



Final

GAMBEL OAKS FIRE PROTECTION PLAN

January 25, 2019

Gambel Oaks Community, Elbert County, Colorado 80107

www.gambeloaks.hoaspace.com

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2/14/2019

District Forester

		
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Gambel Oaks Wildfire Protection Plan (GOWPP)

July 3, 2018

1.0 PURPOSE OF THE GOWPP:

The GOWPP has been developed in response to the Healthy Forests Restoration Act of 2003 (HFRA). This legislation established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation directs the Departments of Interior and Agriculture to address local community priorities in fuels reduction treatments on both federal and non-federal lands.

The HFRA emphasizes the need for federal agencies to collaborate with communities in developing hazardous fuels reduction projects, and places priority on treatment areas identified by communities through development of a Community Wildfire Protection Plan (CWPP). Priority areas include the wildland-urban interface (WUI), municipal watersheds and other local values at risk, areas impacted by windthrow or insect or disease epidemics, and critical wildlife habitat that would be negatively impacted by a catastrophic wildfire. In compliance with Title 1 of the HFRA, the CWPP requires agreement among local government, local fire departments and the state agency responsible for forest management (the Colorado State Forest Service). The CWPP also must be developed in consultation with interested parties and the applicable federal agency managing lands surrounding at-risk communities.

The GOWPP is a strategic plan (5 years) that identifies specific wildland hazards and risks facing the Gambel Oaks community and provides prioritized mitigation recommendations that are designed to reduce wildfire hazards and risks. This document emphasizes collaboration, and reduction of hazardous fuels and structural ignitability. It gives Gambel Oaks residents “notice” of their wildfire hazards and risks and offers suggestions for actions to address them. Once the GOWPP is approved and adopted, it becomes the Gambel Oaks community’s responsibility to move forward and implement the action items identified in this plan. This may require further planning at the project level, acquisition of funds, or simply motivating individual homeowners to take action.

With a trend toward more episodes of urban interface fire in the United States, there is an increasing recognition that everyone within a community must be involved in protecting lives and property from fire. That means there is a role for property owners, public officials, insurance agents, fire professionals, and many more. The task begins before a wildfire occurs. This demands planning and participation by those potentially affected.

The purpose of this GOWPP is to protect lives, property and the environment within the Gambel Oaks community from wildfire by implementing prioritized fuels reduction projects and engaging the community in becoming a Fire Adapted Community. This GOWPP serves to identify the Gambel Oaks community risks, identify what constitutes the risk, and develop an action plan to mitigate the risk, thereby providing a vegetative structure for the community that is resilient to the effects of wildland fire.

The GOWPP is a community-wide assessment of the risks, hazards, and mitigation and prevention opportunities associated with wildfire in the Gambel Oaks community.

Authority and responsibility for managing vegetation on private property within Gambel Oaks rests with the resident homeowner. Common areas and the 100 acres Open Space are the responsibility of the community as a whole led by the Gambel Oaks Homeowners Association (GOHA) Board. Elbert County and Gambel Oaks residents share the authority and responsibility for managing vegetation on the road rights-of-way.

The GOWPP will be reviewed annually, updated and evaluated on its overall effectiveness toward achieving its long-term goals.

1.1 NEED FOR A COMMUNITY FIRE PROTECTION PLAN: Weather plays a critical role in determining fire frequency and behavior. A dry climate and available fuels in an area prone to strong gusty winds can turn any ignition into a major wildfire in a matter of several minutes.

The Gambel Oaks community is characterized by a combination of a relatively dense population of 77 homes on 60 acres along with an additional 100 acres dedicated to natural open space. The community has one access road (CR 154) in extreme western Elbert County (See Figure 2 in section 9.3). The combination of environmental esthetics, recreational opportunities, the proximity to the Denver Metro Area, the “Town of Parker”, the Denver International Airport and the town of Elizabeth make Gambel Oaks a desirable community to live and work.

The community is characterized by several factors that typify a hazardous wildlife urban interface (WUI): human development within fire-adapted ecosystems, uneven topography, frequent natural and human-caused ignitions, presence of hazardous fuels, prolonged drought, and dry, windy weather conditions.

2.0 GAMBEL OAKS COMMUNITY PROFILE

2.1 COMMUNITY SETTING: The community is located in extreme western Elbert County of Colorado, at 6100 feet MSL on the Palmer Divide.

2.2 GAMBEL OAKS CHARACTERISTICS: The community is located on the west portion of its 160 acres. There are 77 homes and a commercial equestrian center with two barns, outbuildings and a residence. Other structures in the common area include: a wellhouse, a community pool and cabana, four metal outbuildings for stabling up to eight resident-owned horses and three outbuildings for tack and hay storage.

The community features paved roads, a central water well providing potable water to each home. There are 10 fire hydrants spaced throughout the community and there are utilities for gas, electricity, phone and internet service. The community infrastructure was installed in the mid 1980s. Construction of the homes started in the mid-1990s with the last home completed in 2018. The community also has a large fenced and gated storage area for resident use. The homes are mostly valued from the low-\$400,000's to mid-\$500,000's (est. 2017 prices).

2.3 DEMOGRAPHIC CHARACTERISTICS: Gambel Oaks is a residential community with single family homes and an estimated permanent population of approximately 250 (Seniors 20%, children 50%). Included on the properties are approximately 80 stabled/corralled horses and numerous dogs and cats.

2.4 GAMBEL OAKS CLIMATE: Precipitation (liquid form) amounts for Gambel Oaks is estimated to be about 15 inches annually. The average annual maximum temperature: 62.9 °F and the average annual minimum temperature: 35.8 °F. The average annual daily wind speed is about 10 MPH. Snow can be expected from September through early June.

3.0 WILDLAND VEGETATION & FUELS:

The plant communities found around Gambel Oaks are typical of steppe and grassland ecosystem. However, the existing vegetation is the fuel source for wildland fires and has a direct effect on fire behavior for the Gambel Oaks community. Understanding the fire behavior characteristics of particular fuel types facilitates effective fuel treatment strategies on individual properties and the community landscape. The community itself is dominated by ponderosa pine, deciduous trees interspersed with natural grasses and gambel oaks. In the absence of fire, ponderosa pine forests can be overtaken by shade-tolerant trees like Douglas-fir, and these dense stands are more susceptible to insect attack. The community has routinely sprayed for insects on advice from experts. Regardless, the community has lost about 10 large trees in recent years and had them removed.

Wildfire fuel models are simply a tool for predicting wildfire behavior in different vegetative conditions. Wildland hazardous fuels have been classified into four basic groups—grasses, brush, timber, and slash. The differences in fire behavior among

these groups are basically related to the fuel load on the ground environment. Fuel load and depth are significant fuel properties for predicting whether a fire will be ignited, its rate of spread, and its wildfire intensity. **Flame lengths in excess of four feet are the upper limit at which fires can be attacked with persons using hand tools. Flame lengths in excess of four feet increase the chance that equipment may have to be relied on for suppression efforts to be effective.**

The fuels recognized in the Gambel Oaks Community as addressed in the USDA publication: “**Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel’s Surface Fire Spread Model**” by Joe H. Scott and Robert E. Burgan, General Technical Report RMRS-GTR-153, June 2005 are (refer to **Appendix 8 for fuel model details**):

- GR 2 Grass model 2 - Low load, dry climate grass (dynamic)
- GS2 Grass-shrub model 2 -Moderate load, dry climate grass-shrub (dynamic)
- SH7 Shrub model 7 - Very high load, dry climate shrub
- TU1 Timber-understory model 1 - Low load dry climate timber-grass-shrub (dynamic)
- TL8 Timber litter model 8 -Long needle litter
- NB1 Non-burnable 1 - Urban/Developed

4. FIRE SUPPRESSION WATER RESOURCE: Water is piped through the community to each home by gravity feed. The homes are not individually metered. Chained on this system are ten fire hydrants, which are tested annually. Water at each of the 9 fire hydrants in the northern section of the community has a flow rate of 1000 gallons or more/min. The 10th hydrant, located in the southern section of the community has a flow rate of 1,600 gal/min. (See fig. 2 in section 9.3).

Other water sources in the community are located in the community swimming pool from May through September, and in a couple of ponds randomly spaced in residential backyards. Residents whose properties border the common area are urged to provide access to garden hoses capable of stretching into the common areas to aid fire fighters in the event of an emergency.

Water supplies are critical for maintaining lower Insurance Services Organization (ISO) ratings that affect homeowner insurance rates. In 2015 the Gambel Oaks community purchased all the water rights under its 160 acres with access to five aquifers. Lately, the community has obtained funding for installing a second well for backup to the primary well, which became operational in October 2018.

5. ELBERT COUNTY FIRE PROTECTION RESOURCES: The Elizabeth Fire Protection District (EFPD) provides services to Gambel Oaks. (See <https://www.elizabethfire.com/stations.html>) and Figure 1. They are an all hazards,

emergency response agency who pride themselves on providing professional, timely and fiscally responsible service. There are four stations:

- **Station 271**, Administrative Office, 155 W. Kiowa Ave., P.O. Box 441, 303-646-3800
 - **Full time staffed station about 8.8 miles from Gambel Oaks. Average response time is 10 minutes. The station is capable of providing immediate response to medical and fire emergencies.**
- **Station 272**, 686 Ponderosa Lane, 303-646-3800
 - **Residence station staffed with firefighters that respond to calls when they are available about 1.8 miles from Gambel Oaks. Average response time is 3 min. when station is staffed. The station is capable of providing response to fire emergencies.**
- **Station 273**, 41002 Fire House Street, Parker, 303-646-3800
 - **Full time staffed station about 7.4 miles from Gambel Oaks. Average response time is 9 minutes. The Station is capable of providing immediate response to medical and fire emergencies.**
- **Station 274**, 5525 County Road 166 Elizabeth, CO 303-646-3800
 - **Joint volunteer fire station with Rattlesnake Fire about 7.6 miles from Gambel Oaks. Average response time is 9 minutes when station is staffed. The station is capable of providing response to fire emergencies.**

Elizabeth Fire has been rated by the Insurance Services Organization (ISO) which classifies the capabilities of a fire department on a scale of 1-10 with 1 being the best. This scale is used as a basis for residential insurance premiums. Due to the capabilities of the Gambel Oaks water system and the fire department capabilities, Gambel Oaks received an ISO rating of 3.

Elizabeth Fire has mutual aid agreements with many of the surrounding agencies in the area. In the event that a wildland fire occurs within the Gambel Oaks Subdivision; Franktown Fire, South Metro Fire, and Rattlesnake Fire would assist Elizabeth Fire in initial attack.

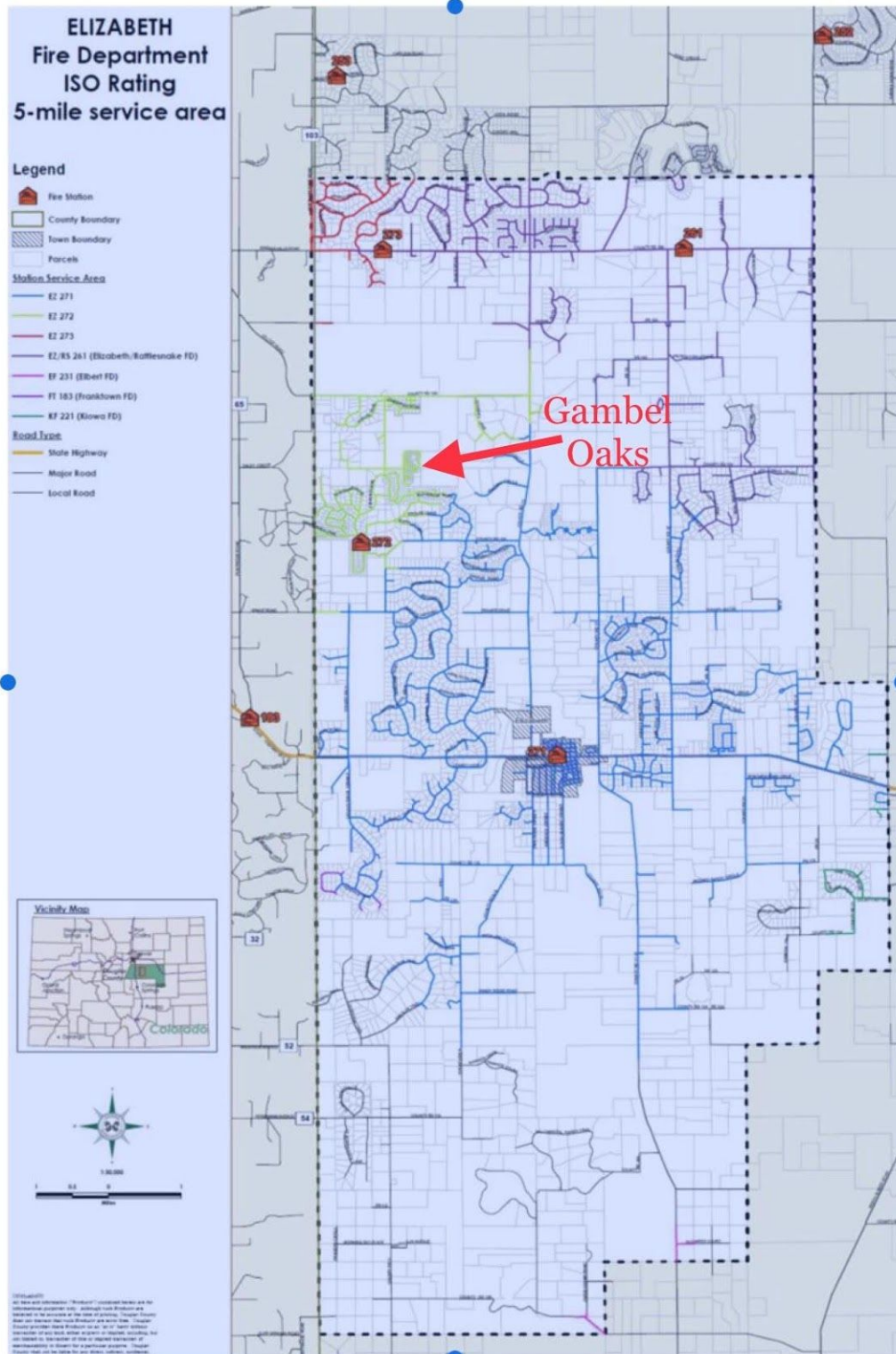


Figure 1. Elizabeth Fire District

6.0 WILDFIRE RISK ASSESSMENT: Wildfire risk represents the possibility of loss or harm occurring from a wildfire. **Wildfires are unwanted and unplanned fires that result from natural ignition or unauthorized human-caused wildfire.** EFPD actively suppresses all wildfire ignitions within the District and attempts to have them under control during initial attack

- Wildland fires may be further classified as ground, surface, or crown fires:
 - **Ground fire** refers to burning/smoldering materials beneath the surface including duff, tree or shrub roots, punchy wood, peat, and sawdust that normally support a glowing combustion without flame.
 - **Surface fire** refers to fuels burning on the surface of the ground such as leaves, needles, and small branches, as well as grasses, forbs, low and medium shrubs, tree seedlings, fallen branches, downed timber, and slash.
 - **Crown fire** is a wildland fire that moves rapidly through the crowns of trees or shrubs.

7.0 WILDFIRE BEHAVIOR: Fire behavior is the manner in which a fire reacts to the influences of fuel, weather, and topography. Fire behavior is typically modeled at the flaming front of the fire, and described most simply in terms of fire line intensity (flame length) and in rate of forward spread. The implications of observed or expected fire behavior are important components of suppression strategies and tactics, particularly in terms of the difficulty of control and effectiveness of various suppression resources.

Fire risk is the probability that a wildfire will start from natural or human-caused ignitions. Fire hazard is the presence of ignitable fuel coupled with the influences of topography and weather, and is directly related to fire behavior. Fire severity, on the other hand, refers to the immediate effect a fire has on vegetation and soils.

The characteristics of fuels, topography, and weather conditions combine to dictate fire behavior, rate of spread, and intensity. Wildland fuel attributes refer to both dead and live vegetation and include such factors as density, bed depth, continuity, vertical arrangement, and moisture content. Structures with flammable materials are also considered a fuel source.

For fire to spread, materials such as trees, shrubs, or structures in the flame front must meet the conditions of ignitability. The conditions needed are the presence of oxygen, flammable fuel, and heat. Oxygen and heat are implicitly available in a wildland wildfire. However, if the potential fuel does not meet the conditions of combustion, it will not ignite. This explains why some trees, vegetation patches, or structures may survive a wildland wildfire and others in the near vicinity are completely burned.

Weather conditions such as high ambient temperatures, low relative humidity, and windy conditions favor fire ignition and high-intensity fire behavior. Under no-wind conditions fire burns more rapidly and intensely upslope than on level terrain; however, wind tends to be the driving force in fire behavior in the most destructive WUI wildfires.

8. FIRE BEHAVIOR ANALYSIS: Fire behavior is defined as the manner in which a fire reacts to the influences of fuel, weather, and topography. Two key measures of this behavior are rate of spread and the intensity. The flaming front is the zone of a moving

fire where the combustion is primarily flaming. Fire intensity is reflected by the flame length at the flaming front. Behind this flaming fire zone, combustion is primarily glowing. Light fuels typically have a shallow flaming front, whereas heavy fuels have a deeper front. Consequently, heat from a fire with a flaming front that has a flame length of four feet or less can be lethal to firefighters, people and animals.

9.0 MITIGATION PLANNING

9.1 TRANSPORTATION ROAD RIGHT-OF-WAYS: One paved road (CR 154) leads into Gambel Oaks. This road is the only paved access route into the community for emergency vehicles. Moreover, this road must also serve as the primary escape route for residents during a fire. This presents a potential problem in the event of a wildfire creating a need to find alternative routes out of the community.

9.2 HOMES, STRUCTURES AND OTHER SITES: As previously mentioned, Gambel Oaks consists of 77 multi-storied homes situated on sixty acres. Each home generally has about $\frac{3}{4}$ of an acre. All homes are on its own septic system. Each home is different, by design and plan. All have traditional siding and composite roofs or tile. There are four metal siding horse stables on the south side of the community and a garage with standard siding and two wood sided sheds for hay and tack storage. There is a cabana with traditional siding next to the community pool in the north common area, and a pump house for the community water near the horse stables on the south side. No homes, outbuildings, stables or sheds have wood shingles except the well house, which is scheduled to be replaced in 2019. Each home receives water from the central well. Residents have been encouraged each season to harden their properties against wildfires using established zones of protection noted below.

In 2018 Elizabeth Fire visited the community to provide individual residents mitigation information relating both to the community and their property. Cooperation continues.

9.3 EMERGENCY EXIT GATES:

Currently, Gambel Oaks has only one locked gate at the resident's storage facility used to store mainly recreational vehicles and boats. See Figure 2.

There is only one access into and out of the community on CR 154 (Gambel Oaks Drive). Gambel Oaks is not a gated community. And, there is only one access into the 100 acres, as well. This is through a fence on the south side of private property, east of the Equestrian Center along Buttercup Road bordering the south side of the community. There is a combination lock on the gate which is given to emergency services. Refer to Figure 2.

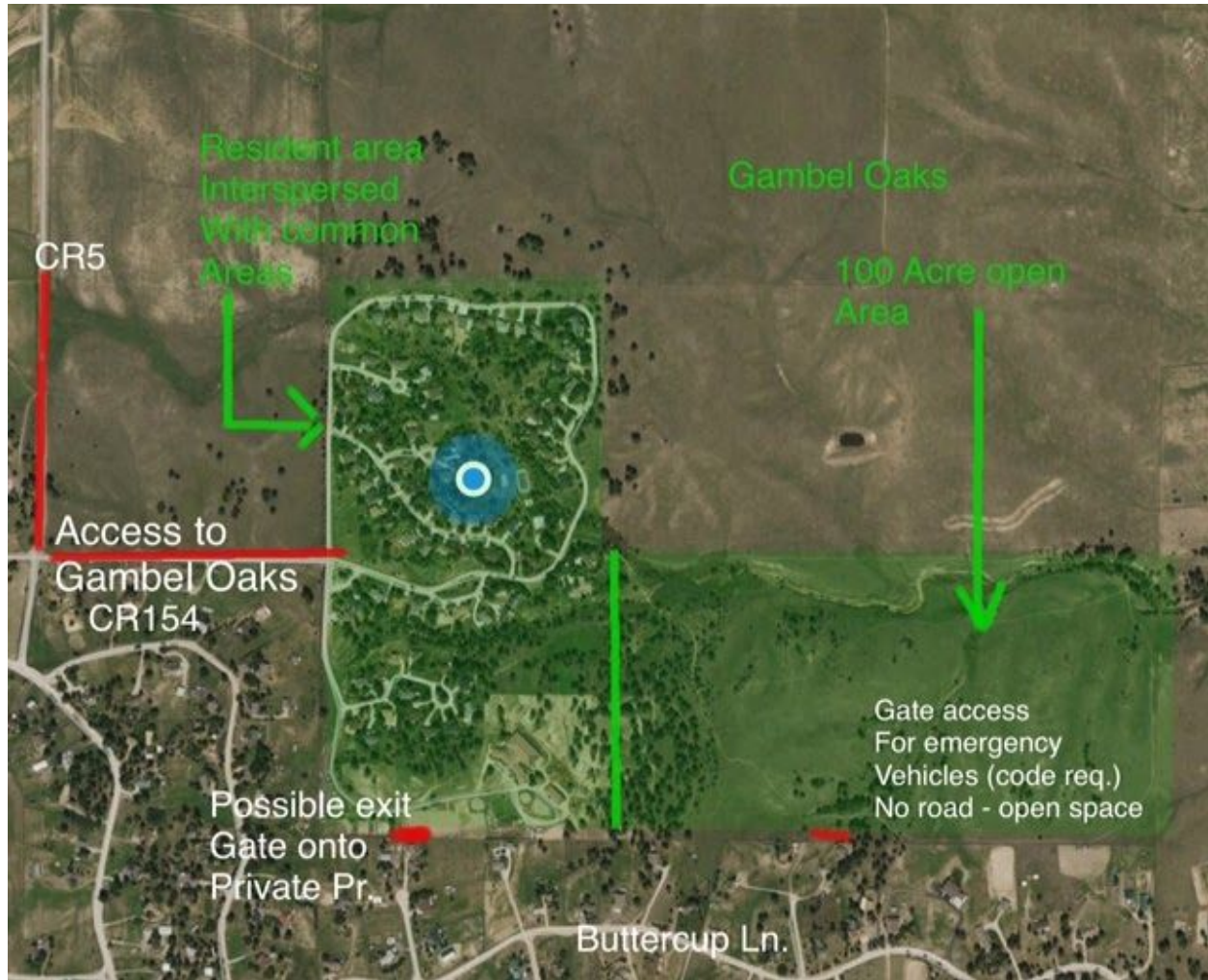


Figure 2 Ingress and Egress for Gambel Oaks as of 2018.

9.4 UTILITIES: Wildfire suppression requires substantial quantities of energy from a dependable source. The capability of responding to fire emergencies is often limited by the adequacy of the communications, availability of energy and infrastructure supply. Reducing wildfire risk and protecting the Gambel Oaks power utilities infrastructure is a huge priority. Energy sources should be clearly identified and protected by defensible space around all utility infrastructure. The utility infrastructure is shown in Figure 3. These areas have been identified as a risk for wildfire and should be immediately mitigated for defensible space. The community routinely keeps these areas trimmed to minimize the threat from wildfires..

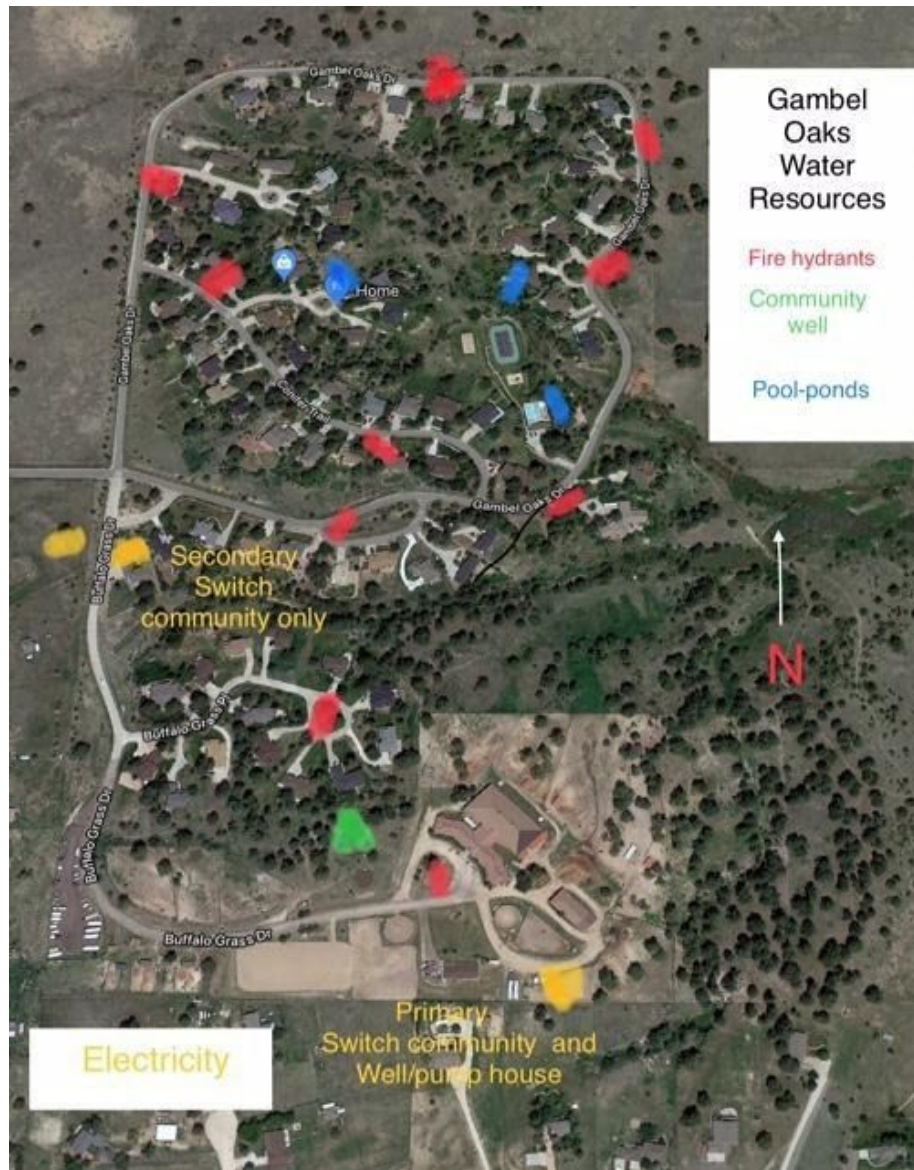


Figure 3 - Water Resource locations and Electricity Utilities.

10.0 MITIGATION MEASURES (The overall goal is “Lean, Clean, and Green”):

Wildfire mitigation can be defined as those actions taken to reduce the likelihood of loss due to wildfire. Effective wildfire mitigation can be accomplished by reducing hazardous fuels, managing vegetation, creating defensible space around individual homes and neighborhoods by utilizing fire-resistant building materials, enhancing emergency preparedness, and developing programs to foster community awareness.

Resident-driven mitigation measures are strongly encouraged and community mitigation efforts are routinely scheduled in the spring before the burn season. Effective wildfire mitigation is accomplished through a variety of methods: reducing hazardous fuels, managing vegetation, creating defensible space around individual homes and in the common areas, utilizing fire-resistant building materials, enhancing emergency preparedness, and developing programs that foster community awareness and action.

This plan addresses the community's **long term (5 year) mitigation needs**.

Mitigation recommendations for the Gambel Oaks community were identified and developed through fuel hazard assessments and a community walk-through by Elizabeth Fire and members of the Gambel Oaks Mitigation committee this past spring. Elements identified for mitigation: vegetation and hazardous fuels, predicted fire behavior, topography, and community infrastructure. In moderate to extreme fire weather conditions, a wildfire ignition has the potential to generate catastrophic losses in the the Gambel Oaks community primarily due to the proximity of the residences and the density of trees. Tree clusters, ladder fuels, dead or dying trees and dense underbrush were singled out.

Wildland wildfire prevention addressed in the **“Ready, Set, Go”** pamphlet was given to each residence by the Elizabeth Fire Protection District to aid in our mitigation effort. This program was adopted by the Gambel Oaks Board. All residents were encouraged to mitigate their property as addressed in the pamphlet. Firebrands from wildfire become a major source for home ignitions. Wildfires can also ignite structures through radiation, convection or conduction. Wood is very resistant to ignition from radiation. This means that the heat from a fire is very unlikely to ignite a home. Convection occurs when heat is carried by air currents. In wildland fire, this is known as pre-heating. The goal of the Board is to bring all properties into acceptable standards within five (5) years and hopefully earlier. **The costs of resident mitigation will be the responsibility of the homeowner, aided by the HOA.**

10.1 COMMUNITY EVACUATION: Evacuating the GOHA community is extremely limited using existing roads. There is only one paved road into and out of the community, Gambel Oaks Drive or (CR 154). During an evacuation emergency, priority must be given to first-responders. There is another exit out of the community residents could use on southside through a gate into onto Buttercup Lane (Figure 2, section 9.3). Exit might also be possible to the north, but it would require driving over open terrain for about a mile to reach CR158.

11.0 DEFENSIBLE SPACE ON STRUCTURES: Homes constructed in and around the natural vegetation of Colorado such as Gambel Oaks are inherently at risk from a wildfire. According to the GOHA covenant, the community encourages xeriscape or natural native vegetation for residences. Some have chosen these options, but most have grass and ornamental bushes and deciduous trees interspersed with naturally seeded trees. Regardless, all owners are urged properly mitigate their properties and bring them more inline with the following recommendations:

Defensible space is the natural and landscaped area around a home or other structure that has been modified to reduce fire hazard, Defensible space gives your home a fighting chance against an approaching fire. This includes mowing grasses to

6" or less, removing dead and dying trees, thinning bushes and trees, Trimming tree limbs to above 10 feet for large mature trees.

- **Defensible space provides another important advantage during a fire: increased firefighter safety.** Firefighters are trained to protect structures only when the situation is relatively safe for them to do so. They use a process called “structural triage” to determine if it is safe to defend a home from an approaching wildfire. The presence or absence of defensible space around a structure is a significant determining factor used in the structural triage process, as defensible space gives firefighters an opportunity to do their job safely. In turn, this increases their ability to protect your home.
- **If firefighters are unable to directly protect your home during a wildfire, having an effective defensible space will still increase your home’s chance of survival.** It is important to remember that with wildfire, there are no guarantees. Creating a proper defensible space does not mean that your home is guaranteed to survive a wildfire, but it does significantly improve the odds.

A treated secondary zone is further encouraged by the Board, where possible, by thinning and cleaning surface fuels. A third transitional zone is basically a managed wildland in the common areas and in the adjacent 100 acres. Ideally, these zones or areas all work together to produce a defensible wildfire community. Each homeowner should think of their property in terms these zones. Due to the proximity of houses in Gambel Oaks, homeowners need to work together mitigating their property. Failure by one or some to properly mitigate can directly impact their neighbors and most significantly the community should a wildfire develop. **Many homes in Gambel Oaks border common community open-space. While the HOA pays for grounds maintenance in the common areas, each resident is also urged to help with mitigation as well in the common areas next to their properties as an incentive to keep HOA dues (the only community tax base) low.**

Residents are also urged provide easy access to a water hose capable of reaching into the nearby open space to aid first responders.

11.1 ZONE 1: A noncombustible area keeps fire from burning directly to the home. This area extends **from the structure 15 to 30 feet**. In this area most flammable vegetation is removed. Increasing the width of Zone 1 will increase the structure’s survivability.

11.2 ZONE 2: Ideally, this is a transitional area of fuels reduction. Zone 2 extends out **100 feet from all structures**. In many cases this zone will extend into neighbor’s zones necessitating coordination and cooperation between neighbors to accomplish

effective mitigation. Zone 2 reduces the adjacent fire intensity and the likelihood of torching crown fire. Treatment objective is to remove enough trees to create at least 10 feet of separation between crowns. Zone 2 should extend 30 feet from each edge of the driveway to the road. Remove all ladder fuels from under remaining trees, pruning branches to a height of 10 feet from the ground. On smaller trees leave at least 2/3 of the crown with green needles.

11.3 ZONE 3: The wildland fuel reduction area. This area extends from the lean, clean, and green area with no specified width. In the wildland fuel reduction area, the objective is to minimize the horizontal and vertical continuity of wildland fuels.

11.4 HOME IGNITION ZONE: Two factors have emerged as the primary determinants of a home's ability to survive a wildfire – the quality of the defensible space and a structure's ignitability. Together, these two factors create a concept called the Home Ignition Zone (HIZ), which includes the structure and the space immediately surrounding the structure. To protect a home from wildfire, the primary goal is to reduce or eliminate fuels and ignition sources within the HIZ.

12.0 COMMUNITY ACCESS: Access is an important component of any community's wildfire hazard and risk profile. Availability of ingress/egress, characteristics of road surface, road layout and design, grade, and width all factor into access assessment and emergency scenario and evacuation planning.

Road conditions within the community were found to be adequate with paved access throughout. However, during emergency conditions, all community roads need to be cleared of obstacles such as cars and trucks so as not to hinder the movement of emergency vehicles. **The HOA Board needs to assist first-responders by ensuring a free flow of vehicles into, around, and out of the community during emergency situations. Hence, all residents need to be informed regularly not to congest community or county roads at all times of the year.**

13.0 NOTIFICATION AND EMERGENCY ALERTS: In the event that the Elbert County Sheriff or a designated Gambel Oaks Official (named by the Board) orders the community to evacuate because of threatening wildfire, it is extremely important that residents leave in an orderly manner and not affect the flow of first responders in the community. The need to evacuate may be initiated by the community through an emergency telephone messaging service, or by CODE RED phone alerts from Elbert County. **Note: if a wildfire is threatening the area it is not necessary to wait for an evacuation order to leave.**

- **Elbert County CODE RED Notification:** Recently, Elbert county implemented CODE RED Emergency notification. All GOHA residents are urged to sign-up for CODE RED by going to the website:

http://www.elbertcounty-co.gov/code_red.php With the proliferation of mobile phones, CODE RED will reach every phone a resident places into the system. Notifications will be immediate for Severe Weather, Winter Weather, Wildfires, and Red Flags among others. (Refer to the website for more details).

- **Gambel Oaks Phone Notification System:** Gambel Oaks contracts with a phone notification service that can be actuated by a designated or backup Gambel Oaks official for resident focused issues. All residents are added to the distribution list when they join the community. This is a blanket notification system independent of Code Red notifications.

13.1 EVACUATION PLANNING IS CRITICAL: Scenarios for evacuation need to be tested, if at all possible, and preferably with aid of law enforcement, and fire personnel. Community evacuation testing is the best way to prepare the community, and doing so will point out problems that can be resolved prior to any actual evacuation. As difficult as they may be, practice evacuation tests will help residents understand the importance of evacuation planning. **Moreover, all residents are encouraged to have personal evacuation plans and procedures in place and understood by all family members, regardless of age.**

13.2 EVACUATION PLANNING AND PREPARATION: Planning for evacuation from fire is challenging because fire emergencies are dynamic with the location and direction of spread varying depending on start location, weather, topography, and fuel. With a wildfire evacuation, the location and direction of the fire may change rapidly, so the evacuation route must be determined specific to the incident. Emergency evacuation centers will also be established based on the location of the fire, the size of the incident, and area ordered to evacuate. **Being prepared to evacuate before the fire is the single most important action people can take to safely evacuate.** Elizabeth Fire actively supports residents and communities establishing and annually testing their evacuation procedures. (See Attachment 5 for a list of Emergency Evacuation Measures.)

14.0 READY, SET, GO: This is a program that prepares homeowners and families for an evacuation during any kind of natural disaster. It is designed to help residents be **Ready** with preparedness understanding, be **Set** with situational awareness when fire threatens, and to **Go**, acting early when a fire starts. This program is administered by the membership of the community as a whole utilizing career and volunteer members of the Elizabeth Fire Department. Tips and tools for residents are provided by Ready, Set, Go! at (www.wildlandfirersg.org/Resident). There is no “magic recipe” for evacuation. By knowing all possible options community residents are better prepared when the order is given. There are several consistent elements of basic emergency

preparedness. Specific information relating to evacuations can be obtained by going to the Gambel Oaks Website at: www.gambeloakshoospace.com:

15.0 LARGE ANIMAL EVACUATION CENTERS: The following is a list of potential evacuation centers and shelters for large animals for disaster and wildfire events. Elbert County will notify people of these and other shelters used due to a wildfire event.

- Elbert County Fairgrounds (719) 520 7880, (303) 621 3152
- National Mill Dog Rescue (719) 495 7679
- Wild Blue Animal Rescue (719) 964 8905

16.0 MITIGATION NEEDS FOR 2018: After an initial walk-through of the community with Elizabeth Fire representatives mitigation needs were identified and discussed. Subsequently, the first phase of a community volunteer work day was held and substantial progress was made in resolving the mitigation needs. Efforts will continue with the goal to be completed in 5 years.

16.1 COMMON AREA MITIGATION MEASURES: The GOHA Board, with the aid of community volunteers and contractors, will prioritize mitigation work over a five year period. This will demand a great deal of work on the part of volunteer residents and contractors at a significant cost to the community and homeowners. Consequently the GOHA Board will need to seek out grants and other funding sources to aid in this effort:

- Mowing all grasses to 6" or less
- Removing slash piles and downed trees.
- Spraying trees annually for insects and disease.
- Removing dead or dying trees.
- Relocating and/or thinning tree clusters to minimize fire laddering.
- Trimming large tree branches under 10 feet.
- Thinning brush and shrubs where needed
- Procuring chipping and removing downed trees and brush.
- Providing access to water to suppress fires in the common areas
 - Identifying pools, ponds, and other water sources.
 - Establishing and testing evacuation plans
- Coordinating with Elizabeth Fire and maintaining an effective relationship.
- Maintaining and testing a rapid community-wide emergency notification system.
- Creating and maintaining defensible spaces in the common areas.
- Seeking additional ingress/egress routes for the community as well as the 100 acre open space.

Attachment 1 -- 2018/19 GOWPP Action Objectives

Objectives	Actions	Accomplished by:	Target Date/notes
Outreach/Public Education	<p>Encourage residents to participate in:</p> <ul style="list-style-type: none"> *Community Meetings *Practice “Ready, Set, Go” guidance. *Distribute “Ready, Set, Go” guidance to all Residents *Assess individual homes to assist in their mitigation efforts. 	GOHA Board, Architectural Resource Committee (ARC), and Elizabeth Fire Department	
Defensible Space	<p>Encourage residents to create a “Zone 1” defensible space around their residence.</p> <p>If possible, create a Zone 2 defensible space with cooperation from neighbors.</p> <p>Thin, prune and clear excess debris in the common areas.</p>	GOHA Board, ARC, and Residents	
Building Improvements	<p>Replace shake roof on pump house</p> <p>Encourage all residents to fireproof their home and out buildings, with proper siding, shingles, modify exposed open decks, gables, screens and chimneys</p>	Residents	

Access/Egress Improvements	Mark driveways with easily seen non-flammable house numbers	GOHA Board and Residents	
Supporting Actions and Grant Funding	Support grant funding efforts to aid in community mitigation	GOHA Board and Elizabeth Fire Department	The community needs a quality chipper and assistance in removing dead and dying trees, excessive debris and an additional entrance/exit for the community to aid in evacuations.
Emergency Preparedness	Involve Elbert County and Elizabeth Fire Department in supporting a community wildfire preparedness plan	Elbert County, Elizabeth Fire Department, and others(?)	Should be completed and approved in 2018.

Attachment 2

GOWPP Action Items:

1. Outreach and Public Education:

Action Item: All Gambel Oaks community meetings should include reminder information concerning the benefits of creating and maintaining a defensible space around each residence. *Annually assess the condition of the forest and the wildfire potential. Yard and common areas slash disposal opportunities should be coordinated on an annual basis. The Gambel Oaks community has also benefited greatly from the 25 years of the slash/mulch operation that has substantially reduced our fuel load. This is coordinated with the Education/Awareness activities and may include the coordination of a central disposal site, mobile chipping services, or a hauling service.*

2. Defensible Space:

Action Item: Creating and improving defensible space around individual homes is the most effective method to reduce hazard fuels and the threat of wildfire. *Broad participation on an individual basis ultimately leads to effective hazard reduction at the neighborhood or community level. In Gambel Oaks, where lots are smaller and housing density is high, coordinating efforts between multiple adjacent lots is STRONGLY encouraged to meet the intent of maintaining three defensible zones.. **Many homeowners with the highest need for defensible space are directly adjacent to public community open space properties. As such, each is strongly encouraged to help mitigate these areas annually.** Coordinating fuel reduction activities between public, open space, and private lands creates a mutually beneficial environment.*

- a. **Zone 1** keeps fire from burning directly to the home;*
- b. **Zone 2** reduces the adjacent fire intensity and the likelihood of torching, crown fire, and ember production; and*
- c. **Zone 3** does the same at a broader scale, keeping the fire intensity lower by maintaining a more historic condition, which in turn reduces the risk of extreme/catastrophic fire behavior.*

3. Engage Community and Its Volunteers:

Action Item: *Provide for community education, outreach, and information distribution by the GOHA Board Coordinate public education through existing spring cleanup programs.*

4. **Community Access:**

Action Item: The Gambel Oaks community presently has only one access road (which is paved) into and out of the community (Gambel Oaks Drive or CR154). This presents a special problem, especially in emergency situations. Moreover, emergency vehicle access into the 100 acres open space does not exist from the residential community. Only small all-terrain vehicles can gain access from the residential (west) side by crossing a shallow ravine. Access into the 100 acres open space by larger emergency vehicles can only be accomplished through a gate in the backyard of a private citizen off Buttercup Lane (a county dirt road south of Gambel Oaks and running parallel to the Gambel Oaks property line). Traversing the open space will be difficult as no road is available, just open natural space.

Incident evacuation must support 2-way traffic flow accommodating both residents and emergency responders. Should this route become blocked, secondary emergency access should be established through the other public private roads or through adjacent communities. This will be difficult as access will be mainly off Buttercup Lane through a person's property.

5. **Forest Health Action Item:**

Action Item: Residents must continue to monitor the health of trees on their property and contact their local CSFS District Forester or a professional arborist with concerns. Tree spraying should continue along with cutting down diseased or damaged trees. Further information is available at <http://csfs.colostate.edu/districts/>.

Attachment 3 MONITORING AND EVALUATION

Objective	Specific Tasks	Timeline	Responsible Party & Date Accomplishment
Risk Assessment	Use reliable data that is compatible among partner agencies.	Annually	Board designated GOHA Mitigation Program Manager
	Update the GOWPP with new information as necessary or when received.	Annually	
	Continue to assess wildfire risk neighborhoods and landowners.	Annually	
Fuels Reduction	Identify and prioritize fuels treatment projects on public land through development of a 5-year plan.	Annually	Same
	Track fuels reduction projects in the community and defensible space projects on resident properties.	Annually	
	Track grants and other funding sources and make appropriate application.	Ongoing	

Attachment 4**Gambel Oaks Wildfire Mitigation Plan - Summary of Responsibilities**

Year 1 - Mitigation	Responsibility
<p>Training:</p> <ul style="list-style-type: none"> ● Provide training to entire community <ul style="list-style-type: none"> ○ What is wildfire mitigation? ○ What types of fuels are in Gambel Oaks ○ What is a Red Flag Warning ○ County, community notification process. ○ Area 1 mitigation needs and requirements. ○ Area 2 mitigation needs and requirements. ○ Area 3 mitigation ○ Weather, topography ○ Wildfire suppression resources: <ul style="list-style-type: none"> ■ Community ■ Elizabeth Fire Dept. ■ Elbert County ■ Colorado State Forestry ■ Relevant Publications ○ Evacuation training: <ul style="list-style-type: none"> ■ Personal ■ Community 	<p>GOHA Board Residents Elizabeth Fire Colorado State Forestry</p>
<p>Residence Mitigation:</p> <ul style="list-style-type: none"> ● Complete activities needed to protect residence with aid from the “Ready, Set, Go” recommendations ● Develop defensive zones 	<p>Residents &</p>

<p>around each residence and community building. Zones 1 and 2 are necessary. Common areas generally have natural vegetation and needs to be mitigated according to zone 3 specifications.</p> <p>Area 1 mitigation also considering:</p> <ul style="list-style-type: none"> • Insurance needs. • Evacuation Planning and testing • Animal protection • Ready-Set-Go implementation. <p>Area 2 mitigation</p> <ul style="list-style-type: none"> • Creating a clear space • Water resources • Tree-Bush-grass mitigation. <p>Define common Area responsibilities for adjacent resident properties, and others.</p> <ul style="list-style-type: none"> • Identify and provide resources individuals and the community can provide to aid first-responders. • Provide residents criteria for reporting wildfires to 911. • Obtain 100% Code Red participation in GOHA • Complete fire hydrant flushing and pressure testing at least annually 	<p>Elizabeth Fire State Forestry</p>
<p>Common Area Mitigation</p> <ul style="list-style-type: none"> • Tree thinning, relocation, removal, spraying • Slash and Brush mitigation • Grass trimming • Define resident involvement providing protecting these areas • Reporting a Fire call 911 • 100 acre open space mitigation • Emergency vehicle access. 	<p>GOHA Board and Mitigation Manager, Horse Facility Manager Storage Lot Manager</p>

Special Projects <ul style="list-style-type: none"> • Community Tree and Brush Chipping Efforts • Tree Spraying • Tree Relocation and removal • Grass Mowing • Community Work sessions 	
Years, 2, 3 and 4 mitigation	
<ul style="list-style-type: none"> • Review and update the Gambel Oaks Wildfire Mitigation Plan - continue working on identified long term mitigation needs and unfinished projects. needs. • Conduct Refresher Training for all residents. • Maintain liaison with Elizabeth Fire. • Review needed mitigation for: residences, common areas. • Review and update Evacuation Plans • Conduct fire hydrant flushing and pressure testing • Test a community evacuation • Review notification procedures to EFD and 911. 	GOHA Board and Mitigation Manager Residents Elizabeth Fire
Year 5 Mitigation - Finish and Summary.	
<ul style="list-style-type: none"> • Review and update the Gambel Oaks Wildfire Mitigation Plan - continue working on identified long term mitigation needs and unfinished projects. needs. • Conduct Training for all residents 	GOHA Boardand Mitigation Manager Residents Elizabeth Fire

<ul style="list-style-type: none">● Conduct liaison with Elizabeth Fire● Identify needed mitigation<ul style="list-style-type: none">○ Residences○ Common Areas.○ Review and update Evacuation Plans○ Fire Hydrant Flushing and pressure testing● Test Community Evacuation and notification procedures.● Summarize the successes/and shortfalls of getting the Gambel Oaks community at a sustainable level of preparedness for both the community and its residents.	
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Attachment 5

Emergency Evacuation Measures for Gambel Oaks

The following checklist addresses important considerations each homeowner should address if an evacuation from Gambel Oaks is ordered.

Depending on the emergency, some routes may be unusable. Listen carefully to the evacuation instructions provided by the Elbert County Sheriff.

- Consider discussing evacuation with your neighbors. The power may be out leaving your vehicle's radio as your only information option.
- Recommended emergency preparedness actions
 - Each household or other group should prepare or review their Emergency Family Evacuation Plan and prepare a To-Go Bag. An Emergency Evacuation Plan should contain the following elements:
 - Meet with household members. Explain dangers to children and work as a team to prepare your family or household for emergencies.
 - Consider your pets and horses as well as essential items like medications.
 - Discuss what to do about power outages and personal injuries.
 - Post emergency phone numbers near phones.
 - Learn how to turn off the water, gas and electricity at your home.
 - Select a safe meeting point. During an emergency you may become separated from family, household or other group members.
 - Complete a family/household communication plan. Your plan should include contact information for family members, work and school.
 - Complete an inventory of household contents and photograph/videotape the house and landscape. Place files in your To-Go Bag. A second copy of these files should be stored in a location away from your community.
 - Identify escape routes and safe places. In a fire or another emergency, you may need to evacuate very quickly. Be sure everyone in your family/household knows the best escape routes out of your home and where safe places are in your home for each type of disaster. Draw an escape plan with your family/household highlighting two routes out of each room.
 - Prepare "EVACUATED" signs and if you have an emergency water source (pool, pond or hot tub), "WATER SOURCE HERE" signs. Select sites to post the signs where they will be clearly visible from the street. After planning, the family/household is encouraged to prepare to evacuate and plan to leave within minutes. Pre-packing relieves the stress of sudden evacuation and enables the family/household to focus on evacuating.
 - The To-Go Bag enables a household to grab important paperwork, pictures and enough personal effects that the family can focus on learning the safe evacuation routes and how to evacuate. When a wildfire is approaching, evacuees may only have enough time to retrieve this bag. At a minimum this should contain:
 - Clothing, personal toiletries and prescription medicines.
 - Inventory of home contents and photographs/videotape of the house and landscape.

- Flashlight, portable radio tuned to an emergency radio station and extra batteries (change batteries annually).
- Extra set of car and house keys.
- Extra pair of eyeglasses.
- Contact information for family, friends and physicians.
- Evacuation plans are intended to organize a family or household actions during an emergency so that everyone can safely evacuate and reunite. Grouped together at the community level, the elements of the family evacuation plan can be incorporated into a community evacuation plan. The community evacuation plan should consider evacuation of persons with special needs, such as the elderly or those with medical conditions. Consider the following when preparing evacuation plans for those with special needs:
 - If the family/household member is dependent upon medications or equipment, or has special dietary needs, plan to bring those items with you. Documentation about insurance and medical conditions should also accompany the person.
 - Many special-needs persons are easily upset and stressed by sudden and frightening changes. Your plans should ensure that a caregiver or trusted family member is able to stay with them at all times during an evacuation.
 - Pets and large animals always have special needs during an evacuation and many evacuation centers cannot accommodate pets. It is therefore imperative that people consider how their pets can be cared for during the entire period of the evacuation. Plan to take your animals with you or have other arrangements in place. Never simply turn them loose.
 - Make sure dogs and cats wear properly fitted collars with identification, vaccination, microchip and license tags. Horses should have something on them noting ownership. Your pet evacuation plan should include routes, transportation needs and host sites. Share this plan with trusted neighbors in your absence. Exchange veterinary information with neighbors and file a permission slip with the veterinarian authorizing emergency care for your animals if you cannot be located.
 - Make sure all vehicles, trailers and pet carriers needed for evacuation are serviced and ready to be used.
- Assemble a pet To-Go Bag with a supply of food, non-spill food and water bowls, cat litter and box, and a restraint (chain, leash or harness). Additional items to include are newspaper, paper towels, plastic bags, permanent marker, bleach/disinfectant solution and water buckets.

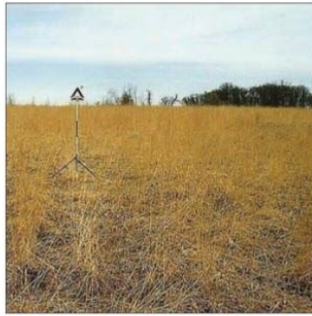
Attachment 6
Mitigation Phase Plan

Figure illustrates the areas for community-wide volunteer mitigation to the common areas. Work is to be performed in the spring of each year prior to the burn season if possible. This is a five year project through 2022, but it never really ends. It is focused on preparing the community to realistically deal with Gambel Oaks being a wildland-urban-interface (WUI) community. Resident property mitigation is required of the homeowners each year, in addition to the common area mitigation. The GOHA board will mandate and manage the common area mitigation needs, and facilitate resident efforts to do the same, providing resources and contract services, as resources will allow.



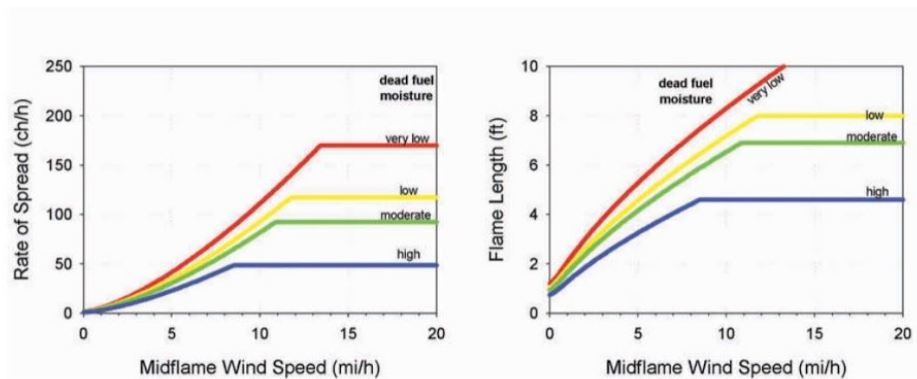
GR2 (102)

Low Load, Dry Climate Grass (Dynamic)



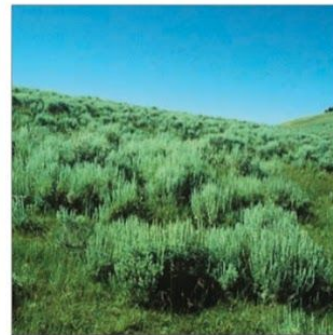
Description: The primary carrier of fire in GR2 is grass, though small amounts of fine dead fuel may be present. Load is greater than GR1, and fuelbed may be more continuous. Shrubs, if present, do not affect fire behavior.

Fine fuel load (t/ac)	1.10
Characteristic SAV (ft-1)	1820
Packing ratio (dimensionless)	0.00158
Extinction moisture content (percent)	15



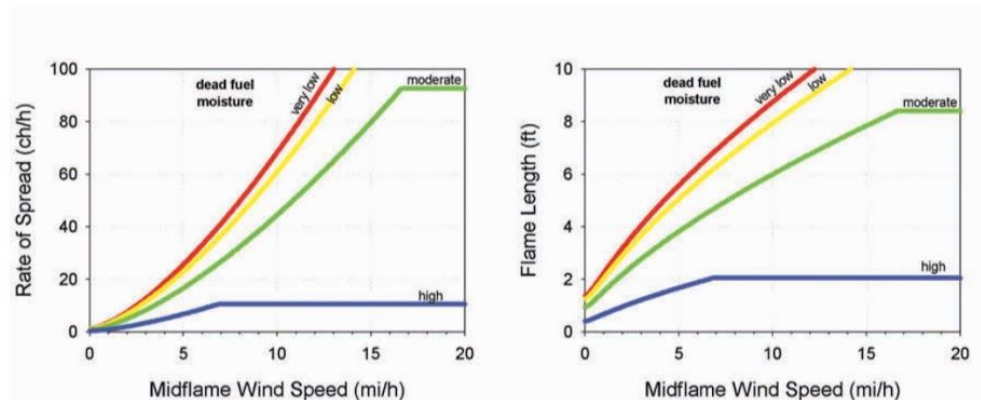
GS2 (122)

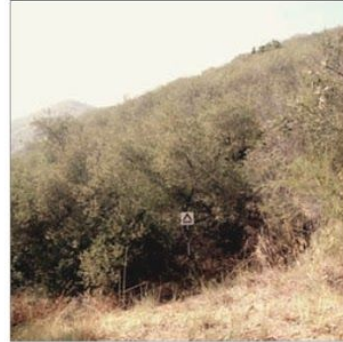
Moderate Load, Dry Climate Grass-Shrub (Dynamic)



Description: The primary carrier of fire in GS2 is grass and shrubs combined. Shrubs are 1 to 3 feet high, grass load is moderate. Spread rate is high; flame length moderate. Moisture of extinction is low.

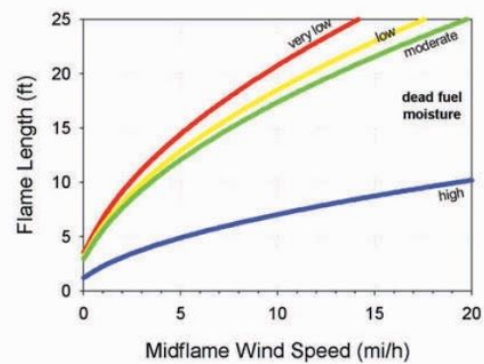
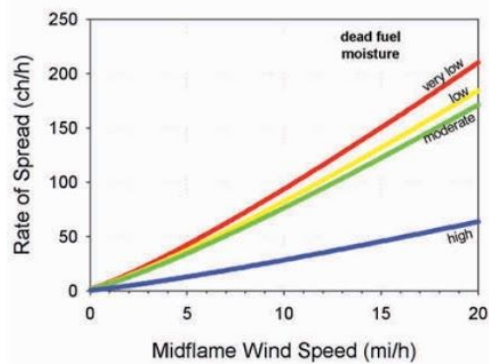
Fine fuel load (t/ac)	2.1
Characteristic SAV (ft-1)	1827
Packing ratio (dimensionless)	0.00249
Extinction moisture content (percent)	15



SH7 (147)***Very High Load, Dry Climate Shrub***

Description: The primary carrier of fire in SH7 is woody shrubs and shrub litter. Very heavy shrub load, depth 4 to 6 feet. Spread rate lower than SH7, but flame length similar. Spread rate is high; flame length very high.

Fine fuel load (t/ac)	6.9
Characteristic SAV (ft-1)	1233
Packing ratio (dimensionless)	0.00344
Extinction moisture content (percent)	15



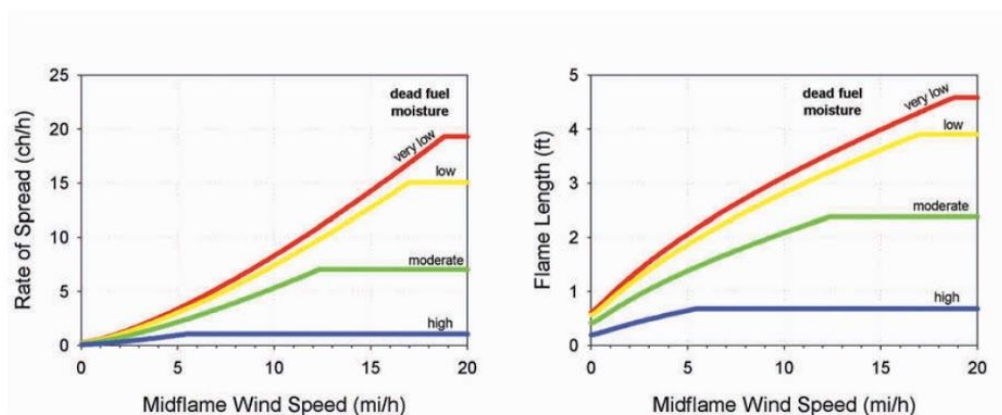
TU1 (161)

Low Load Dry Climate Timber-Grass-Shrub (Dynamic)



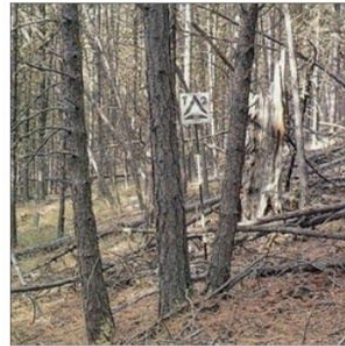
Description: The primary carrier of fire in TU1 is low load of grass and/or shrub with litter. Spread rate is low; flame length low.

Fine fuel load (t/ac)	1.3
Characteristic SAV (ft-1)	1606
Packing ratio (dimensionless)	0.00885
Extinction moisture content (percent)	20



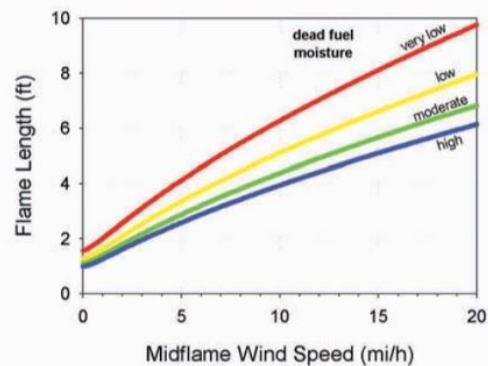
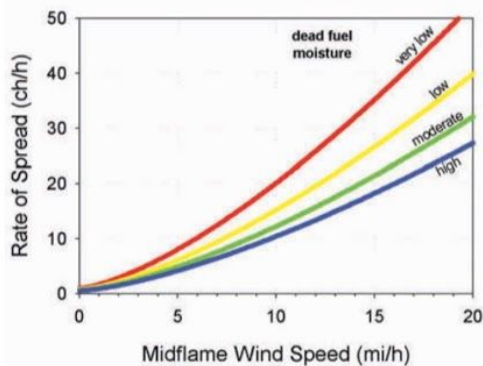
TL8 (188)

Long-Needle Litter



Description: The primary carrier of fire in TL8 is moderate load long-needle pine litter, may include small amount of herbaceous load. Spread rate is moderate; flame length low.

Fine fuel load (t/ac)	5.8
Characteristic SAV (ft-1)	1770
Packing ratio (dimensionless)	0.03969
Extinction moisture content (percent)	35



NB1 (91)

Urban/Developed



Description: Fuel model NB1 consists of land covered by urban and suburban development. To be called NB1, the area under consideration must not support wildland fire spread. In some cases, areas mapped as NB1 may experience structural fire losses during a wildland fire incident; however, structure ignition in those cases is either house-to-house or by firebrands, neither of which is directly modeled using fire behavior fuel models. If sufficient fuel vegetation surrounds structures such that wildland fire spread is possible, then choose a fuel model appropriate for the wildland vegetation rather than NB1.

Expected fire behavior:

No fire spread

Attachment 8

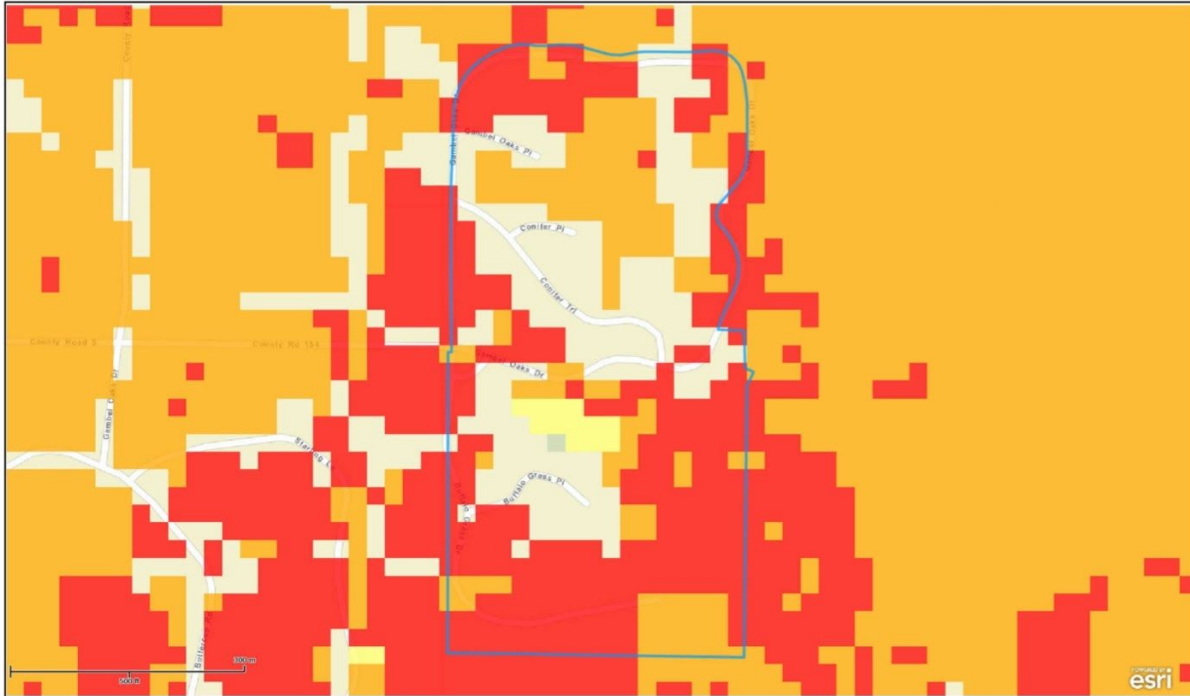
GOHA topographic maps and community burn information

This information was extracted from the 2017 Colorado Wildfire Risk Assessment Summary Report for Gambel Oaks. Report version 5.0, 11/29/2018 (**The community wishes to thank the Colorado State Forest Service fro generating this important and useful report**)



Gambel Oaks HOA-Wildfire Risk

The overall composite risk occurring from a wildfire derived by combining Burn Probability and Values at Risk Rating



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Colorado Wildfire Risk Assessment 2017

www.coloradowildfirerisk.com

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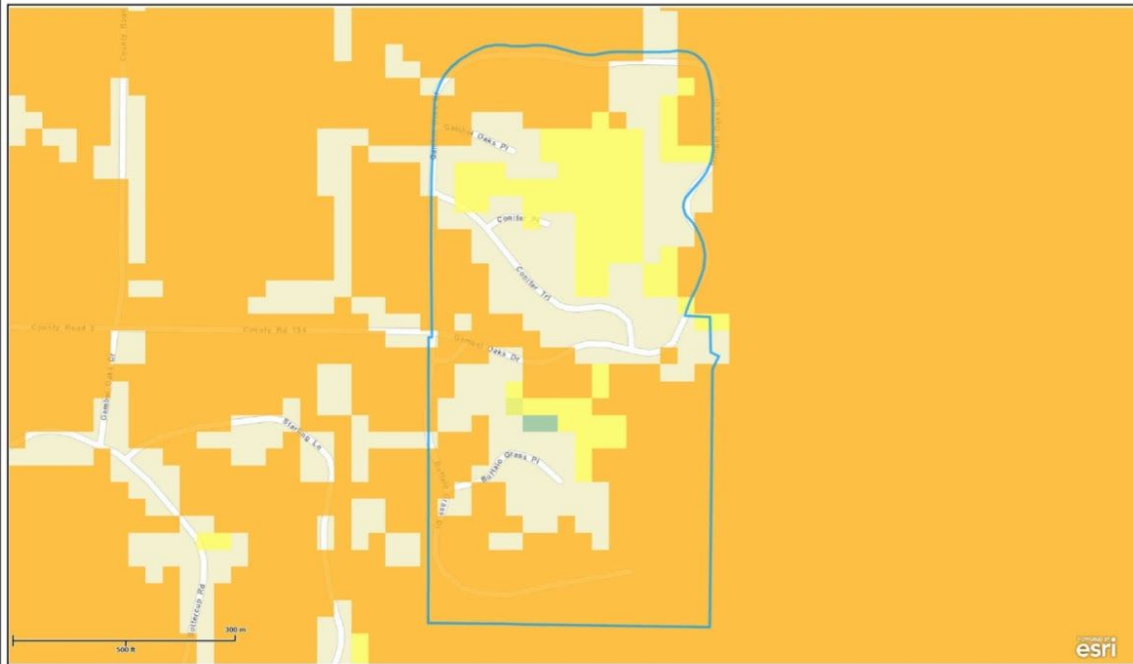


Wildfire Risk



Gambel Oaks HOA: Burn Probability

Annual probability of any location burning due to wildfire



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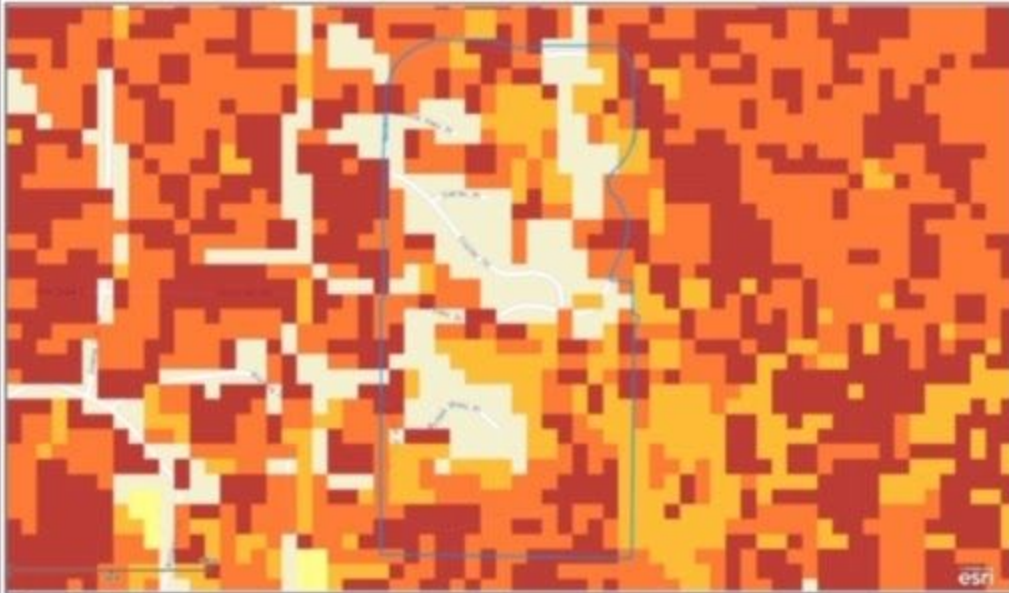


Burn Probability



Gambel Oaks HOA: Characteristic Rate of Spread

A measure of the expected rate of spread of a potential fire.



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Characteristic Rate of Spread

