myers Canyon.

Objective of the Plan

The objective of this plan is to assist the Myers Canyon residents and local emergency cooperators in identifying the current conditions as they affect fire behavior in Myers Canyon. Historical fires, fuel types, elevation, defensible space, hazards, and building materials are some of the factors that were considered in the Community Wildfire Protection Plan (CWPP). Recommendations are provided to help the community and local fire agencies with projects and recommendations that will strive to ensure safety and minimize losses should a Wildland fire occur in the community.

Introduction-Project Background and Scope:

The Kern River Valley Fire Safe Council was formed in 1999 by a collaborative of Community members. Representatives from the US Forest Service, The Bureau of Land Management, Kern County Fire Department, the Kern County Parks and Recreation Department, various Property Owners Associations, and interested Community members banded together with the common goal for making the 14 Kern River Valley Communities Fire Safe. Focusing on Fire Safe Education, defensible space, fuels treatment projects and securing grant funding. The Council has been very successful in spreading the Fire Safety message.

The Kern River Valley Fire Safe Council has been extremely active and fortunate enough to qualify for a total of 10 grants mainly under the National Fire Plan. All of the grants, to date, have been funded through the U.S. Forest Service or the Bureau of Land Management. In total, these grants have amounted to over \$700,000. Projects that have been completed under these grants include 2 Community Fire Safe Plans, purchase of a chipper to provide for hazardous vegetation removal for communities throughout the Kern River Valley, 14 defensible space demonstration lots throughout the Valley, and 4 hazardous fuels reduction projects. Additionally, the Council has provided countless speakers to community service organizations and property owners associations to spread the value and efficacy of fire safety. The Council has provided both of the Valley's newspapers with numerous articles and information on hazard reduction, defensible space and fire wise gardening, which has proved to be a very beneficial relationship.

The Kern River Valley Community Fire Safe Plan was developed in 2002 as an overview of the entire Kern River Valley and its associated 14 communities. Its intent was to determine the level of fire safety awareness of the residents, identify what the actual fire problems were within the Valley and suggest a number of projects that could be undertaken to improve the knowledge of the Valley residents and increase the chances of improvements within the Valley surviving a catastrophic wildfire. One of the areas that was specifically pointed out in the Kern River Valley Plan was the upper Bodfish Canyon area including Myers Canyon. From these recommendations, the Fire Safe Council decided to pursue a grant to provide for some fuels treatment and a CWPP for Myers Canyon.

The Myers Canyon Community Wildfire Protection Plan (CWPP) Grant was developed and applied for under the Kern River Valley Fire Safe Council (KRVFSC). The Myers Canyon CWPP was funded in 2004 under the Community Assistance Grant Program through the Department of the Interior, Bureau of Land Management (Grant Number 04BLM0027). The

Community Wildfire Protection Plan outlines an assessment of a community's factors that influence fire behavior.

Myers Canyon is located in the Kern River Valley in the north east portion of Kern County, California. The Myers Canyon community is located in the south east corner of Bodfish Canyon. The Bodfish area is listed as a "Community at Risk" by the California Fire Alliance.

The Myers Canyon Grant included approximately \$88,000 for a fuel reduction project. This project included 2 miles of road brushing along the narrow streets in the community and construction of approximately 1.5 miles of shaded fuel break along the west side of the community. The fuels in this area were severely overgrown and would virtually guarantee catastrophic losses to the community if a wildfire



burned into the area. Control efforts would be limited due to the limited access and high concentration of fuels. This 35- acre fuel reduction project was accomplished utilizing the Kern County Fire Department Fuels Crews. The fuels were chipped and broadcast where there was adequate access for the chipper. In other areas where access was limited, the fuels were piled where they will be burned during the next burning season.

Homeowner response to this project has been overwhelmingly positive to both the road brushing and the fuel break. In some cases, with vacant parcels, the road brushing was the first hazard reduction ever to be done on these properties. The property owners acknowledge the value of the better visibility along the road ways and the improved access and egress for community members and emergency personnel. In areas where the cut vegetation was chipped, many property owners took advantage of the chipped material for dust abatement and weed control on their properties. The most significant impact that the road brushing and fuel break construction has had is in the increased activity by property owners in improving the defensible space areas within their individual properties.

The goals of the plan portion of the grant include:

- Collaborative approach to the Community Fire Safe Plan emphasizing the involvement of the Kern County Fire Department, The Bureau of Land Management, and the KRV Fire Safe Council.
- Prepare a Myers Canyon Community Wildfire Protection Plan that includes:
 - Current fire / fuel conditions of the Myers Canyon Community.
 - A parcel-by-parcel inventory of hazards and structure construction.
 - Roof types
 - Siding Materials
 - Decks
 - Address Posting
 - Firefighter Access
 - Defensible Space
 - Other Hazards
 - A structure protection and evacuation plan.
 - Inventory of Water Resources
 - Suggestions of potential fuels reduction projects / Hazard Mitigation
 - Suggestions for improving Emergency Responses
 - Provide a Fire Suppression Pre-attack Plan including suggestions for Staging areas, Safety Zones and Incident Command Posts

BODFISH LOCATION MAP

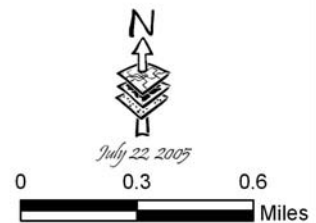




Myer's Canyon Community Fire Safe Plan

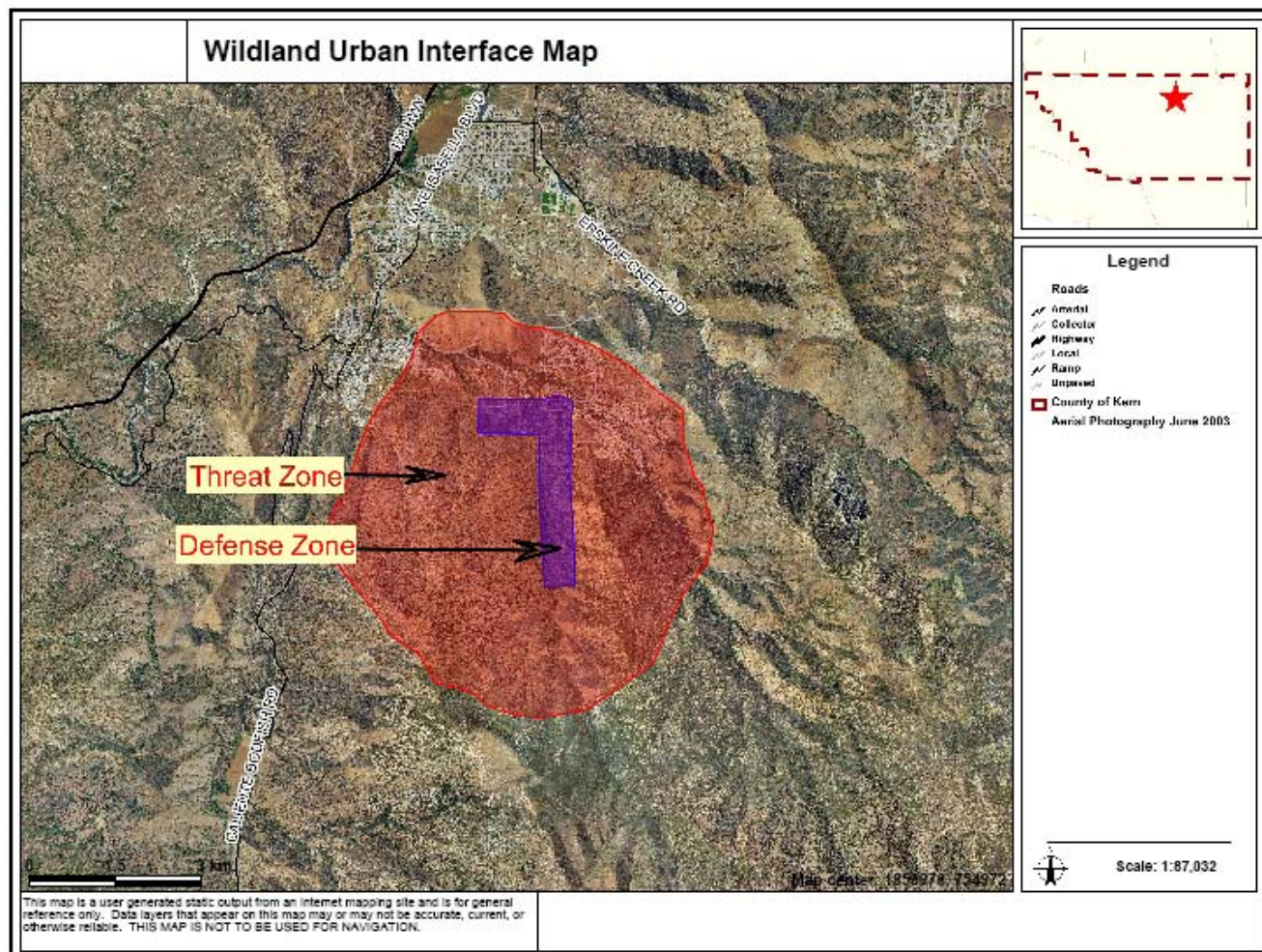


Assessment Area



Wildland Urban Interface Zones

The following map depicts two zones that make up the Wildland Urban Interface (WUI). The area where structures are located is the Defense Zone. If a fire occurs within or moves into this zone, the loss of structures is likely. The next zone comprises an area that encircles the Defense Zone and is known as the Threat Zone. This zone needs specific and continuous fuels management and treatment (including structural fuels). Planned treatments will reduce the spread and intensity of a fire developing or moving through these areas which will then pose a threat to the Defense Zone.



Wildfire Risk Management Group

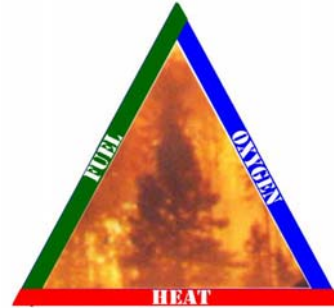
Wildfire Risk Management Group (WRMG) was hired by the Kern River Valley Fire Safe Council to provide grant administration and oversight to a number of various grants held by the Council to improve wildfire safety around the Valley. Wildfire Risk Management Group is a consortium of fire service professionals dedicated to educating other fire service personnel and the public about the dangers of wildfire. Additionally we possess the background and experience required to develop mitigation measures aimed at reducing the risk and exposure of the public and their belongings to the effects of Wildland fire.

As the Principal Consultant for WRMG, Richard Olson is a 28 year veteran of the California Fire Service. Achieving the rank of Battalion Chief with the Kern County Fire Department, Richard has spent the majority of his career working in the Wildland environment in both the suppression and prevention arenas. Additionally, as an Operations Section Chief on a National Interagency Incident Management Team, Richard has had the opportunity to experience Wildland fire and its impact on communities from Florida to Washington State. Richard's last three years with Kern County were exclusively dedicated to the prevention of and the development of impact mitigation measures for Wildland fires.

Matt Pontes is the Principal Consultant of Pontes Enterprises. His background working in Forestry, Fire and Natural Resources in the private sector and in the Federal and Local Government have provided him with the diversity and experience helpful in managing various Resource Projects. Matt was a Wildland firefighter with the US Forest Service, achieving the rank of Single Resource Crew Boss. He has been involved in several Fuels Management Projects for the last 10 years. He has served on the Board of Directors of four Firesafe Councils over the past five years, assisting with the formation of three of the Firesafe Councils in Kern County. Matt is familiar with various Federal, State and Private Grant sources and processes when helping to implement over half of a million dollars in Firesafe Grant Projects across Kern County. Matt is also an adjunct Faculty member at Bakersfield College teaching Wildland Fire Management classes.

Fire Behavior

Fire behavior is how fast and intense a fire spreads. Fire needs heat, fuel, and oxygen existing simultaneously known as the fire triangle. If any one of the components are removed, the fire will go out.



The Fire Behavior Triangle

Fuel is the live and dead vegetation and sometimes structures that feed a wildfire. Heat sources can be a lightning strike, an abandoned campfire, or overheated brakes. Once ignited, the fire will produce enough heat to continue to burn unless cooled by water or fire retardant. Oxygen exists in ambient air and is added in greater quantities with wind. This component of the fire triangle is impossible to remove from a Wildland fire.

If the three components of the fire triangle exist and a fire occurs, three main factors determine how fast and intense the fire will burn. The three factors that comprise the fire environment triangle are fuels, topography, and weather.



Fire Environment Triangle

Similar to the fire triangle, fuel is the vegetation that is consumed by a wildfire. Vegetation, such as annual grass, can burn fast with moderate intensity.

On the other hand, large trees and brush can burn hot enough to melt metal and cast burning embers over a half mile in front of the fire. Topography is the lay of the land.

Topographical features such as river drainages can funnel wind causing an increase in speed. Slope or the amount of vertical rise compared to horizontal distance is another factor that influences how fast a fire will spread. It also restricts where fire engines, bulldozers, and firefighters can travel.

Weather is the biggest element of the fire environment triangle relating to fire behavior. Fuel and topography exist everywhere in nature with few places that experience active Wildland fire behavior. When fuel and topography are combined with areas known for hot, dry climates and high winds, the fire behavior has the potential to become extreme. The vegetation in these areas becomes very dry due to the arid conditions, and it produces resins to conserve what little water it can collect. These resins

are very flammable and when coupled with wind, more oxygen is added to the fire resulting in faster up and downhill rates of fire spread. Wind also causes burning embers to land in front of a fast moving fire, causing spotfires.

The Fire Problem

Myers Canyon is a classic representation of conditions that exist to support Wildland fire problems. It is a canyon that narrows as it goes up the drainage, funneling and increasing wind velocities. The general slope up the canyon is approximately 10%, adding to the rate of spread of a fire. There are large amounts of fuel in the grass and brush species which are the most prone to contributing to fire spread. Within these fuel beds are a large amount of dead fuels. Intermixed within the fuel beds are approximately 133 residences with their associated garages, sheds and other outbuildings.

Fire Weather

The basic components of fire weather are temperature, humidity, wind speed and the wind direction. Weather is a very dynamic phenomena and even more diverse in mountain terrain. Slope heating can change temperatures, humidity, wind flow, and speeds.

The weather data that was collected for this project was analyzed over a 30 day period in 2005. The sample is representative of the average temperatures in Myers Canyon for this time of year. The data was collected from two separate sites within the Kern River Valley. The Bakersfield Portable RAWS (Remote Activated Weather Station) is one of the sites that is located on Highway 155 above Wofford Heights along the National Forest Boundary, at 3150 feet in elevation (GPS Coordinates: Latitude: 35.7217 Longitude:118.4989). The second site is located in Kernville approximately 12 miles to the north east of Myers Canyon at 2720 feet in elevation (GPS Coordinates: Latitude: 35.7550 Longitude: 118.4167). Both these sites in terms of elevation, orientation and fuel models are similar to the Myers Canyon area.

Temperature

Temperature is a measurement of warmth. It is dictated by several factors but mostly the amount of solar radiation that reaches the earth's surface. Cloud cover and wind can alter temperature significantly. Because of the

orientation of Myers Canyon, generally, north and south, the area is prone to significant heating throughout the summer days. The higher the ambient temperature, the more likely a fire is to start and the more resistant it will be to suppression efforts.

The average temperature of the Myers Canyon Community influences the fuel moisture of the vegetation, which affects the fire behavior and rate of spread. As we move from the wet spring months into the summer months, the temperatures will increase and contribute to lower fuel moistures, which in turn affect fire behavior.

Relative Humidity

Relative humidity (RH) is a measure of the amount of water in the air compared with the amount of water the air can hold at a given temperature when measured. In firefighter terms, it is how dry the air and more importantly, how dry the vegetation or fuel is. Short-term changes (daily) in RH will dictate how quickly fine fuels such as grass will burn. Long-term changes (monthly) in RH will dictate how quickly larger fuels such as logs will burn.

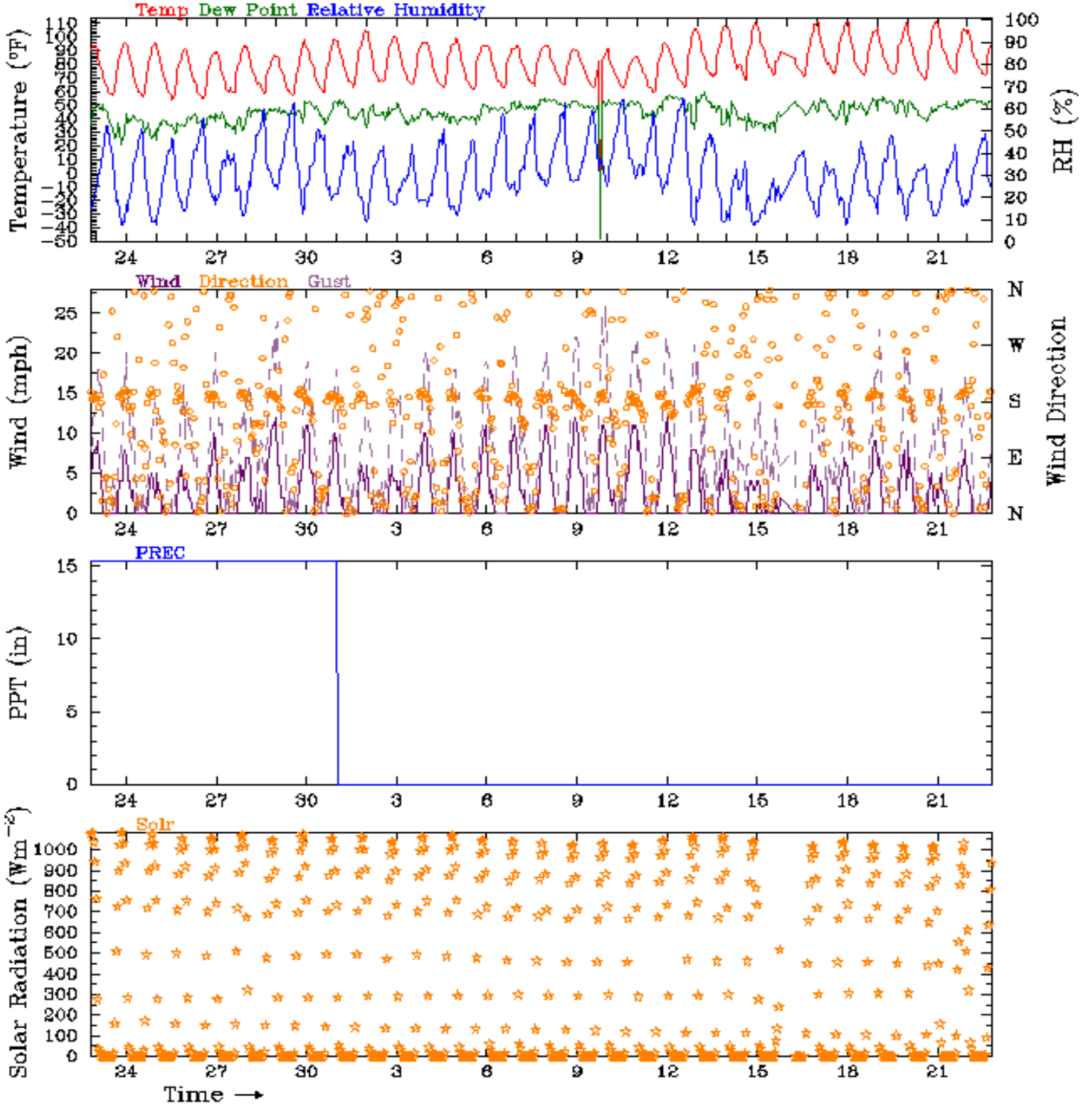
The relative humidity in Myers Canyon is very similar to the data shown on the charts from the Kernville station and the Bakersfield Portable RAWs. RH below 30 percent results in vegetation that will ignite and allow Wildland fires to burn. At 20 percent, fire will burn with high intensities and rates of spread. Below 15 percent RH, fires will burn with such high intensities that they can cast embers well ahead of the main fire front, travel through the crowns of trees, and become very difficult to suppress.

Wind

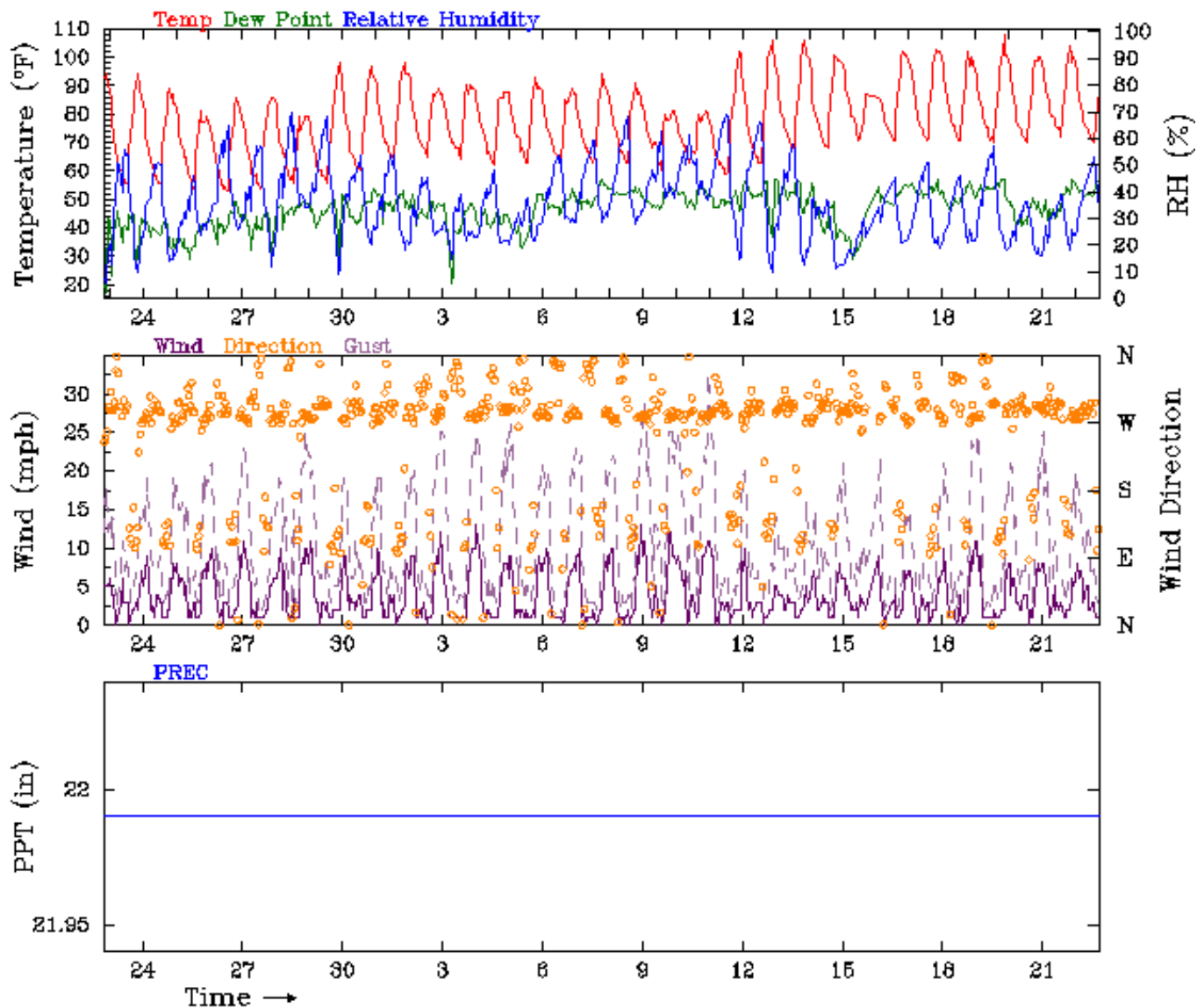
Wind can have a dramatic influence on a Wildland fire, contributing to the direction, rate of spread, moisture content of the fuels, and spotting potential. The predominant wind direction in the Myers Canyon area is up-canyon in the mornings and shifting at about 1300 to a down-canyon, northerly direction. The Myers Canyon wind pattern is greatly influenced by the wind that comes out of the Bodfish Canyon area, with both patterns converging at the intersection of Bodfish Canyon Road and Alpine Avenue. Winds during the summer months can range for 2-7 miles per hour in the morning and reach 7-15 miles per hour in the afternoon. This range of wind speed has a high potential for influencing fire behavior in the community.

The wind in Myers Canyon presents significant problems for firefighters. The topography of the canyon provides numerous avenues for wind to funnel and change direction and speed. Firefighters have experienced wind coming from one direction, move as little as one hundred feet and find the wind blowing in a completely different direction. The prevailing wind in the area is subject to the rising air from the San Joaquin Valley and flowing toward the Mojave Desert. Local heating in the canyons of the Kern River Valley mix with this predominant airflow and create a number of unusual local wind conditions. Myers Canyon, again because of its susceptibility of solar heating is subject to many of these local wind conditions.

KERNVILLE
Start 6/22/05 19:50 (GMT) - End 7/22/05 18:50 (GMT)



BAKERSFIELD PORTABLE
 Start 6/22/05 20:30 (GMT) - End 7/22/05 16:30 (GMT)



Topography

Topography defined is simply the lay of the land. Topographic features alter how a fire can burn. Elevation, slope, aspect, canyons, saddles, and ridges all play a significant role in fire behavior within Bodfish Canyon and all the smaller side drainages, including Myers Canyon.

Slope

Slope is the amount of elevation change compared to a horizontal distance. The greater the change in elevation, the steeper the slope. Slope also poses other negative aspects concerning fire behavior. On a mountain, the steeper the slope, the faster fire will burn. Flames are closer to the vegetation resulting in preheating. In flashy fuel types, like grass and sagebrush, this preheating can result in rapid fire spread.

Slope also allows burning materials to roll downhill. Rolling pinecones, yucca boles and logs are notorious for spreading fire downslope. Burning rolling material can also ignite needles, leaves or other materials stored under the decks of homes.

The general slope within Myers Canyon is approximately 10%, not extremely steep, but enough to provide for a higher rate of fire spread than on flat ground. There are rules of thumb for rates of spread of fire relating to slope. On a slope of five percent or less, there is not much influence. As the slope reaches 30 percent, the rate of spread will double. A fire burning at 10 feet per minute on a 5 percent slope will burn 20 feet per minute on a 30 percent slope.

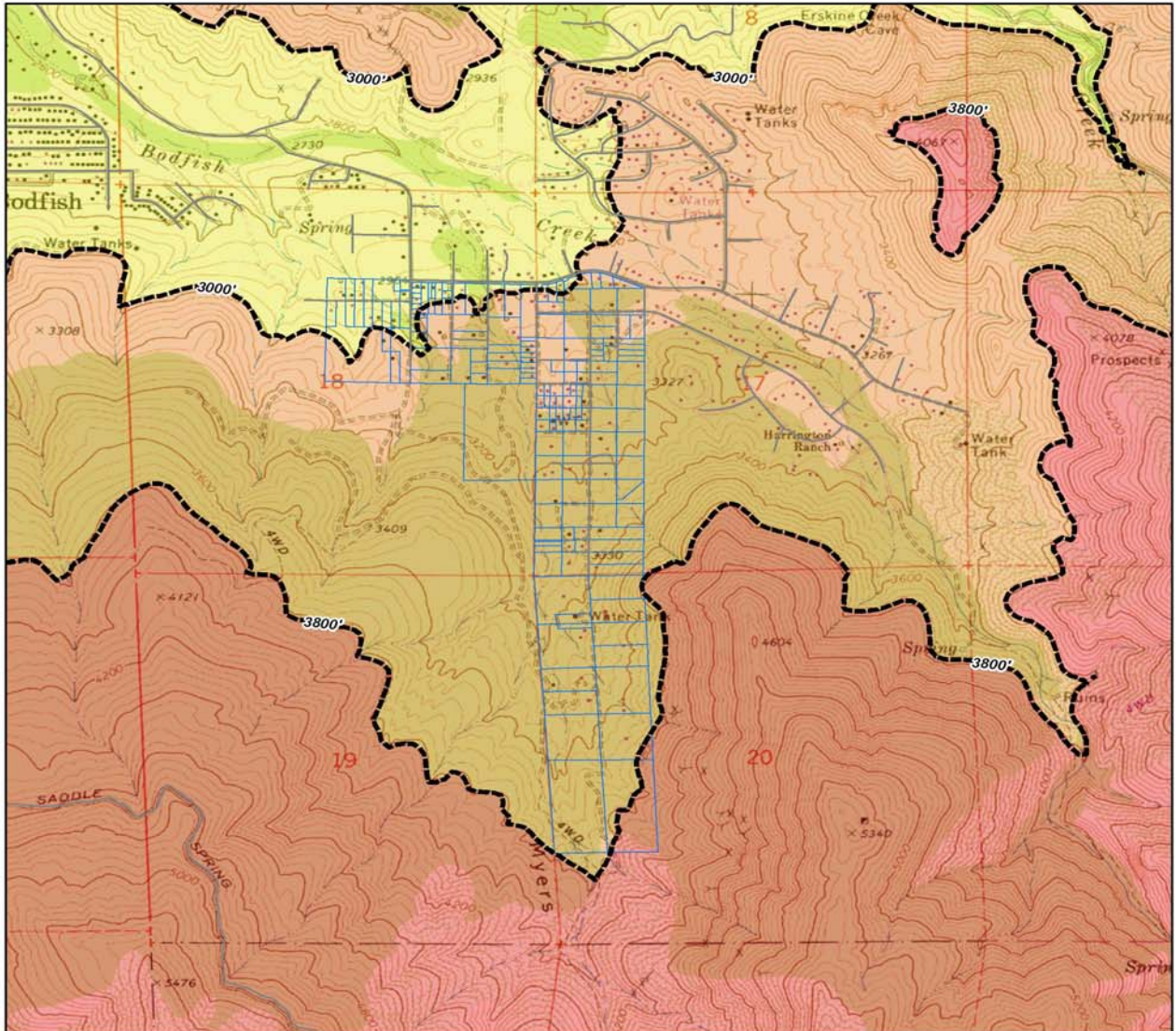
Aspect

Aspect is the direction the slope faces. As the sun moves through the sky during the day, it strikes some aspects longer than others. The southwest aspect receives the most solar heating through the course of the day followed closely by the south and west aspects. Vegetation on these slopes is dryer due to higher temperatures and lower humidity.

These dryer conditions also dictate fuel types and fuel conditions found on different slopes. The southern slopes normally have a high concentration of flashy fuels such as grass and sagebrush. The northern slopes normally have heavier concentrations of coniferous fuels with very high fuel loadings. With the higher fuel moistures and fuel loading, fires burning on northern slopes generally burn slower but with higher intensity. As can be viewed by the aspect map, the Myers Canyon area has several aspects which give a high variability in the fuel concentrations.



Myer's Canyon Community Fire Safe Plan



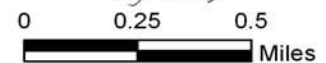
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- Less than 2999'
- 3000' - 3799'
- 3800' and up

Elevation

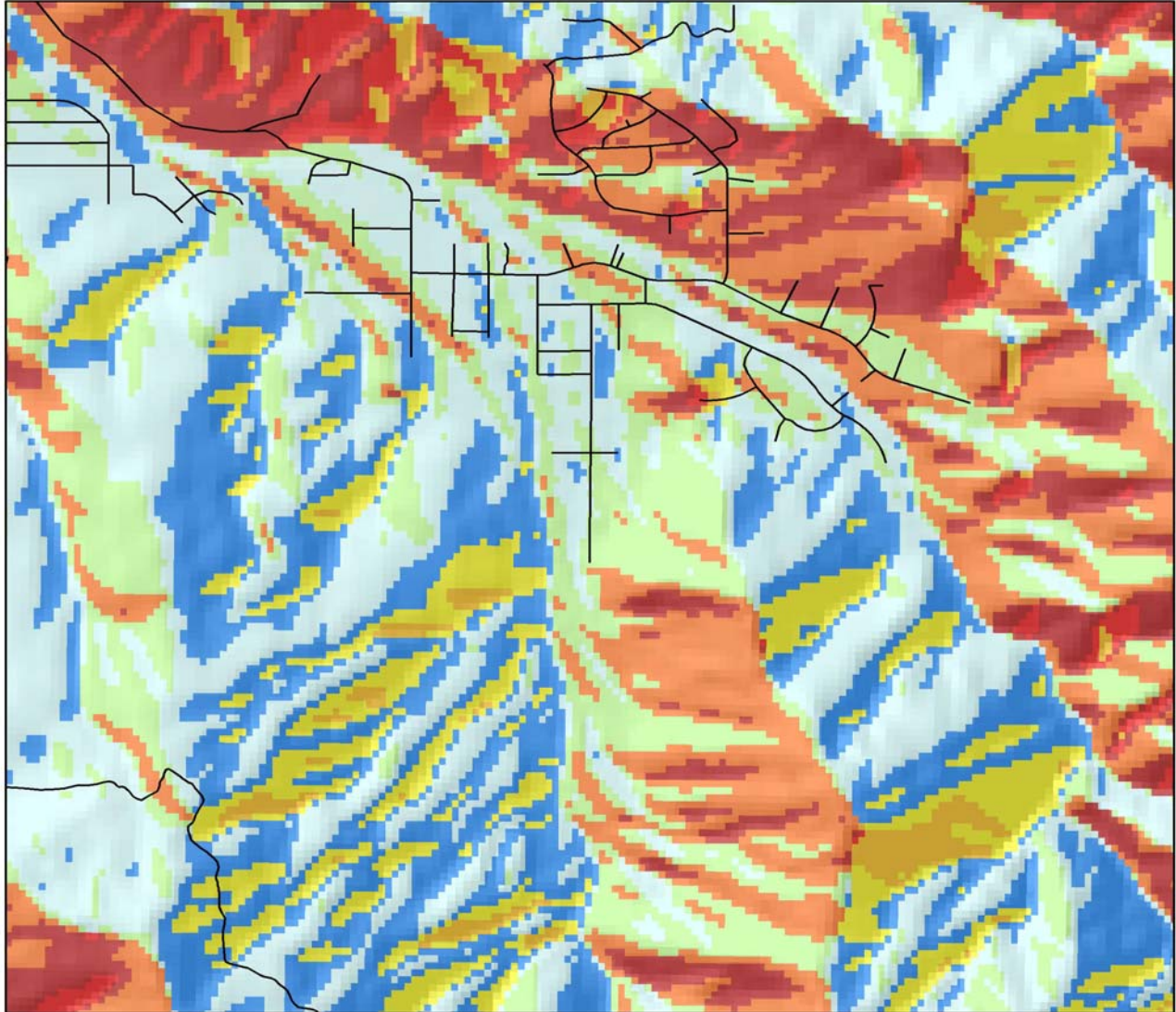


July 22, 2005





Myer's Canyon Community Fire Safe Plan



Legend

Direction Slope Faces



- Flat (-1)
- North (0-22.5)
- Northeast (22.5-67.5)
- East (67.5-112.5)
- Southeast (112.5-157.5)
- South (157.5-202.5)
- Southwest (202.5-247.5)
- West (247.5-292.5)
- Northwest (292.5-337.5)
- North (337.5-360)

Aspect Model



July 22, 2005



Fuels

Fuel is the vegetation that is consumed by a Wildland fire. The fuel type and configuration determines how much heat is generated and how quickly an area will burn. The two broad classifications of fuel are light and heavy. As one travels up through Bodfish Canyon, several fuel types and configurations are present. The predominant tree species would include Live Oak, Pinyon Pine, Juniper, Cypress and California Gray Pine trees. The brush species present are scrub oak, sage, buckwheat and ceanothus. Fuel continuity is achieved by annual grasses.

Throughout the community there are significant fuel problems. In the drainage bottoms there are very large volumes of overstocked brush species. Moving out of the drainages, the volume of brush is reduced, however, there is still enough continuity between the individual plants and the grass species to allow for rapid intense fire growth and spread. Additionally, in some areas of the community, there is an extremely high volume of standing, dead fuel, both in trees and brush.



A concerted effort has been undertaken as part of this federal grant to reduce the volume of flammable vegetation within the community. Two fuels reduction strategies have been accomplished in the Myers Canyon area. The first fuel reduction effort has consisted of thinning the fuels along the roadways 20-30 feet from either side of the center line within the

community. The second fuel reduction activity was the creation of a “shaded” fuel break along the west side of the community. The estimated volume of material in the Myers Canyon area was estimated at 13 tons per acre of vegetation. Given the scope of the project, there were approximately 350 tons of vegetative material was removed. As much of this material as possible will be chipped rather than stacked and burned. The chips can be utilized by the property owners and chipping reduces the dangers and the air quality issues associated with open burning.



The Myers Canyon community has also been active with attempts at removing the communities’ hazardous fuels condition. There have been 3 “chipper days” that are a cooperative effort between the property owners, the Kern County Fire Department and Owen Boys Camp.

These chipper days allow home owners to bring cut vegetation out to the surface roads and be processed through a wood chipper. Several tons of vegetation has been chipped, making this material unavailable to wildfire while producing a product that assists in erosion and weed control.

Fire History

The Myers Canyon / Bodfish area has a very active fire history. Many ignitions have occurred in the area, however, timely fire suppression efforts have been able to extinguish these fires with minimal damage. There are two exceptions to these successes. In 1984, the *Bodfish Fire* started in Myers Canyon and burned approximately 26,000 acres of land managed by the US Forest Service, Bureau of Land Management and Private landowners before being contained near Kelso Valley. The most destructive fire in Kern County history started in lower Bodfish Canyon in July of 2002. The Deer Fire burned approximately 1800 acres, destroyed 47 residences and a total of over 70 improvements. While this fire did not move into Myers Canyon, it was close enough to give residents cause for concern.

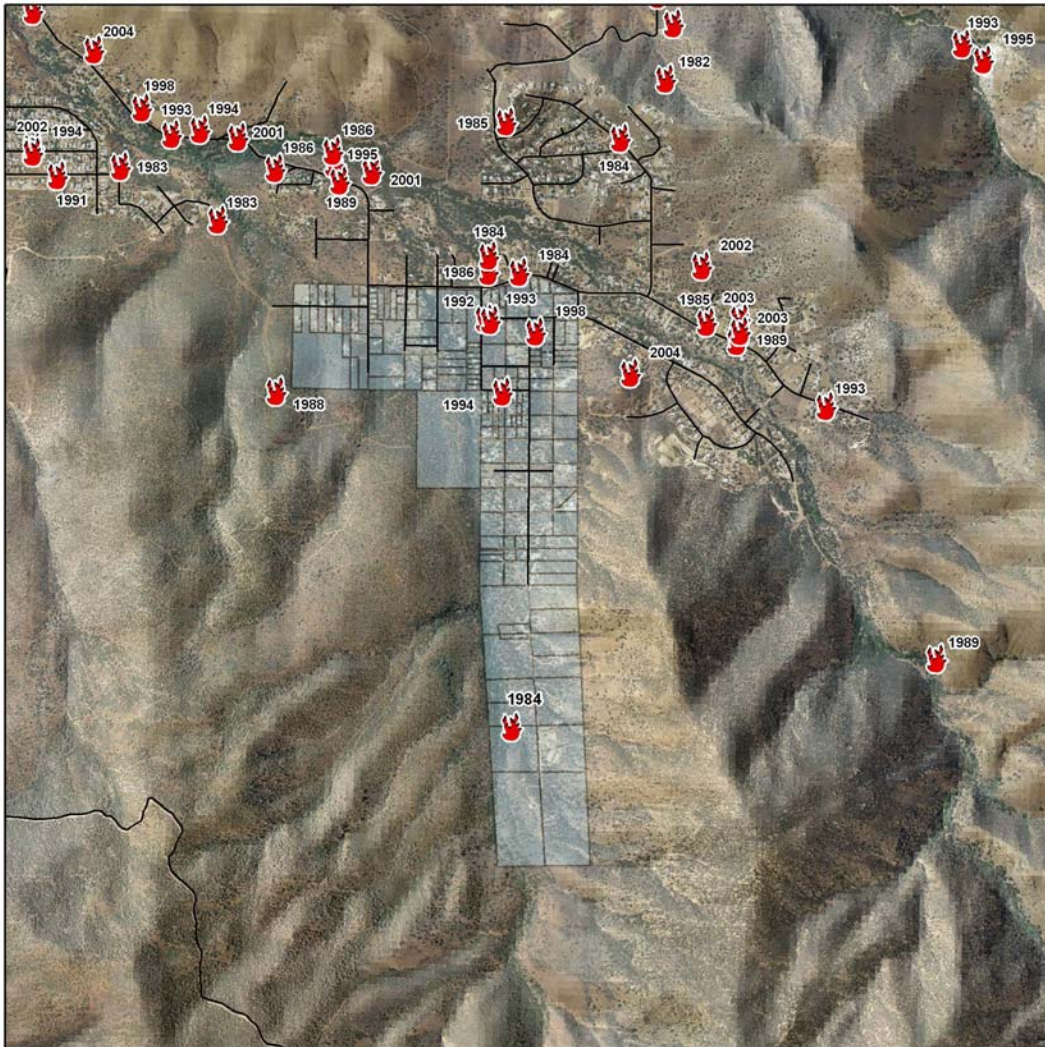
Over the years, the suppression efforts aimed at protecting the community of Myers Canyon have, however, led to a large accumulation of hazardous fuels. Nature uses fire as a method of cleaning up the environment, by excluding fire, we block the nature’s way of recycling nutrients and cleaning

up the dead or overstocked fuels. In a normal fire regime, a low intensity ground fire would creep through an area and clean out the dead, dying and unproductive species, leaving the established and resilient vegetation to take advantage of available water and soil nutrients. This is an effective way that nature balances itself, until people move into the Wildland Interface areas and choose to restrict fire from nature's cycles. Continuing to allow the fuel bed to accumulate only exacerbates the problem. When fire does occur, its intensity, ability to spread and resistance to suppression is far greater. In order to avoid the catastrophic effects of this type of fire, the Myers Canyon residents need to systematically employ mechanical means to balance the amount of fuels within their neighborhood. Regular removal of dead fuels, mowing of annual grasses to break up fuel continuity, and thinning of healthy vegetation are the only alternatives to allowing nature to provide the same service in a much less forgiving manner.





Myer's Canyon Community Fire Safe Plan



Legend

Ignition Points

 1980-2004

Fire History



July 22, 2007



Assets at Risk

The largest asset at risk, by far, throughout the community, are the private residences and the associated other structures. The fire problem section of the plan describes the risk that the community faces. However, the largest contributing factor to the fire problem is the community itself. The fuels, fire behavior, topography and fire history would not represent a significant problem if there were no homes intermixed with the Wildland area. Fires could burn in the area unabated and creating little permanent damage if it were not for the homes that people have built in the area. Everyone wants to have a nice home in a serene setting surrounded by Mother Nature. But with that desire also comes a responsibility to help protect these homes from catastrophic wildfire. Many of the homes in the area (51%) are built with flammable wood siding. Most of the streets are unpaved and are very narrow. Some of the streets are poorly signed. The water system for fire protection is wholly inadequate.

House-by-House Fire Safety Survey

To accurately assess the actual situation, a house-by-house survey was performed. Each home was assessed for construction type, roof type, siding material, decks and porches, and vegetation treatment. The existence and posting of addresses was also documented for each home.

The house surveys were performed by observing homes from their front yards and sometimes from their backyards, always respecting the privacy of the owners. On some occasions, homes were assessed from the street when access was very difficult or yard security systems (dogs) made it unwise. Addresses were often hit-or-miss and since many residences were numbered on South Alpine but were actually some distance from that street, correct addresses were often difficult to ascertain.



There was clearly no standard size, shape or location for address posting and it was determined that there were some sequence problems also.

STUDENT CONSERVATION ASSOCIATION IN FIRE EDUCATION CORPS

In 2004 the Bureau of Land Management funded the Student Conservation Association (SCA) Fire Education Corps in the Kern River Valley. There were four students on the team working in the Kern River Valley who were trained in fire safety and education in Wildland urban interface (WUI). Their goal was to provide public outreach to the Kern River Valley Communities, providing free home assessments to local residents. Some of the assessments were completed in the Bodfish Community. The team evaluated several of the residences characteristics such as access, vegetation, topography, roofing types, building construction, available fire protection, and the placement of gas and electric utilities. The factors were given numerical scores which were totaled giving a Wildland risk rating. This rating was adopted from the NFPA 299 form. (Attached under references section) The SCA team provided a very positive step toward educating the communities in Wildfire safety.

Roof Types

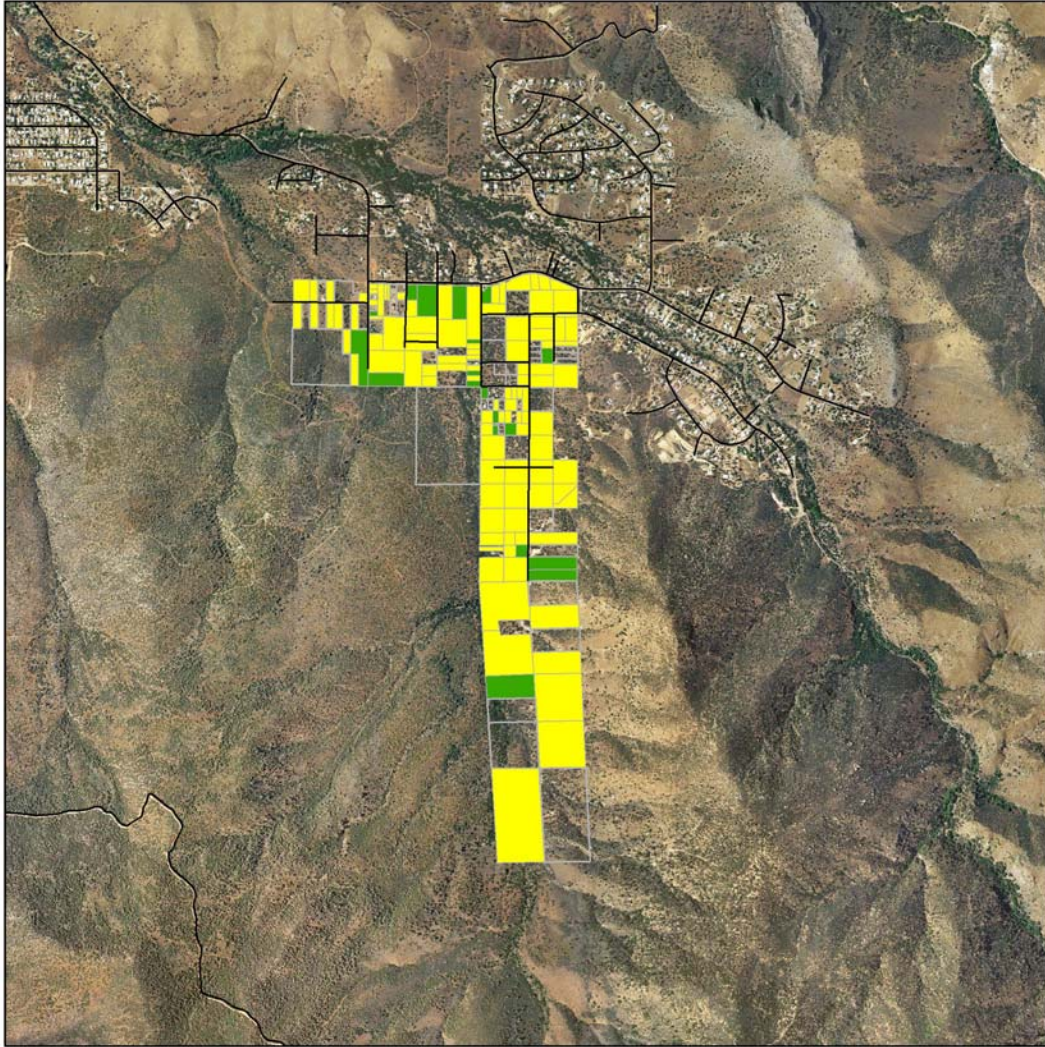
The roof types were ranked based on the ability to resist ignition. It is surprising, that the survey identified no wood roofs. This is a very positive factor concerning survivability. There were no tile or slate roofs identified which would have the highest safety ranking. Metal roofs shed pine needles better than composite roofs. They would also resist burning longer if a pile of pine needles residing on a roof were to ignite. Composite roofs, the most prevalent, will generally resist ignition if they are not weathered too badly. There were also a few foam roofs on mobile homes, these roofs would resist ignition better than wood roofs, but not as well as tile or metal. Wood roofs have the highest probability of ignition. They also pose a serious risk to surrounding homes. Burning wood shingles can travel great distances within a smoke column of an actively burning wildfire.

Roof Ranking Methodology

Roof Type	Ranking	Risk Label	Number of Homes
Tile/Slate/Metal	1	Low	19
Composite/Foam	2	Moderate	101
Wood Shingles	0	High	0






Myer's Canyon Community Fire Safe Plan



Legend

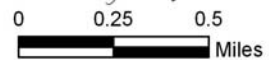
Roof Ranks

-  0
-  1
-  2

Fire Safe Survey Roof Model



July 22, 2005



Siding

The best siding material from a fire perspective is one that will not burn. This can be stucco, cement, or stone. Unfortunately, there were a few stucco homes in Myers Canyon, but given that the vast majorities (75%) of the homes in the area are mobile homes, the number of stucco sided homes is very small, about 4% of the total. Given that there is a preponderance of mobile homes in the area, there were also many homes that were metal sided, this is also positive in that metal is very resistive to fire. The most common siding throughout the community is wood panels such as T1-11 plywood. Wood panels and boards are the most common and economical forms of siding, but they are readily combustible. This siding is usually not very thick, 1/2 inch to 3/4 inch, and will burn through to the structure behind it in less than 10 minutes.

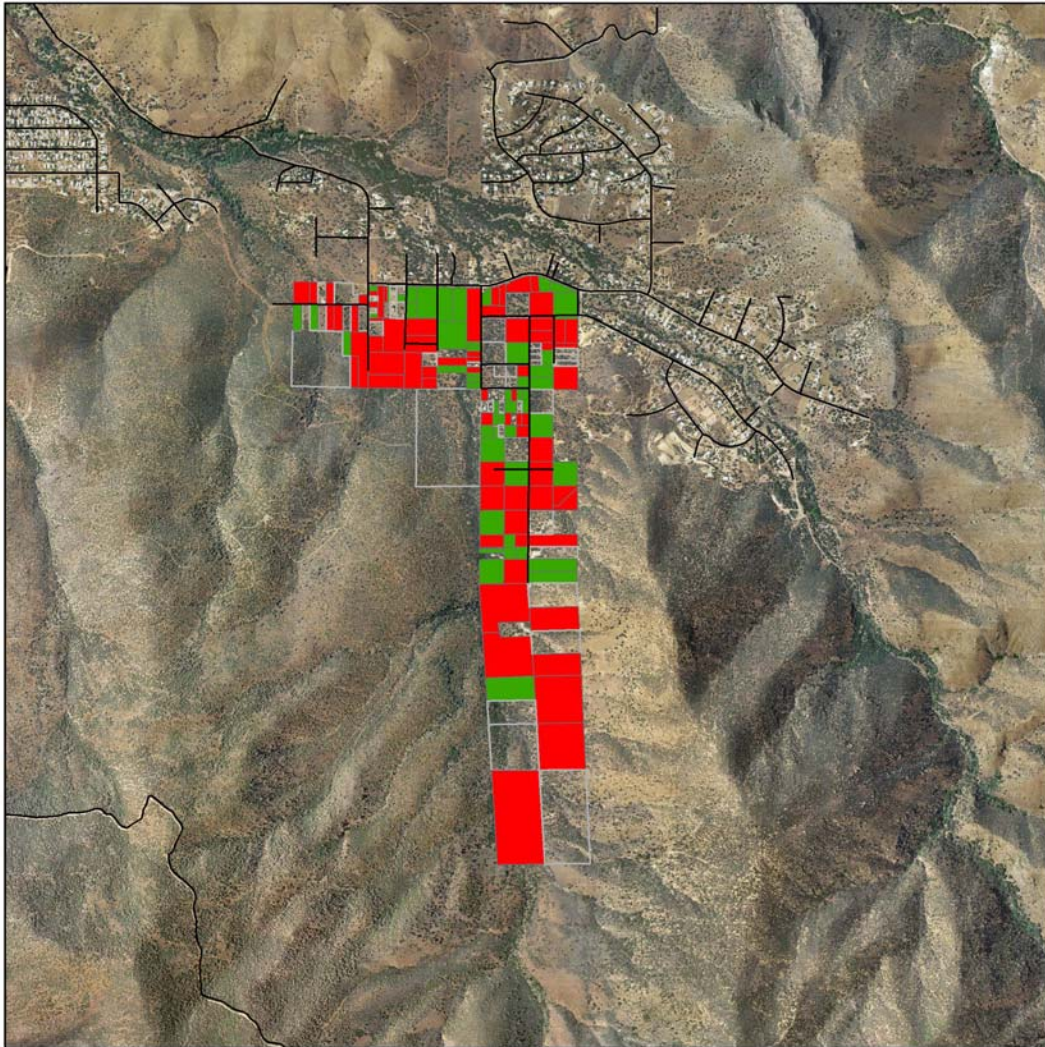
Also associated with mobile homes is the potential for the area under the mobile to be open and often utilized for storage. Having the mobile completely skirted down to ground level greatly increases the chance for a home to survive a wildfire.

Siding rank methodology

Siding Type	Ranking	Risk Label	Number of Homes
Stucco/Metal	1	Low	51
Log	2	Moderate	0
Wood/Vinyl	3	High	68



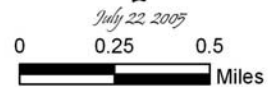
Myer's Canyon Community Fire Safe Plan



Legend

SIDING	
White	0
Green	1
Yellow	2
Red	3

Fire Safe Survey Siding Material Model



Ancillary Buildings

Most every improved property in the community had some sort of ancillary building, most often either a detached garage or storage shed. Many properties also had travel trailers, boats and other types of stored property. Most of the garages and sheds fell into the same risk categories that the principle residence did, meaning they had the same types of roof and siding considerations. The main concern with this issue is that often times the ancillary buildings do not get the same care given to the residence. Weeds are not cleared around trailers and sheds as diligently as homes. Without proper treatment, these buildings and other materials can pose a significant threat to the owner's residence and those of others near by.

Address Posting

The posting of addresses needs to be codified and adopted. Several homes did not have an address posted. Other homes had their address painted on a rock, some were boards nailed to trees, while others had the address posted where their side street crossed south Alpine, but the actual home could be a hundred yards away.

A popular method was to place a sign on a tree that will surely ignite and burn during a fire. Finding an address during a Wildland Urban Interface fire in a timely manner can make the drastic difference between structure protection and a structure loss. A successful initial attack of a structure fire can only be performed if the house can be found quickly. Sometimes a column of smoke can be a guiding factor, but not all fires are always immediately visible. Even with the Wildland fire problem aside, a great number of requests for public service for this area are for medical emergencies or requests for law enforcement. Properly posted addresses are a critical issue when time is of the essence.

Firefighter Access

Firefighter access is based on how easy it would be to find and back a fire engine into a driveway. When fire engines perform structure protection, they back into a driveway so if fire conditions worsen, they can quickly escape. Many "driveways" in Myers Canyon take on the form of side streets. There are a number of locations along South Alpine and Bodfish Canyon Road where 3-6 residences may have addresses posted out at the main road, but travel distance to the residence is some distance. Additionally, after traveling this distance in, there was often no way to turn a

vehicle the size of a fire engine around. This situation compromises both the safety of the residents and emergency workers.

Access in some areas is very poor due to the extremely narrow roads. With the exception of the lower part of the community, generally, the paved portion of Rocky Road, Rembach Road and some of the lower end of South Alpine, the roads are too narrow and in some places, too steep, for a Type 1 or municipal fire engine. During a serious Wildland fire, it is probable that road congestion will occur. This very dangerous condition can lead to injury and/or death.

Other Significant Considerations

The total risk associated with each parcel or the overall risk within the community is a combination of all the factors we have just discussed. **The most critical factor for survivability in a wildfire is the amount of fuels treatment done by the property owner and the defensible space created.**

Defensible space is an area that will help protect a home and provide a safety zone for firefighters who are protecting it. Treating all flammable vegetation a minimum of 100 feet, or to the property line, around a home and other structures will not only provide a home with the greatest chance for survival, it is also required by California law. Treatment does not



necessarily mean the removal of all vegetation around a home. Next to a structure (inside 30 feet), grass should be mowed to about 1" in height, raked up and removed. Native brush should be removed and trees should be limbed up so that no branches touch the ground. Ornamental (and hopefully, fire

resistive) plants may remain, but should be well watered and healthy. From 30'-100', the grass should still be mowed to 1" in height, trees should be limbed so as not to touch the ground, but native brush species, while present, should be thinned of any dead material, and spaced so that it will

be difficult for fire to communicate from one bush to another. Any brush or grass that exists under trees should be removed so as not to allow fire to move from the ground into tree canopies.

Vacant Parcels

Vacant parcels throughout the community pose a fire risk to developed parcels in close proximity. 32 vacant properties were identified within the community. These parcels range in size from 6000 square feet to 5-10

acres. Some of these parcels have had some fuel treatment done, while many others have not. Given that unoccupied property is often less attended to than where someone lives, these vacant parcels may provide an avenue for wild fire to spread throughout the community. The community in conjunction with

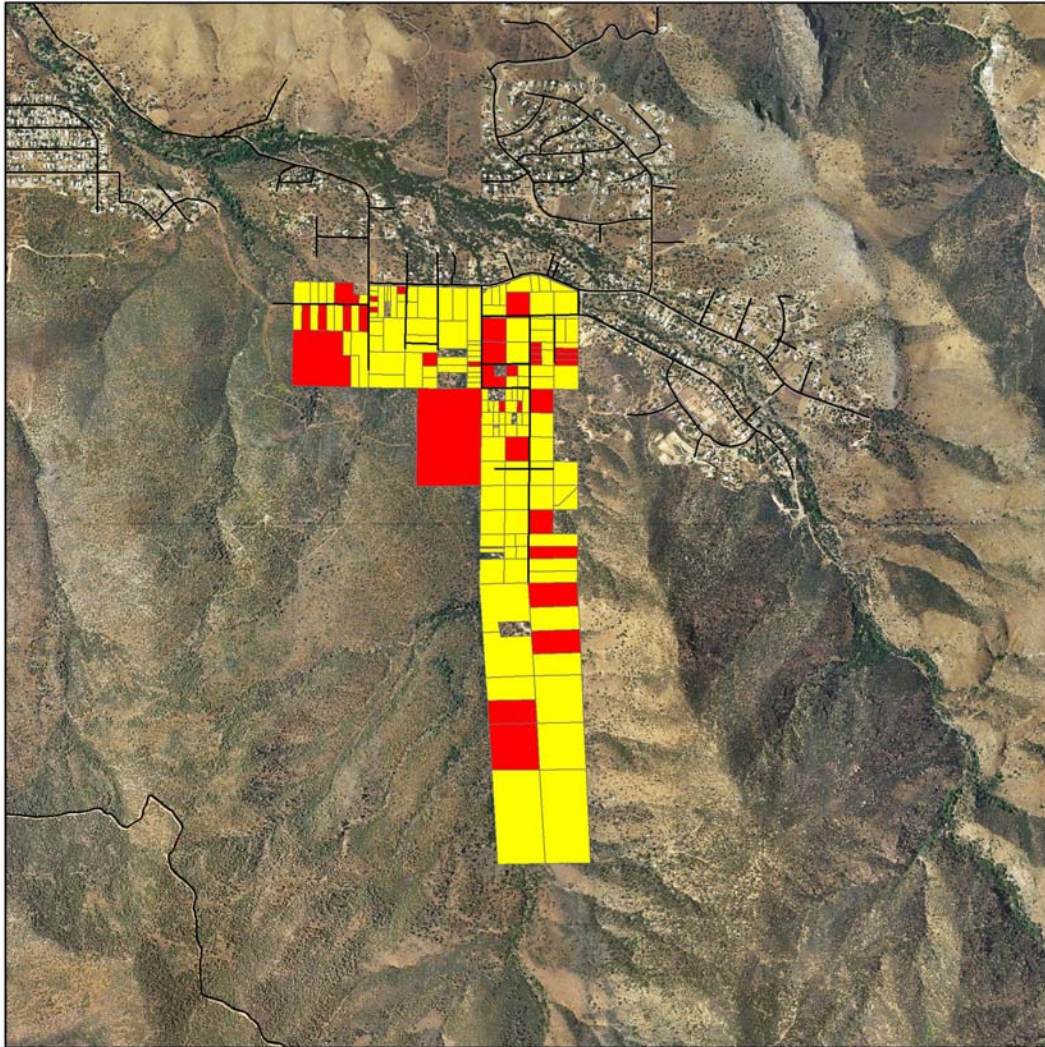


the Kern County Fire Department must be vigilant in their efforts to ensure fuel treatment is done on these parcels in accordance with existing codes.

1	Improved Parcel
2	Vacant Parcel



Myer's Canyon Community Fire Safe Plan



Legend

- 1
- 2

*Developed Parcels
versus Vacant Lots*



July 22, 2007



Myers Canyon Structure Protection Pre-Attack Plan

Incident Command Post Locations

- **Bodfish Canyon Road at Bodfish Creek Road**
 - Where Bodfish Canyon Road makes a 90 degree turn to the east about a ¼ mile west of Rocky Road. The road at the corner continues south as Bodfish Creek Road and becomes dirt. There is adequate clearance for command vehicles and some potential staging. The added benefit is that any resources coming up Bodfish Canyon Road would have to pass by this location.
- **Rembach and Bud Way**
 - The east end of Rembach where the dirt road meets the pavement at Bud Way. There is adequate clearance at this location for command vehicles, but no staging.

Staging Area Locations

- **Kern County Fire Department Station 72**
 - The corner of Lake Isabella Blvd. and Commercial. There is some space at the station and on the county owned property across Commercial to the south.
- **Lake Isabella Park (Uffert / Tank Park)**
 - Near the corner of Lake Isabella Blvd, and Elizabeth Norris Blvd., just south of this intersection on the west side of Lake Isabella Blvd. Some parking spaces, shade trees and public restrooms. This location has been utilized as an Incident Command Post a number of times.
- **Caliente / Bodfish Road and Old Kern Canyon Road**
 - 5 acre parcel across from the Bodfish Post Office that has been treated as a defensible space demonstration lot. Plenty of parking area with a small store across the street.

Safety Zones

- **Corner of Bodfish Canyon Road and Bodfish Creek Road**
 - See above for the description of the Command Post Location. This is the only viable safety zone within reasonable travel distance from Myers Canyon.
- **1200 South Alpine**
 - There is potential that this location could be used for a safety zone, either for emergency responders or members of the community, however, fuels treatment would need to be brought up to levels achieved in the past for removal of grass and light brush.

Pre Attack Map

Water Sources

The water supply in Myers Canyon is extremely limited. Most of the parcels have domestic water service provided by the Piute Valley Property Owner's Association which maintains the water system. There is one tank on the upper end of South Alpine which holds 9,000 gallons. There is one 2" IPF (iron pipe female) connection under the tank on the south end. The tank is enclosed by a chain link fence, so access will be difficult and time consuming. The tank supplies two standpipes, one operational, the other in progress, further north along South Alpine. In the 800 block of South Alpine there is a pipe that comes up out of the ground with a 2" IPM connection and a valve in the ground next to it. In the 700 block of South Alpine there is another standpipe that has a 1 ½" NSM (National Standard Male) connection with a gate valve on top.



Standpipe in 700 block of South Alpine



Standpipe in 800 block of South Alpine

The next nearest available water system is in the Canyon Heights subdivision, immediately east of Myers Canyon with a total storage of 126,000 gallons.



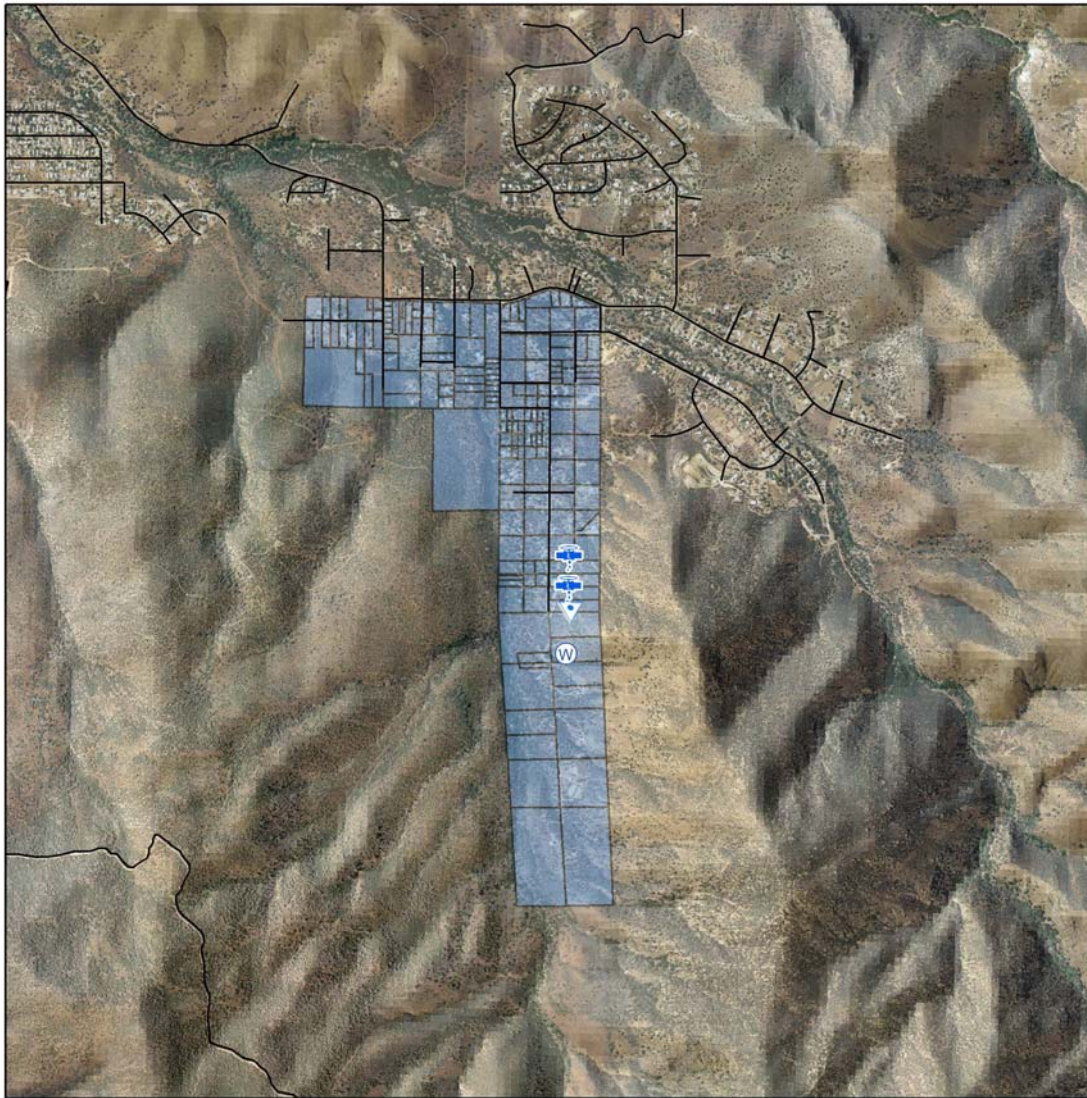
9000 gallon water tank located just north of 974 South Alpine



View of 2" IPF valve under water tank on the south end of the tank



Myer's Canyon Community Fire Safe Plan



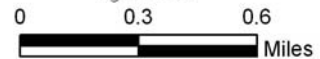
Legend

- Ⓜ Water Tank
- ⊕ Standpipe
- ▽ Valve

Water Sources



July 22, 2005



Communications

Upon activation of this plan, primary incident communications will be coordinated through the Sequoia National Forest. It is imperative that resource ordering is done through a single ordering point. With the large amounts of multi-agency equipment responding to a Wildland Urban Interface incident, Unified Command will reduce the opportunity for multiple ordering points and duplication of equipment orders.

Phone Numbers

Porterville Dispatch: 701	(599) 782-3120 ext.
Greenhorn Ranger District/Lake Isabella	(760) 379-5646
Kern County Fire Department Communications	(661)861-2540 (non-emergency) (661)324-6551 (emergency)
Kern County Sheriffs Department Communications	(661)861-3110
CHP Communications	(661)864-4400
Red Cross	(661) 324-6427 or (888) 765-7147 (Disaster After Hours)

Structure Protection

The following information is a checklist for fire protection resources working in the Wildland Urban Interface. It is a mental reminder of factors that should be reviewed prior to committing resources to the task of structure protection. It is from the National Wildfire Coordinating Group's Fireline Handbook NFES number 410-1, Chapter 6-Urban Interface.

Wildland /Urban Interface "Watch Out" Situations for Structure Triage

Firefighter **safety** is the **primary consideration** when evaluating whether a structure can be protected.

Three categories of structures:

- Those that are not threatened.
- Those that are threatened and have the potential of being saved.
- Those that are not able to be saved and too dangerous to protect.

Factors to consider during structure triage:

• **FIREFIGHTER SAFETY**

- Safety Zone Availability (is there time to prepare a safety zone?)
- Proximity of the fuels and predicted flame length to structure (no defensible space).
- Position on slope relative to fire spread.
- Fire behavior and intensity (the greater the intensity, the wider the defensible space needed).
- Flammability of roof and siding (wood roof and siding, vinyl siding, along with inadequate defensible space may make structure impossible to protect).
- Timing and available resources (not having time to position resources or lack of resources to protect structure).

An attempt to save a structure may be unsuccessful or too dangerous if:

- There is no safety zone and refuge available.
- There is no place to park engine safely.
- Fire is making a sustained run and there is little or no clearance.
- Fire behavior is extreme: spot fires are numerous and out pacing control.
- Water supply will not last as long as the threat.
- Fire's intensity dictates you leave the area **NOW**.
- Roof is more that ¼ involved with active fire.
- Fire inside structure, windows broken and windy conditions.
- You cannot safely remain at the structure and your escape route could become not longer safe to use.

If a structure becomes well involved, leave it and move on to one that can be saved.

Structure Assessment Checklist

Address/Property Name

- Numerical street address, ranch name, etc.
- Number of residents on site

Road Access

- Road surface (paved, gravel, unimproved, dirt)
- Adequate width, vegetation clearance and safety zones along road
- Undercarriage problems (4x4 access only)
- Turnouts and turnarounds
- Bridges (load limits)
- Stream crossings (approach angle, crossing depth and surface)
- Terrain (road slope, location on slope-near chimneys, saddles, canyon bottom)
- Grade (greater than 15%)

Structure/Building

- Single residence or multi complex, out building (barn, storage)
- Does building have unknown or hazardous materials?
- Exterior walls (stucco or other noncombustible, wood frame, vinyl, wood shake)
- Large unprotected windows facing heat source
- Proximity of any above ground fuel tanks (LPG, propane, etc.)
- Roof material (wood shake, asphalt, noncombustible)
- Eaves (covered with little overhang, exposed with large overhang)
- Other features (wood deck, wood patio cover and furniture, wood fencing)

Clearances/Exposures/Defensible Space

- Structure location (narrow ridge, canyon, midslope, chimney)
- Adequate clearance around structure-minimum of 100' (steeper the slope the more clearance required)
- Surrounding fuels (larger, denser the fuels, the more clearance required)
- Flammable fuels (trees, ladder fuel, shrubs) adjacent to structure (is there time for removing these fuels?)
- Other combustibles near structure (wood piles, furniture, fuel tanks)
- Is there adequate clearance around fuel tank?
- Power lines or transformers (**DO NOT** park under lines)

Hazardous Materials

- Anticipate these materials in garages or sheds
- Chemicals (Look for DOT/NFPA/UN symbols)
 - Pesticides and herbicides
 - Petroleum products
 - Paint products

Estimated Resources for Protection

- Number(s) and type(s) of engines, water tenders, crews, dozers (General Guidelines: one engine per structure, one additional engine for every four structures to be used as "backup" and for patrol. For structures that are close together (50' or less), one engine may be adequate to protect two structures. This formula will be used to estimate resource needs for each structure protection group.
- Type and number of aircraft available. Do not rely on aircraft to support a structure protection plan.

Structure Protection Guidelines

- **DO NOT** enter a structure unless you are trained, equipped, and authorized. If safe, a structure can be used as refuge. Firefighter safety and survival is the number one priority. Supervisors must keep in close communication with those you supervise and adjoining forces in the area.

Equipment Placement

- Identify escape routes and safety zones and make them known to all crew members.
- ALWAYS STAY MOBILE and wear all of your personal protective equipment (PPE).
- Back equipment in for quick escape.
- Mark entrance to long driveways to show that protection is in place (*very important* when structure cannot be seen from road).
 - Multiple ribbons at end of drive on street
 - Ribbon/flagging across drive entrance
 - Sign
 - Other pre-determined signal
- Park in a cleared area (watch for overhead hazards).
- Protect your equipment (park behind structure, placing structure between equipment and fire front; be aware of spot fires occurring behind you).
- Watch for hazards (drop-offs, pot holes, above-ground fuel storage, chemicals, septic tanks).
- Keep egress route clear:
 - park extra equipment on street if doing so does not block egress
 - keep hose off driveway
- Have an engine/crew protection line charged and readily available.
- DO NOT make long hose lays.
- Try to keep sight contact with all crewmembers.

Water Use Guidelines

- Keep at least 100 gallons of water reserve in your tank.
- Top off tank at every opportunity; use garden hose.
- Draft from creeks and fishpond.
- STAY MOBILE. Do not hook up to hydrant except to refill tank. (Hydrants should work because they are gravity fed.)
- CONSERVE WATER, avoid wetting down an area.
- Apply water only if it controls fire spread or significantly reduces heating of structure being protected.
- Keep fire out of the heavier fuels.
- Extinguish fire at its lowest intensity, not when it is flaring up.
- Knock down fire in the lighter fuels.
- Have enough water to last duration of main heat wave and to protect crew.

Class A Foam Use Guidelines

- Direct Attack - apply to base of flame.
- Indirect Attack - lay out wet line and burn out.
- Apply to structure (roof and siding) 10-15 minutes before fire arrives.
- Consider ordering a Gel unit to apply pretreatments to structures. Gel can be applied by special ground units and aircraft.

Preparing Structure

- Determine if residents are home (legal responsibility for evacuation lies with law enforcement). If residents remain on-scene, advise them to use structure if it is safe to do so as refuge when fire arrives.
- For roof access, place owner's ladder at a corner of structure on side with least fire threat and away from power drop.
- Clean roof of leaves, needles, and any other combustible materials.
- Cover vents and air conditioning unit on roof.
- Remove and scatter away from structure:
 - Over-hanging limbs.
 - ground/ladder fuels to prevent fire from moving into the crowns.
 - Wooden fences and wood piles near structure.
- Clear area around aboveground fuel tank, shutting off tank.
- Place combustible outside furniture inside structure.
- Close windows and doors, including garage, leaving unlocked. **AS A LAST RESORT, YOU MAY NEED TO USE THE STRUCTURE AS REFUGE.**
- Have garden hose(s) charged and place strategically around structure for immediate use.

Structure Protection Groups

In the event of fire threatening Myers Canyon, tactics dictate that the incident is broken down into geographic or functional areas for span of control. The geographic area of Myers Canyon should be designated for three structure protection groups.

Structure Protection Group #1 would be assigned to the area comprised of the Bodfish Canyon Road and Bodfish Creek Road areas. This would also include streets that run south off of Bodfish Canyon Road, Colvin Road and Poplar Road.

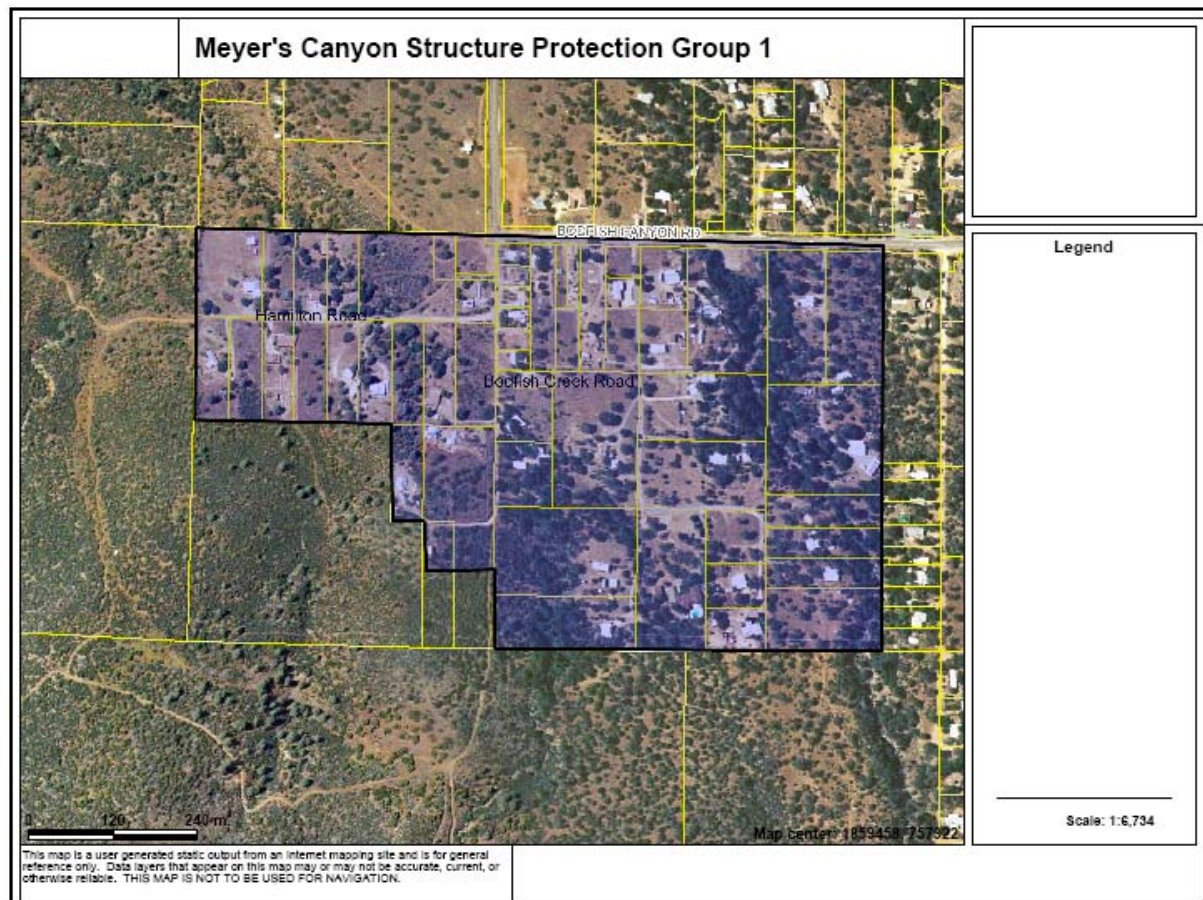
Structure Protection Group #2 would provide protection for the main portion of the Myers Canyon Community, along South Alpine Way, Rocky Road, and Lucky Lane.

Structure Protection Group #3 would provide protection for homes along Bodfish Canyon Road east of Rocky Road, Rembach Road to Bud Way and Gerald Road. This group could also assist up South Alpine if needed.

All three Structure Protection Groups would be made up of 5 Strike Teams of Engines (25 total engines). A mixture of Type I and Type III engines would provide the most effective protection. While acknowledging that the size of the fire, the direction of approach, its intensity and other environmental factors will ultimately dictate the number and type of resources required and how they are utilized, the deployment of fire suppression resources is recommended as follows:

Structure Group #1; Bodfish Canyon / Bodfish Creek Road areas

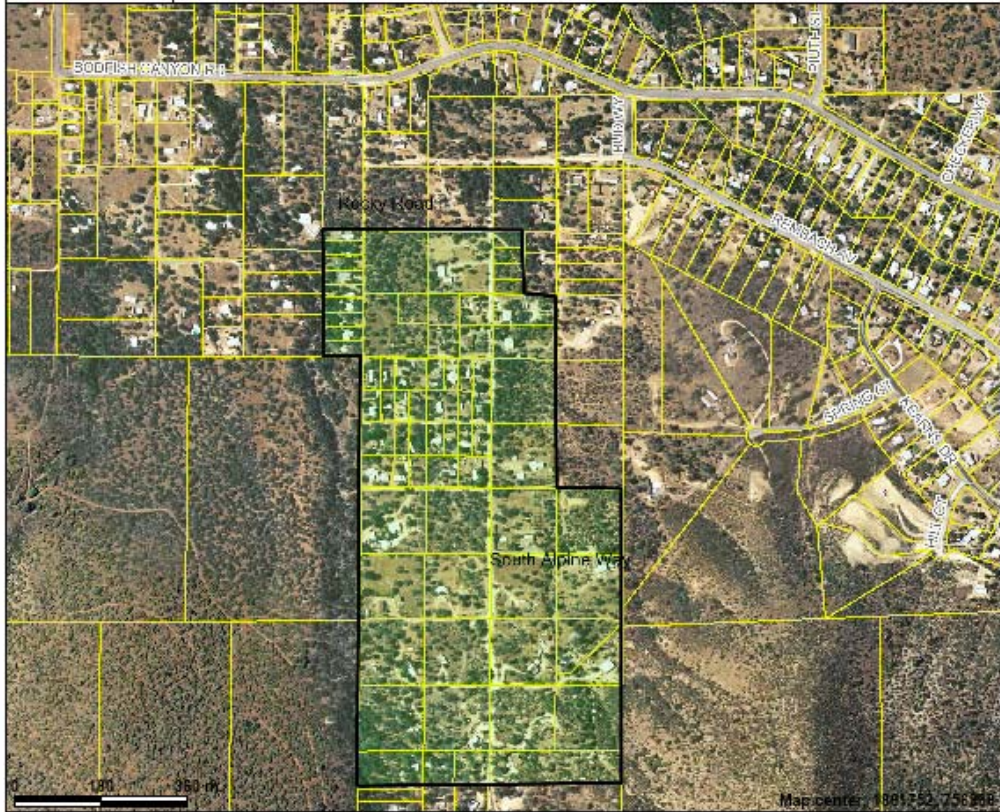
- Two Strike Teams of engines to the Bodfish Creek Road / Hamilton Road area. A Type III strike team would be most effective due to limited access and areas to turn around, however, the Hamilton Road portion could be protected by Type I engines.
- Two Strike Teams of engines to the area south of Bodfish Canyon Road (1600 and 1700 blocks) on the streets identified as Colvin and Poplar. These roads are reasonably flat and in good repair, Type I engines could operate in this area.
- One Strike Team of engines in reserve to assist with any problem areas. Type III engines would be recommended for this assignment.
- Two hand crews (Type I or II) to assist in structure preparation if time allows
- One bulldozer Strike Team (Type I or II) for line construction on the west and south sides of the group.
- 5 Water tenders (Type I) to support engines



Structure Group #2; Myers Canyon

- One Strike Team of engines to the south end of South Alpine. These homes are spaced widely apart and have significant access problems. These homes will require Type III engines.
- One Strike Team of engines for the area of the 500-800 blocks of South Alpine. This is the one of the more densely populated portions of the community. Several homes could be protected by one engine. However, there are some long driveways and steep grades that would not be conducive to Type I engine operations, therefore, Type III engines are recommended.
- One Strike Team along Rocky Road on the west side of the community. This is a long, straight road with homes on both sides but predominantly on the west side. Type I engines could operate on this road.
- One Strike Team along the lower (north) end of South Alpine. This Strike Team would also provide protection for homes along Lucky Lane. This end of South Alpine is dirt, but fairly wide and in good repair. Type I engines could operate in this area.
- One Strike Team of engines in reserve to provide assistance where needed.
- Four hand crews (Type I or II) to assist with structure preparation if time allows. These crews could also be utilized for back fire operations along the shaded fuel break west of the community.
- 5 Water tenders (Type I) to support engines

Meyer's Canyon Structure Protection Group 2 - North End

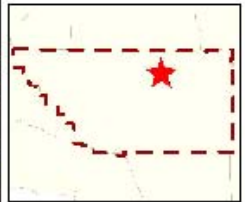
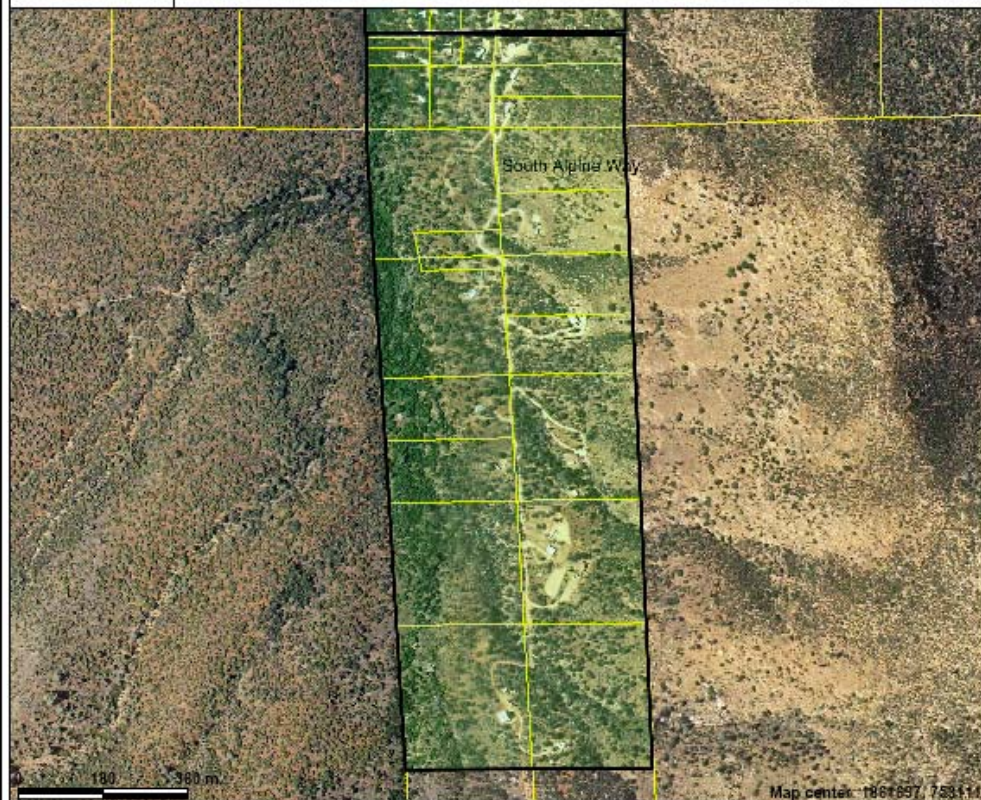


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Meyer's Canyon Structure Protection Group 2 - South End



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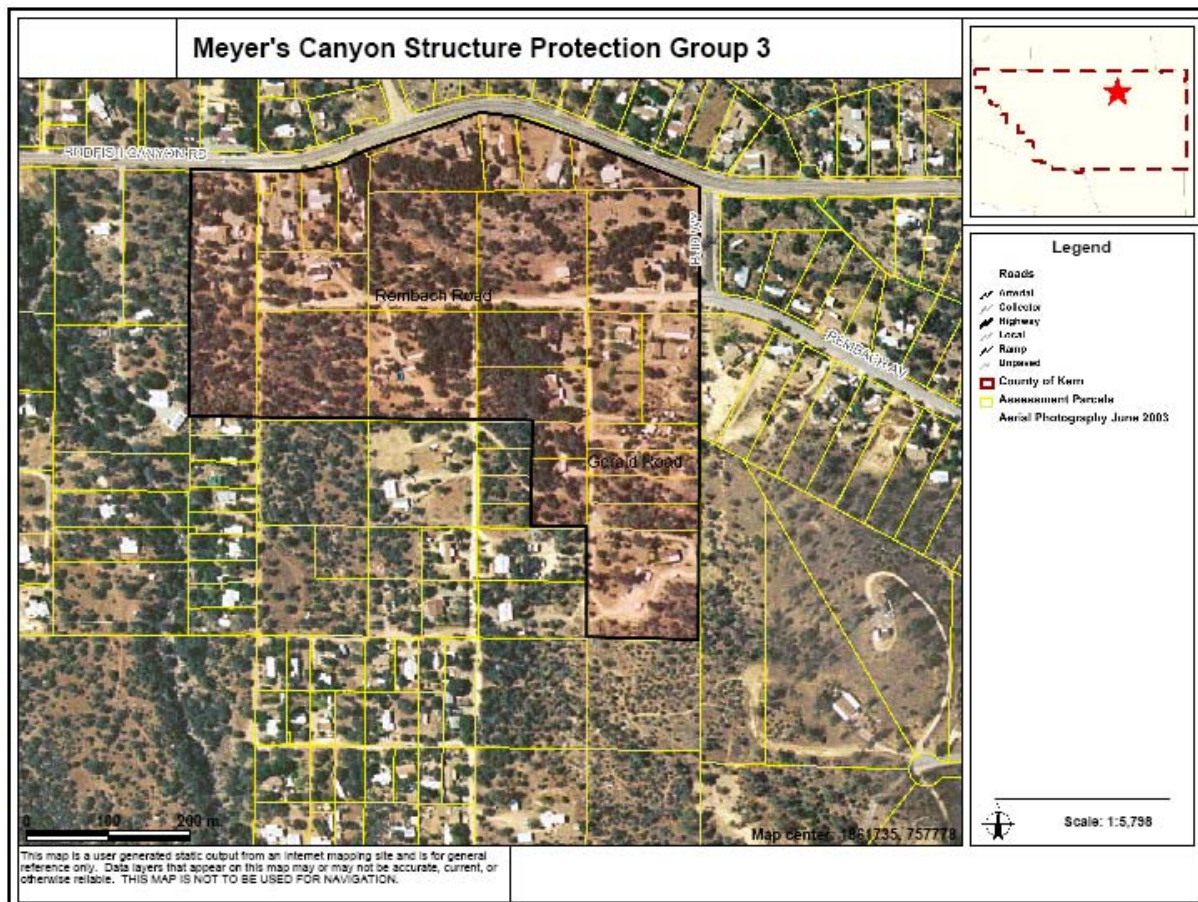
- Roads**
- Arterial
- Collector
- Highway
- Local
- Ramp
- Unpaved
- County of Kern
- Assessment Parcel
- Aerial Photography June 2005

Scale: 1:10,407

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Structure Group #3; Bodfish Canyon, Rembach, and Gerald Roads

- One Strike Team of engines for Bodfish Canyon Road from Rocky Road to Bud Way. This is a paved road with good access to homes. Type I engines could operate here.
- One Strike Team of engines for Rembach Road. Most of this road is paved and the area that is not is in good repair. Houses along Rembach are widely spaced requiring an engine for each home. Type I engines could operate here very well.
- Two Strike Teams of engines for the Gerald Road area. This road is dirt, narrow and has a number of homes with long driveways. There are also heavy fuel concentrations in the area. This road would be difficult to maneuver in, Type III engines are recommended.
- One Strike Team of engines in reserve to provide assistance where needed.
- Two hand crews (Type I or II) to assist in structure preparation if time allows.
- 5 Water tenders (Type I) to support engines



These suggestions mainly address the perimeter of the community. If a fire was to make progress to the interior of the community, it would be expected that engines would be able to collapse inward and assist in additional structure protection.

Total Resource Request

Table 1: Total Resource Request for Structure Protection

Group	Structures	Engines	Handcrews	Water Tenders
1	50	25	2	5
2	88	25	4	5
3	22	25	2	5
Total	160	75	8	15

This resource request is impossible to fill in a timely manner! The construction methods, position on the slope, fuel loading, and lack of reliable water sources make these resources a necessity to adequately protect the community. Unfortunately, the isolation of Myers Canyon will make travel times excessive. This resource order is a management tool used to assist the Incident Commander in realizing the challenges of protecting this community.

It should also be realized that only some of the structure groups may need protection depending on fire spread direction and intensity. For example, if the fire is threatening the community from the west side, then possibly ordering resources for Structure Protection Groups 1 and 2 will be necessary. The situation will dictate resource needs. The most important point is to place a resource order early due to the excessive travel times.

Aerial Resources

Rotary wing aircraft will be invaluable for fire suppression and quick suppression of spot fires. If the community is threatened, a minimum order should be two (2) Type 1 Helicopters, Four (4) Type 2 Helicopters, and one (1) Type 3 Helicopters. The Type 1's and Type 2's for water dropping, and the Type 3 for Helicopter Coordination and Recon.

Fix wing aircraft will also be a very important tool for fire suppression. Four airtankers with an air attack or lead plane should be the minimum order. More importantly, a **NO DIVERT** should be ordered as soon as likelihood of structure loss becomes possible.

Medical Plan

Ambulance Service

Name	Location	Paramedics
Care Ambulance	Kernville, CA	Yes

Hospitals

Name	Address	Travel-Air/Ground	Phone	Helipad	Burn Center
Ridgecrest Community Hospital	1081 N. China Lake Blvd. Ridgecrest, CA 93555	Ground-65 miles	(760) 784-1110	No	No
Kern Valley Hospital Lat 35,38.04 Long 118,58.21	6412 Laurel Ave. Mt. Mesa, CA 93240	Ground-11 miles	(760) 379-2681	Yes	No
Kern Medical Center Lat 35,23.03 Long 118,58.05	1830 Flower Bakersfield, CA	Ground -42 miles	(805) 326-2000	Yes	No Burn Center Level-2 Trauma Center
Community Medical Center	2823 Fresno Ave. Fresno, CA	Ground-152miles	(209) 453-4000	Yes	Yes Level 1- Trauma
Sherman Oaks	4929 Van Nuys Boulevard Sherman Oaks, CA	Ground-148miles	(818) 981-7111	Yes	Yes

Medical Emergency Procedures

Line Emergency:

- Crew Supervisor will contact Strike Team Leader who will contact Division Supervisor with patient complaint/condition and location.
- Division Supervisor contacts the line EMT or Paramedic if assigned and the Incident Command Post.
- Incident Command Post contacts
 - Porterville Dispatch
 - Kernville Helibase for air evacuation only.
- Division Supervisor will run medical emergency on the Command Channel. The Division Supervisor will fill out the Injury or Accident Reporting Procedures Form
- Porterville Dispatch will:
 - Dispatch ground ambulance to nearest drop-point for ground transportation only.
 - Notify receiving hospital of injury status.

Injury or Accident Reporting Procedures Form

Nature of Injury_____

Location of Patient_____

Time of Injury_____

Transportation Requested By: Air__Ground__

Point Of Pickup_____

Lat_____ Long_____

Patient Unit Id_____

Is an EMT with patient: Yes____No____

Is a paramedic with patient: Yes____No____

Age_____

Sex: Male____Female____

Time of Transport_____

Additional Notes/Witnesses

For all Emergencies: Secure the area and identify witnesses for later investigation.

Keep an accurate log of events and take photographs if appropriate.

Evacuation

If a Wildland fire escapes initial attack and threatens the community, an evacuation order may need to be ordered and enforced. Law enforcement has the responsibility for closing areas to the public and consequently to order an evacuation. During most emergency evacuations, several residents refuse to leave. To assist local agencies and the public to understand the law pertaining to evacuation, the following information has been provided.

For the purpose of this plan, an evacuation is considered a control on the movement of people and their property. An evacuation may be a voluntary evacuation, where the governing body recommends but does not require the evacuation of an area. Alternately, an evacuation may be mandatory, where the governing body determines that under its police power it can require the citizens of an area to leave that area in order to protect life, safety, or the general welfare of the population during an emergency. In either event, an evacuation is best ordered pursuant to either statutory authority or the Emergency Services Act. Included in the following section are examples of evacuation forms that may be adopted by the Kern County Sheriff's Department. Forms include:

- Example of Evacuation Information for Local Citizens
- Example of Evacuee Information Form
- Example of a Door-to-Door Contact Checklist
- Evacuation Contact Log
- Example of a Kern County Sheriff's Office Evacuation Refusal/Waiver

The Law Pertaining to Evacuation

There are specific statutes, in addition to the California Emergency Services Act, that provide methods for enforcing the restriction on movement of people and property.

Penal Code 148.2: Provides for punishment of persons interfering with firefighters or rescue personnel during the discharge of their duties. The code also makes it an offense to disobey orders given by firefighters or other public officers.

Penal Code 402: Pertains to interfering with personnel at the scene of an emergency. Similar to Penal Code 148.2, specifically broadens the conditions and types of personnel protected by the statute.

Penal Code 409.5: Allows specified law enforcement officers to close or restrict access to an area. The advantage of using Penal Code 409.5 to restrict the

movement of people or property is that it allows specified law enforcement officers to close an area by a verbal order on an immediate and/or selective basis. The disadvantage is that the announcement or orders may vary from officer to officer, increasing the likelihood of non-uniformity, which could provide a basis for subsequent litigation. Close supervision and coordination are essential.

The agencies and persons that have the authority to restrict the movement of people and property under Penal Code 409.5 are:

- California Highway Patrol,
- Sheriff's Office,
- Police Department,
- Marshal's Office,
- Any officer or employee of the Department of Forestry and Fire Protection designated a peace officer by subdivision (g) of Cal. Penal Code 830.2,
- Any officer or employee of the Department of Parks and Recreation designated a peace officer by subdivision (f) of Cal. Penal Code 830.2,
- Any officer or employee of the Department of Fish and Game designated a peace officer under subdivision (e) of Cal. Penal Code 830.2,

Subdivisions (c) and (d) of section 409.5 pertain to unauthorized persons entering or refusing to leave a closed area. These sections also pertain to restricted entry into a closed area by members of the media, the general public, and affected residents.

Unauthorized Entry into a Closed Area

“Any unauthorized person who willfully and knowingly enters an area closed pursuant to subdivision (a) or (b) and who willfully remains in the area after receiving notice to evacuate or leave shall be guilty of a misdemeanor.

Restricted entry into a Closed Area for Media and Residents

“Nothing in this section shall prevent a duly authorized representative of any news service, newspaper, or radio or television station or network from entering the areas closed pursuant to this section.”

The media's statutory right of access to disaster areas was clarified in the case of Leiserson v. City of San Diego in 1986. One of the issues in the case was whether a member of the media could have their access restricted because the area was “unsafe” to enter. The court reasoned that “press representatives must be given unrestricted access to disaster scenes unless police personnel at the scene reasonably determine that such unrestricted access will interfere with emergency operations.”

Penal Code 409.5

Penal Code 409.5 permits law enforcement officers to forcibly evacuate an area, but it is not clear. Because of a variety of issues concerning the implementation of this approach, many jurisdictions decided to warn the person and either have that person sign a waiver form if the person refused to leave, or fully document the giving of the notice to leave and that person's refusal to leave. There are potential problems with this method, such as questions of whether "duress" could be construed when a citizen signs the release under emergency conditions, and whether a mere waiver is adequate to relieve the governing body of its obligation under the police powers of the state.

Another alternative would be to have the officer order the evacuation, and should that person refuse to leave the area, the officer would arrest that person under Penal Code 148.

Occasionally a person may refuse to evacuate an area, and may advise others to do the same. Under some circumstances, that person may be subject to arrest for violation of criminal statutes such as child endangerment, cruelty to animals, suicide, and others.

Rather than relying on Penal Code § 409.5, the local governing body should consider issuing an evacuation order that specifies the following:

- whether the order is for voluntary or mandatory evacuation;
- who is going to enforce the order (police, sheriff, director of emergency services, fire department, etc.);
- what they are authorized to do (evacuate, use reasonable force to remove someone from an area);
- the relevant time period; and
- that the evacuation is issued under provisions of the Emergency Services Act, thereby invoking the penalty provisions of the Act and affording the immunities accorded.

Efficient Evacuations

Responsibilities

- Kern County Fire Department's primary responsibility will be suppression of structure fires with a secondary responsibility of wildland fire containment.
- Kern County Sheriff's Department's primary responsibility will be the safe evacuation of the public.
- California Highway Patrol's primary responsibility of highway safety and road closures.
- California Department of Transportation is charged with maintaining road closures and highway safety.
- The Bureau of Land Management's and the U. S. Forest Service's primary responsibility will be suppression of the wildland fire and structure protection.

Procedure

- The Incident Commander will coordinate with the Kern County Sheriff to initiate an evacuation order.
- Kern County Sheriff is responsible for the dissemination of information to local residents.
- All public information will be approved by the Incident Commander.
- Re-occupation of homes will occur only after the Incident Commander determines it to be safe.

Evacuees Staging Areas

In the event residents of the Myers Canyon Community need to relocate due to fire, affected residents will be notified to relocate to one of the following areas:

- **Lake Isabella Park (Uffert Park / Tank Park)**
 - Egress: Bodfish Canyon Road to Lake Isabella Blvd. to the park
- **Lake Isabella Senior Center**
 - Egress: Bodfish Canyon Road to Lake Isabella Blvd. to Senior Center

Notification to Evacuate

- If circumstances permit, attempt to notify all residents in the affected area of the possibility of an evacuation.
- Unless dangerous circumstances prohibit the above, attempt to inform residents door-to-door.

- When door-to-door contact is not possible, deputies should use PA systems, horn and emergency overhead lights.

Evacuation Control Kits

Contents:

- Evacuee Information Forms (100)
- Fluorescent 1" ribbon (10 rolls)
- Adhesive tape
- Felt tip permanent pen/markers
- Zip-lock bags (25-1 gallon capacity)

Considerations

- A majority of evacuees will secure their own accommodations rather than stay in an Evacuation Center.
- Has both the California Office of Emergency Services and the Kern County Office of Emergency Services been notified?
- Has Local Red Cross Disaster relief team been notified?
- Have Evacuation Centers been established?
- Where are they located?
- What are the best routes to travel to them?
- Will transportation assistance be necessary for evacuees?

Procedures

- Use evacuation control kit
- Contact residents door to door and inform them of the current evacuation status:
 1. Prepare to evacuate, or
 2. Evacuate (advice of evacuation route)
- Give each resident an Evacuation Form.
- If door-to-door is not possible, use the PA system
 1. Lights and siren may be necessary to gain attention
- Distribute Evacuation Forms as residents leave.
- Mark residences with a long piece of fluorescent tape.
- If time permits, decisions to evacuate due to smoke or some other extreme degradation of air quality should be coordinated with the County Health Department and National Weather Service.
- Establish:
 1. 24-hour roadblocks at point of entry
 2. Security patrol in evacuated areas
 3. Evacuated areas are closed to **ALL** unauthorized persons.
 4. Begin planning for allowing residents to permanently return to evacuated area.

Evacuation Decision Factors

- Identify evacuation areas by using commonly known boundaries rather than using "distance from" statements.
- When time permits, residents should receive individual briefings on the incident and evacuation procedures.

- If the decision has been made to evacuate any portion of Myers Canyon, the entire community should be evacuated.
- Grouping specific evacuation orders (i.e. pregnant woman and children) will generate voluntary evacuation by others.
- Planning for logistics of returning residents back to their home should begin as soon as the evacuation order is issued.

Example of Evacuation Information for Local Citizens

Kern County Sheriffs Office is preparing a Population Protection Guideline for the citizens in this vicinity _____. The guideline is contingency preparedness measures in the event of an evacuation in this area. The information on this sheet is being provided to you to inform you of the steps in the evacuation process and what may be necessary for you to do **IF** an evacuation occurs.

Three Stages of Evacuation

Stage 1- Alert and Warning (Voluntary Evacuation)

There is a high probability of the need to evacuate. Law enforcement personnel will attempt to make personal visits to each resident and business in the threatened area.

Residents are responsible to make arrangements to move property and livestock. Some residents, primarily those with special needs or other concerns, should relocate during this stage of evacuation.

Stage 2-Mandatory Evacuation

Evacuation is necessary in order to protect the lives of area occupants and emergency personnel responding to the incident. Law enforcement personnel shall attempt to convey this order/request to citizens door-to-door. If this is not practical or possible this information may be delivered via a Public Address System from a patrol vehicle. Should the latter method be employed the personnel may activate the emergency lights and sirens on the vehicle. Roadblocks and 24-hour patrols by law enforcement will be instituted to protect property within the evacuated area.

Stage 3- Evacuation Order Rescinded

Occupants are allowed to return as soon as it is safe.

Evacuation Routes And Centers:

A Evacuation Center has been established at:

In the event of an evacuation you should report to this center and check-in to let officials know that you have made it safely out of the affected area. Following check-in you have the choice of staying at the center or going elsewhere for accommodations (i.e. friends, relatives or hotels). Please

provide the name and phone number of the place to which you are relocating on the provided form. We will need a point of contact and a phone number.

Keep Informed. The success of this guideline requires the cooperation and assistance of informed occupants. Stay tuned to local media outlets for updates. Listen and ask questions when an emergency service representative contacts you.

Plan Ahead. Preplanning can help you avoid last minute frustrations. Plan where you will go and what you will take when you evacuate.

Example of Evacuee Information Form

WARNING

This area is under an Evacuation Order
Because of:

By the order of the Kern County Sheriff Date: _____
Time: _____

Location of Evacuation Centers

Evacuee Information Form Number _____

Please complete the following information:

Name: _____
Address: _____
Number in family: _____
When evacuated, go to: _____

Even if you plan to stay elsewhere, please check in at the nearest evacuation center. If you do not plan to stay at the center, please fill out the following information

We will be staying at
Name of Resident/Hotel: _____
Address: _____
City/State: _____
Phone Number: _____

Example of a Door-to-Door Contact Checklist

- ✓ Identify yourself and briefly explain the nature of the emergency.
- ✓ Advise occupants to evacuate or to be prepared for evacuation. Tell them what the signal will be if evacuation becomes necessary.
- ✓ If time permits, have occupants complete Evacuee Information Form

If time does not permit, ask evacuees to complete the Form at the Evacuation Center.

- ✓ Inquire if occupants have transportation or if anyone needs special assistance. Advise to take pets and prescription drugs,
- ✓ Instruct occupants on routes to use, precautions, and the location of the Evacuation Center.
- ✓ If no one answers the door, ask neighbors for information. Obtain approval for forced entry if necessary to aid children, bedridden, handicapped, or elderly.
- ✓ Complete Evacuation Refusal Form for persons refusing to evacuate. Log name and address of home where no one answers. Report these names and addresses to your Supervisor.
- ✓ Mark evacuated residences with long strip of ribbon from Evacuation Kit.
- ✓ Mark area with WARNING-AREA EVACUATED notices from the Evacuation Kit.
- ✓ Maintain log of residents and addresses contacted.

Public Address Contact Checklist - When Door-to-Door Contact is NOT Possible

- ✓ Select a broadcast spot for good coverage. Consider wind direction and PA carrying distance.
- ✓ Stop the vehicle and give a steady tone on the siren for 10 to 15 seconds.

Wait 10 to 15 seconds.

- ✓ Give the message **TWICE**. Use a slow command voice. Do not shout for amplification.

Sample: "YOUR ATTENTION PLEASE. YOUR ATTENTION PLEASE. THE _____ (County Sheriff) HAS ADVISED THAT THIS NEIGHBORHOOD BE EVACUATED IMMEDIATELY, BECAUSE OF EXTREME DANGER FROM _____ LOCK YOUR HOMES AND PROCEED ON _____ (route and directions) TO _____ (Evacuation Center) PLEASE EVACUATE NOW."

- ✓ Have the team patrol neighborhoods to maintain order and provide assistance to those with no transportation.
- ✓ Hand out Evacuee Information Forms as residents leave the area.
- ✓ Mark each dwelling, known to be evacuated, with a long piece

Example of a Kern County Sheriff's Office Evacuation Refusal/Waiver

I, _____, have been advised by the Kern County Sheriff's Office to evacuate this property/location, due to extreme danger, which is evident.

I, _____, REFUSE to evacuate this property/location and acknowledge that I know and understand the hazards.

If, I remain or enter this area, I hold harmless the "agency" responsible for evacuation.

I, _____, will evacuate this property/location, however, I wish to return to check my property from time to time. I acknowledge that I know and understand the hazard. I hold harmless the "agency" responsible for evacuation. I understand that if I do not check in and out at the *same* Check Point *each time* I go to and from my property, I may not be notified if the danger increases.

Address/Location where individual was advised to leave (list below):
Person REFUSING to evacuate (list information)

Print Name: _____

Date of Birth: _____

Social Security #: _____

Next of Kin (print name): _____

Address: _____

Phone #: _____

Signature: _____

Date: _____

Road Closures

Dispatch will need to contact with the California Department of Transportation to request "Road Closure" signs.

Road closures may be initiated at the following locations:

- **Bodfish Canyon Road at Lake Isabella Blvd.**
- **Bodfish Canyon Road at Bodfish Creek Road**

Evacuation Routes

Evacuating the residents of Myers Canyon could be a significant problem. An organized evacuation is a contradiction of terms. Normally people wait until the last moment or the fire reaches the community faster than what is anticipated. Bringing some organization to this chaos will be a challenge for all emergency responders.

A major concern is the number of narrow streets found in Myers Canyon. This issue is compounded with fire apparatus trying to get into the community while the residents try to get out. Obviously, this is a very dangerous scenario. Bottlenecks are likely to occur. The roll of law enforcement to maintain some form of traffic flow can not be over emphasized!

The only true evacuation route will be Bodfish Canyon Road. Under a chaotic evacuation, people will leave an area the same way they made access. Given the rural nature of the community, residents trying to evacuate with large equestrian or other types of trailers could significantly bottleneck the narrow, congested roads during an evacuation. This could be very problematic as too many residents try to leave an area with too few roads.

This brings about the two points for consideration. The first and best, is that when a fire does occur in the area, residents need to leave the area at their first opportunity. Leaving, or at a minimum, preparing to leave early, will allow the residents better opportunity to salvage valuables and be clear of the area before major influxes of emergency equipment begin. The second option is that each property owner does judicious preparation of their property so as to provide it the best possible odds of surviving a wildfire. This option provides the owner with the confidence to leave their property early and anticipate minimal damage. If evacuation becomes impossible for the resident, then substantial preparation of the property provides the resident with the best possible chance for survival staying in the residence.

Recommendations

The following recommendations are based on the previous assessment. As with any planning document, an alternative to any recommendation is to take no action. If this is the chosen alternative, it is only a matter of time before this choice proves dangerous or deadly.

The recommendations are based on the priority of protection of life, then property. The recommendations will be listed in priority but it should be understood that many other factors could influence whether a recommendation is implemented and in what order. Factors such as acceptance from the community, funding, and environmental issues can significantly alter if and when a recommendation is implemented.

Evacuation

Coordinated Community Telephone Alerting System

The primary means of implementing an orderly evacuation or alerting residents or danger is early notification that an incident exists. The easiest, most cost-effective system is a "telephone tree". Virtually everyone in the community has a telephone. A pre-determined sequence of calls, where each individual is designated to call a certain number of others, will spread the word through the community at a rapid rate.

Siren Warning System

The Myers Canyon community should install emergency warning sirens to notify resident of an evacuation. This system should be used in concert with the telephone notification system to warn people that are working outside and may not hear or have access to a telephone. The warning siren will need to be tested on a regular basis to insure operation. Sirens should have the capability to be triggered using emergency responder radios so responders could activate the siren from the field. Lastly, sirens should be installed on a building with emergency power backup. Possible siren locations could be the water tank / well location since power already exists at this location and the siren should funnel down the canyon and/or in the Lucky Lane area since it is centrally located. Generators may need to be purchased for these facilities to provide backup power. The following companies specialize in emergency siren systems, however, are not endorsed by this plan:

BayComm, Inc.
PO Box 3696
Greenville, DE 19807
(302) 254-8100

Whelen Engineering Company, Inc.
Public and Industrial Warning Products
Route 145, Winthrop Rd.
Chester, CT 06412
(800)63SIREN/(860)526-9504

Street Improvements / Addresses

As previously discussed, most of the streets within the Myers Canyon community are narrow, unpaved and in need of maintenance. The following are recommendations that would improve the ingress and egress of residents and Emergency Responders:

- Widen the streets wherever possible. Many of the streets within the community can adequately handle only a single vehicle. Passing is difficult and in the event that emergency equipment is trying to make access, numbers of vehicles trying to leave the area at the same time would greatly hamper the effectiveness of the responders. Where widening the entire length of a street is not possible, consider creating turnouts at regular intervals to allow for passing.
- This suggestion for widening also includes the lengthy driveways that are used for access off of South Alpine Way. Many of these driveways do not have adequate room for equipment to turn around once they have made access. Consider creating cul-de-sacs wherever possible at the end of these driveways.
- Road signs. Many of the roads and some driveways are not well identified. Efforts should be made by the community to standardize the size, lettering and locations for street signs and address numbers.
- There are several areas within the community where the posted addresses are out of numerical sequence. This can make finding a location extremely difficult for responders. Property owners need to verify the correct address numbers with the County of Kern. House numbers can be applied for or verified with the County House Number Application Form available at the Building Department or County Fire Stations. Once the correct number is determined, posting of the number in a standardized form and location should be pursued by the property owners.
- Where trees and / or brush encroach along the sides of the roads cut back the brush and limb up the trees so that emergency equipment, which tends to be tall and wide, has adequate room to traverse without damaging the equipment.



- Where damage from rain runoff has created ruts in the roads, develop a regular program for repairing that damage. Large ruts can substantially slow down emergency equipment from reaching its destination. In a fire situation, a few minutes can have a significant impact.
- Continue to pursue additional grant funding to provide paving.

Water System

The most vulnerable part of the fire protection system within Myers Canyon is the water system. The water storage is minimal, at best, and the distribution does not meet any fire protection standards. Be that as it may, something is always better than nothing. Recommendations for improving the system are as follows:

- Continue to develop and place standpipes along South Alpine Way.
- Increase storage capacity; potentially locate an additional tank in another location within the community. Develop a standpipe or hydrant system from this additional tank.

Fuel Modification

Presently there is a substantial fuels reduction project being completed in conjunction with this grant. Fuels Crews have cleared 20' on either side of the center line of the roads of brush and overhanging tree limbs. Additionally, there is a "shaded" fuel break being constructed down the west side of the community. The road work will provide better visibility and access for residents and emergency responders. The fuel break will provide an extra added level of protection for the entire community by slowing down the spread of a fire and providing firefighters with an area from which they may conduct tactical operations. To maximize the benefit of all fuels modifications done throughout the community, we have the following recommendations:



- Where the “shaded” fuel break exists on private property, the property owners should make every effort to maintain that treatment. Since the fuel break benefits the entire community, days should be scheduled for all property owners to participate in the maintenance of this project. The majority of the difficult, expensive work has been done, by the grant funded crews. It should be relatively easy to maintain the break.

- Property owners need to continue to ensure that their individual properties conform to the Kern County Weed Ordinance, The Urban / Wildland Interface Code and the Public Resource Code 4291. All of these provide guidelines for the required fuel treatments around structures and vacant properties. Assistance can also be provided by local fire service providers, either the Kern County Fire Department or the Bureau of Land Management.



- Property owners need to continue to pursue compliance with the above codes from vacant property owners. Untreated, vacant properties present a real danger to the improved properties around them. The community can work with the enforcement

agency, Kern County Fire Department, to ensure proper notifications have been made to the vacant property owners.



- Remove all dead vegetation throughout the community. Live, healthy vegetation is a valuable deterrent to wild fires starting and spreading. During the process of this assessment, there were many dead trees and volumes of dead brush on private property. Owners should be encouraged to remove as much of the dead material as possible.

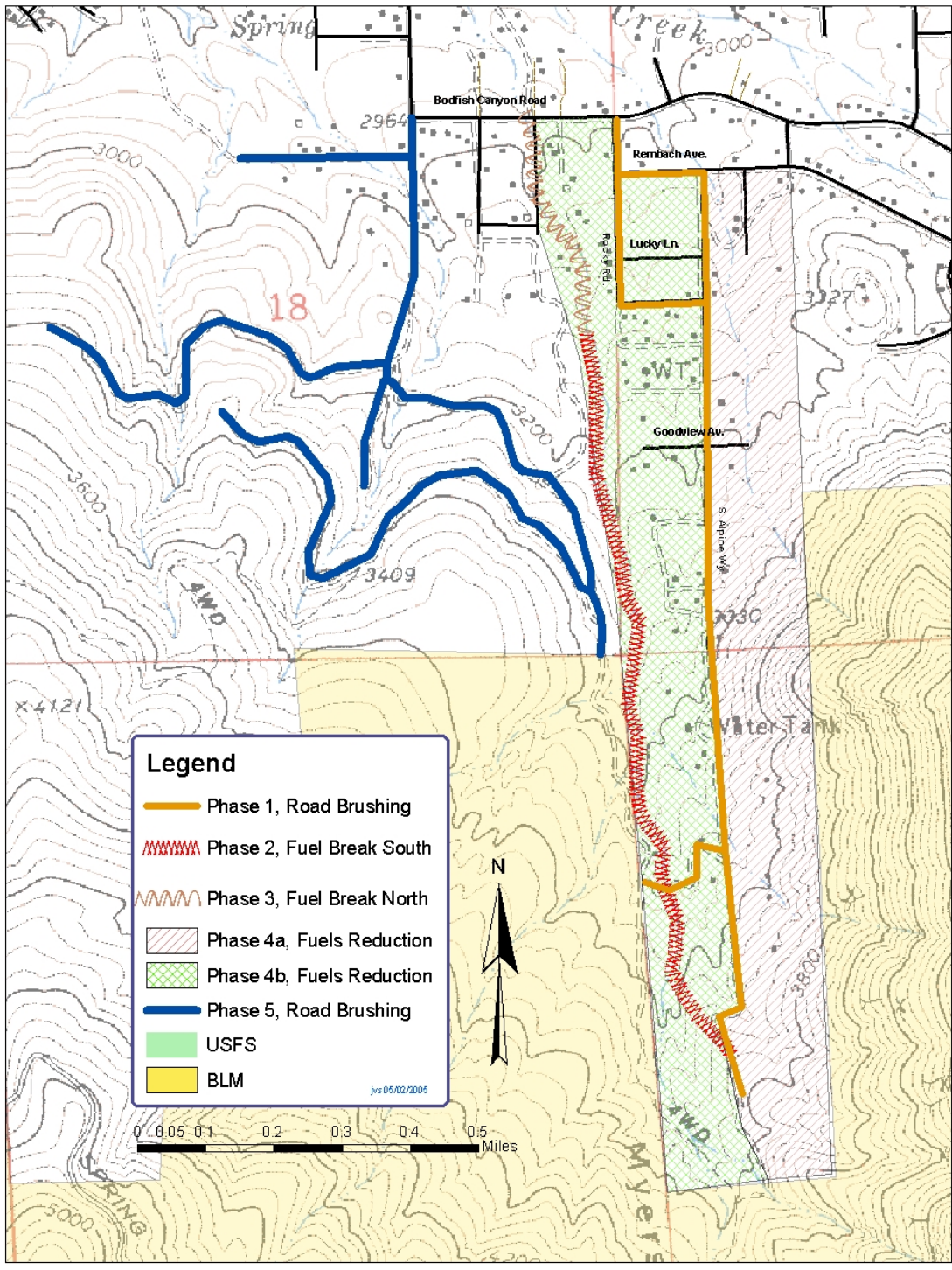
Standing dead trees not only burn vigorously when ignited, the leaves and needles become airborne easily and create new fires downwind.



- In conjunction with the Fuels Project Map on the following page, continue the “shaded” fuel break down to Bodfish Canyon Road. This will provide added protection in the area between Rocky Road and Colvin Lane.
- Develop additional road brushing projects for the dirt roads west of the Myers Canyon community. These roads can provide valuable tactical locations for firefighters in the event of a wild fire approaching from this direction.

None of these recommendations requires the complete removal of all vegetation. Removing brush to reduce continuity, mowing of grass to eliminate the fine fuels to carry fire and limbing of trees will accomplish a tremendous amount toward limiting fire starts and spread potential.

KCFD / Kern River Valley Fire Safe Council
 Myers Canyon Fuels Reduction Project



Structure Ignitability

Given that most of the homes in the community are mobile homes there is little that can be done from the perspective of building materials. Non-combustible roofs were predominant throughout the area which is a positive factor, however, most of the homes were wood sided. Replacing the siding on all these homes is not economically feasible, so we must concentrate on the factors that would reduce the chances of the siding catching fire.

Defensible space is an area that will help protect a home and provide a safety zone for firefighters who are protecting it. Treating all flammable vegetation a minimum of 100 feet around a home (or to the property line) and other structures will not only provide a home with the greatest chance for survival, it is also required by California law. Treatment does not necessarily mean the removal of all vegetation around a home. Immediately next to a structure (inside 30 feet), grass should be mowed to about 1" in height, native brush should be removed and trees should be limbed up so that no branches touch the ground. Ornamental (and hopefully, fire resistive) plants may remain, but should be well watered and healthy. From 30'-100', the grass should still be mowed to 1" in height, trees should be limbed so as not to touch the ground, but native brush species, while present, should be thinned of any dead material, and spaced so that it will be difficult for fire to communicate from one bush to another. Any brush or grass that exists under trees should be removed so as not to allow fire to move from the ground into tree canopies.

Some homes in the community that could benefit from the following suggestions:

- Wooden eaves with exposed rafter tails should be boxed in to reduce the chances of embers being trapped
- Skirting on mobile homes should be from floor level to the ground, again to avoid embers from igniting the underside of the home
- Open decks should be enclosed and flammable storage, such as firewood piles, should be eliminated. Storing firewood under the deck in the winter is not a problem, but when summer arrives, the piles should be moved away from the house.
- Auxiliary buildings should have the same treatments as the main residence. Many homes were observed where the house had good fuels treatment, but the garage and / or sheds had no work done at all. These buildings become a threat to everything around them.