REPORT

PINERY CIRCLE SUBDIVISION

Fire Protection, Wildland Fire, and Forestry Management Plans



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Revision Record Summary

Revision	*Revision Summary*
0	Initial Delivery

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1.0 Introduction

El Paso County Land Development Code (LDC) Section 6.3.3 requires a Fire Protection Report for subdivision applications, addressing fire authority capabilities, water supply, access, and wildfire mitigation.

The Pinery Circle Subdivision, located at 7570 Pinery Circle in Colorado Springs, consists of approximately six (6) acres within the Black Forest Fire Rescue (BFFR) District and is proposed to be subdivided into three (3) two-acre lots for future residential development. This development will hence be referenced for this document as the “Pinery Circle Subdivision Project”.

The intent of this report is to conform to the Fire Protection Report requirements of El Paso County Code through addressing the evaluation of existing site conditions, the proposed subdivision, BFFR response capabilities, water supply, and fire department access. Due to development and properties being at risk to wildfire, a Wildfire Mitigation Plan and Forest Management Plan are included in this report.

At the time of assessment, the property lines for subdivision were not determined. The assessments and evaluation of the property are inclusive of the entire six (6) acres, regardless of the subdivision and the residential location.

1.0 Applicable Codes and Standards

The following codes and standards are applicable to the Pinery Circle Subdivision project:

- Land Development Code (LDC) of El Paso County, Colorado, May 2023 Version
- Engineering Criteria Manual (ECM), October 2020 Version
- International Fire Code (IFC), 2015 Ed., as adopted and amended by the Black Forest Fire Rescue
- NFPA 1142, *Standard on Water Supplies for Suburban and Rural Firefighting,* 2022 Ed.
- Black Forest Fire Rescue, “*Cistern and Dry-Hydrant Specifications*”

2.0 Existing Site and Conditions

The Pinery Circle Subdivision Project is located on a six (6) acre parcel, located at 7570 Pinery Circle in Colorado Springs. The parcel is planned to be subdivided into three smaller residential lots, consisting of nearly two (2) acres each. Access to each lot is undetermined at this time, however, the current access is via the north side of Swan Road, north on Pinery Drive (***Figure 1***), and west on Pinery Circle.

The project's residential lot is zoned Rural Residential (RR-5) and located within the Black Forest Fire burn scar. Approximately 75% of the site consists of open meadow dominated by brome and low-growing vegetation, with the remaining 25% containing ponderosa pine. The terrain slopes gently from southwest to northeast, with the highest elevation along the northeastern boundary (***Figure 2***).

The proposed subdivision will divide the parcel into three (3), two (2) acre lots, each with direct access from Pinery Circle. A 12.5 kV overhead power line runs north to south through Lot 1.

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Figure 1 - Pinery Circle Intersection



Figure 2 - Proposed Development Area



Figure 3 - Power Junction Box

A buried electric service line extends west to east across Lots 1 and 2, connecting to the overhead utility poles. A junction box and wellhead are located near the shared boundary of proposed Lots 2 and 3 (***Figure 3***).

A partially deteriorated stone foundation consisting of north and west walls approximately 6 feet in height is located near the center of Lot 3. The structure has been significantly eroded over time. An overgrown two-track road, now covered with perennial grasses, leads to this area.

No other development has been identified on the property.

3.0 Development Subdivision

There is no estimated timeline regarding the development and/or construction of structures on any of the three lots. Each lot will be available for future residential construction, but structure size will be limited to a maximum of 5,000 ft^2. Furthermore, all future residential structures will be required to be equipped with an automatic fire sprinkler system in accordance with NFPA 13D[1]. Each sprinkler system is to be served by a storage tank sized adequately to provide the required sprinkler flow (based on structure size) for a minimum duration of 10 minutes. Adjacent exposures are not permitted within 50 ft of the primary structure. All future developments will be in accordance with the applicable codes and standards, including, but not limited to, the International Fire Code, at the time of construction.

3.1 SUBDIVISION RESTRICTIONS

The BFFR has determined that all future development within the subdivision will adhere to the following criteria:

1. The subdivision is limited to residential dwellings and associated accessory structures.
2. The maximum residential dwelling size is limited to 5,000 ft^2.
3. All residential dwellings will be protected by NFPA 13D fire sprinklers[1].
4. Accessory structure exposures are not permitted within 50 ft of the primary residential dwelling.

If any future developments deviate from the above criteria, individual fire protection strategies shall be approved by the BFFR Fire Prevention and Compliance Division.

[1] *BFFR is in the process of updating sprinkler requirements and should be consulted for this project*

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4.0 Black Forest Fire Rescue (BFFR)

Black Forest Fire Rescue (BFFR) is a full-time career department that consists of thirty (30) firefighters and three (3) administrative staff. The department staffs eight (8) firefighters per shift. The district covers approximately 52 square miles of primarily residential areas and serves approximately 40,000 residents.

4.1 SERVICES

BFFR is an all-hazards emergency services organization that delivers Advanced Life Support (ALS) and patient transport, fire suppression, and technical rescue services. The department also responds to a wide range of incidents, including motor vehicle accidents and extrications, physical entrapments, wildland fires, odor investigations, gas leaks, and hazardous materials events.

In addition to its operational responsibilities, BFFR maintains a dedicated Fire Prevention and Compliance Division that oversees development and ensures adherence to applicable codes and standards throughout the district.

4.2 APPARATUS

BFFR operates two fire stations, with most of the apparatus being located at Station 1. A list of apparatus by station is provided below.

Fire Station 1 (11445 Teachout Road)	*Fire Station 2 (16465 Ridge Run Drive)*
+ Engine 711 (750 Gallons) + Medic 781 + Brush 741 + Tender 761 (1,800 Gallons) + Wildland Type 3 + Reserve Tender + Reserve Brush + Reserve Engine	+ Engine 712 (750 Gallons) + Brush 742 + Medic 782



Figure 4 - BFFR Engine

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4.3 STRATEGIC PARTNERSHIPS

Operationally, BFFR is an automatic aid partner for agencies within El Paso County, including the Colorado Springs Fire Department (CSFD) and Falcon Fire Protection District (FFPD), and a mutual aid partner for Douglas County and the State of Colorado. These agreements supplement response through additional assets, personnel, and water delivery. The BFFR Fire Prevention and Compliance Division has a Memorandum of Understanding with the CSFD to provide commercial plan reviews and inspections through the Division of the Fire Marshal. Residential plan reviews and inspections are provided through the Pikes Peak Regional Building Department.

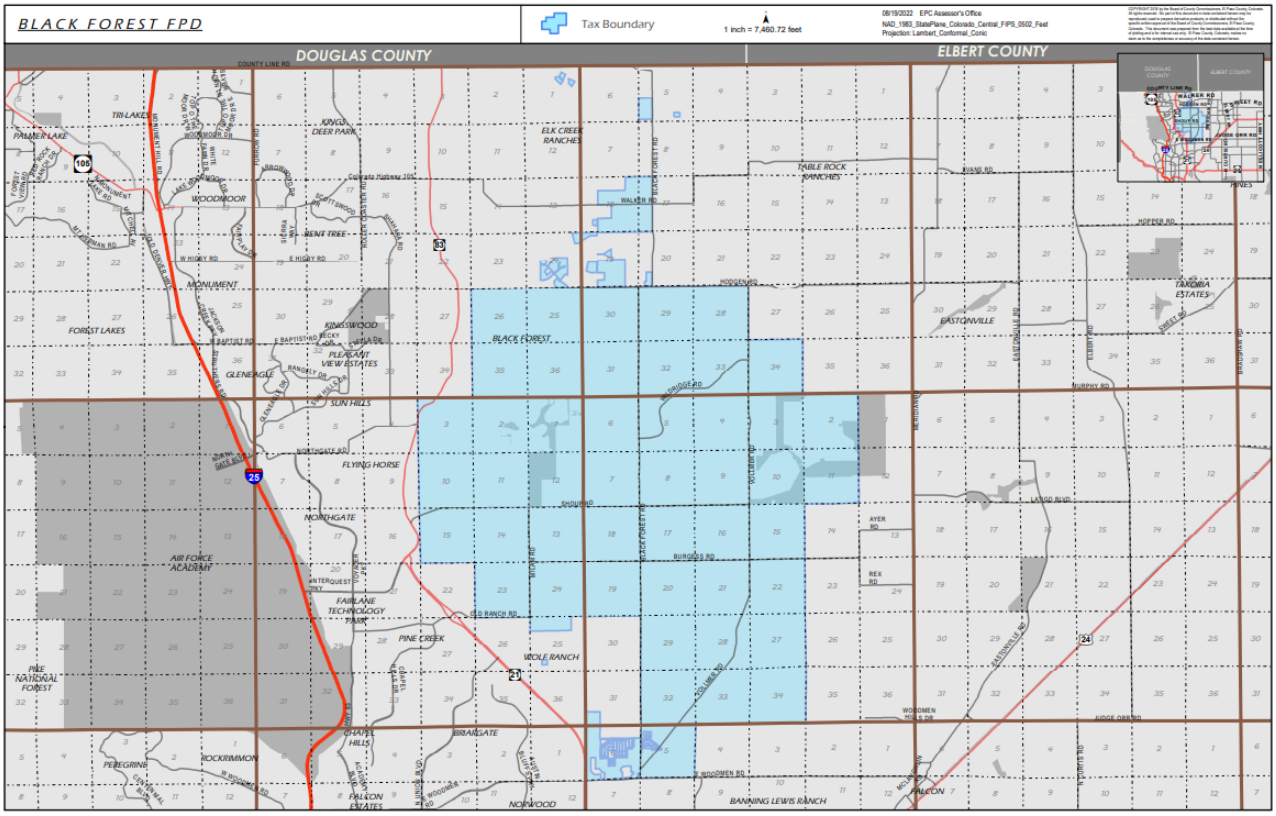


Figure 5 - BFFR District Map

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4.4 RESPONSE TIME

The four closest fire stations to the proposed subdivision were considered in a response time analysis. These stations included BFFR – Stations 1 and 2, CSFD – Station 15, and FFPD – Station 1. Estimated response times, provided in ***Table 1*** were developed using the distance from each station to the proposed subdivision and an average response speed of 35 mph. This speed was selected per RAND Corporation standards for fire engine response to an emergency over average terrain, with average traffic and weather conditions, and slowing for intersections. ***Appendix B*** provides a map indicating station locations.

Table 1 - Estimated Fire Department Response Times to 7570 Pinery Circle

Agency	*Station*	*Address*	*Distance*	*Time*
BFFR	Station 1	11445 Teachout Rd Colorado Springs, CO 80908	3.2 miles	6 minutes
BFFR	Station 2	16465 Ridge Run Dr Colorado Springs, CO 80908	4.3 miles	7 minutes
CSFD	Station 15	4770 Scarlet Dr Colorado Springs, CO 80920	8.2 miles	15 minutes
FFPD	Station 1	12072 Royal County Down Rd Falcon, CO 80831	9.3 miles	17 minutes



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5.0 Fire Protection Report

5.1 RESIDENTIAL FIRE PROTECTION

See Section 3.0 for residential fire protection guidance.

5.2 WATER SUPPLY PLAN

The LDC Section 6.3.3(C)(1)(a) requires a water supply to be provided for fire protection and, in areas without central water supplies, the LDC applies NFPA 1142. Furthermore, the LDC Section 6.3.3(C)(1)(d) requires fire cisterns to be provided in areas that are not served by hydrants, unless the Fire Authority has recommended an alternative fire protection water supply system. In accordance with the BFFR, "Cistern and Dry-Hydrant Specifications," Section 1, 1.1, fire protection cisterns are only required to be provided in subdivisions of five or more lots.

The proposed subdivision consists of three lots; therefore, it does not require a fire protection cistern. Based on the NFPA 1142 analysis in Section 5.3 of this report, as directed by the LDC, the proposed subdivision will achieve the required water supply through mobile (hauled) water capabilities.

The combined tank capacity of BFFR Engine 711 and Tender 761 is 2,550 gallons. Currently, the closest fire hydrant from the proposed subdivision is approximately 3.4 miles away at the northeast corner of Burgess Road and Black Forest Road.

5.3 WATER SUPPLY ANALYSIS

In the absence of a centralized water supply, NFPA 1142 establishes minimum requirements for alternative water supplies for structural firefighting. The water supply may be provided by an on-site supply, a mobile water system, or a combination of both, as needed.

NFPA 1142

Two equations are provided in Chapter 4 of NFPA 1142 for calculating the minimum water supply requirements for any proposed residential building. One equation accounts for exposures while the other does not. It has been determined that there will be no structures within 50 ft of the primary structure or the other existing structure on the property. Thus, this analysis is based solely on the equation that does not account for exposures.

The minimum water supply for the protection of a building is based on the following components:

- Total Volume of the Structure – The total volume of the structure is used to determine the size of the structure and the volume of potential combustible contents. This volume includes the attic, basement, and crawl space.
- Occupancy Hazard Classification – This is a mathematical factor that quantifies the nature of the occupancy and how it will be used. The lower occupancy hazard classification number equates to an occupancy with a more severe hazard and a higher risk potential. These classifications are based on the quantity and combustibility of the contents, the rate of spread, and the heat release rate.
- Construction Classification – This is a mathematical factor that quantifies the construction type of the structure. This factor is directly based on the construction type (I, II, III, IV, or V) of a structure. Construction types are determined based on the fire-resistance rating of multiple elements of the structure construction, including interior/exterior bearing walls, interior/exterior non-bearing walls,

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columns, beams, floors, and roofs. The lower the construction classification, the more resistive the construction is to fire.

The input parameters used for analysis are summarized in

Table 2 - NFPA 1142 Input Parameters

. The evaluation assumes a single-family residential structure not exceeding 5,000 ft^2, constructed as Type V (wood-frame) construction with typical residential building materials, similar to the existing structure on the property, with no adjacent exposures.

NOTE: El Paso and Elbert County do not have a limit on single-family square footage. However, consultation with the El Paso County LDC, EFPD, and Black Forest Fire is highly recommended. In addition to building construction materials, fire suppression capability and response times should be a consideration for new construction. Calculations are based on a 5,000 ft^2 Type V (wood frame) structure.

Table 2 - NFPA 1142 Input Parameters

Input Parameters	*Resulting Values*
Occupancy Hazard Classification Number per NFPA 1142	7 – Dwelling
Construction Classification per NFPA 221	Type V (000)
Construction Classification Number per NFPA 1142	1.0[a]
Total Structure Area (including Attics/Basement)	5,000 ft^2
Average Ceiling Height	12 ft
Total Structure Volume	60,000 ft^3
Exposure Distance within 50 ft	None
Automatic Sprinkler Protection	NFPA 13D

[a] Not to exceed 1.0 for dwellings, regardless of construction classification.

The minimum water supply calculation for structures without exposure hazards is used in accordance with NFPA 1142 Section 4.2.1, shown below as Equation 1.

Equation 1: $$WS_{min} = \frac{VS_{tot}}{OHC}(CC)$$

where WS_{min} is the minimum water supply [gal], VS_{tot} is the total volume of the structure [ft^3], OHC is the occupancy hazard classification number per NFPA 1142, and CC is the construction classification number per NFPA 1142.

Equation 1 Result: $$\frac{60{,}000}{7}(1.0) = 8{,}571\ gal$$

The minimum fire protection water supply is calculated to be 8,571 gallons, prior to any sprinkler reductions.

Fire Sprinkler Consideration

Fire sprinklers are not a requirement based on the currently adopted building code; however, they should be evaluated as an adjunct to fire protection and evaluated for efficacy with BFFR.

It is well known that automatic fire sprinklers are effective in controlling residential fires. As such, NFPA 1142 Section 4.4 permits a reduction in the minimum required water supply where a structure is protected by an NFPA 13D automatic sprinkler system. NFPA 1142 does not specify the reduction amount; thus, the IFC, as

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adopted by EFPD, is used to determine the allowable reduction. More specifically, Table B105.1(1) allows for a 50% reduction in fire-flow for one- and two-family dwellings provided with automatic sprinklers.

Consistent with the IFC's recognition of automatic fire sprinkler effectiveness, the same 50% reduction has been applied to the NFPA 1142 analysis.

Water Supply Required

Based on the parameters set in Section 4.1 and a 50% sprinkler reduction, the required fire protection water supply is 4,284 gallons, subject to change with the final building size. The ECFD Fire Marshal's Office can assist with final calculations.

5.4 FIRE DEPARTMENT ACCESS

5.4.1 Premise Identification

The address will change from 7570 Pinery Circle to three visible addresses. Markers will be placed at each driveway per IFC 505.1, with 4-inch-high, ½-inch-stroke numbers on a contrasting background. Coordinate with BFFR and El Paso County LDC for any variances.

5.4.2 Access Roads

Minimum design requirements for fire apparatus access roads to ensure reliable emergency response include providing an all-weather driving surface (including native decomposed granite) capable of supporting fire apparatus loads, with a minimum unobstructed width of 20 feet and a vertical clearance of 13 feet 6 inches. Grades are limited to 10 percent unless otherwise approved, and dead-end roads exceeding 150 feet must include an approved turnaround. Adequate turning radii, appropriate signage, and ongoing maintenance to ensure access is not impeded.

5.4.3 Non-Road Access (i.e. Driveway)

If any part of a structure is more than 150 ft from the access road, a compliant driveway per LDC Section 6.3.3 will be provided (min. 10 ft wide, 13 feet 6-inch clearance). For lengths over 300 ft, the driveway will be evaluated and include a BFFR-approved turnaround.

5.4.4 Gates

There are no proposed gates at this time. If gates are added in the future, they will be located at least 30 ft from the right-of-way and swing inward. Any gates provided with locks that will provide access to firefighters will be submitted for approval by BFFR.

6.0 Construction in Wildland Fire Area

6.1 WILDLAND FIRE AND HAZARD MITIGATION PLAN

A Wildfire Mitigation Plan is included in Section 7.0 of this report and was developed by Jensen Hughes in 2026. The plan addresses the current wildfire conditions and risk for the property, the fuels present, the fuel management recommendations, and the home ignition zone.

6.2 DEFENSIBLE SPACE

As required by LDC Section 6.3.3, defensible space and structure hardening will be provided for future structures and, to the extent possible, implemented for the existing structures.

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6.3 FUELS MODIFICATION

As required by LDC Section 6.3.3, a fuels modification plan has been included in the Forest Management Plan (Section 8) with the goal of reducing risk and improving forest health.

6.4 COMBUSTIBLE MATERIALS

As required by LDC Section 6.3.3, combustible materials management is addressed in the Wildland Fire and Hazard Mitigation Plan (Section 7)

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7.0 Wildland Fire & Hazard Mitigation Plan

7.1 OVERVIEW

The proposed development on Pinery Circle consists of a current six-acre single-family residential lot in a semi-rural forested environment in El Paso County, Colorado. This property is planned to be subdivided into three parcels of undetermined sizes. Each proposed subdivided parcel contains similar vegetation, cover type, and wildfire risk characteristics. For purposes of similar attributes and uncertainty of division locations, the property will be addressed in its entirety for purposes of this Wildland Fire and Hazard Mitigation Plan section.

The property consists of one single-family residential structure located on gently sloping land that contains a slight northwest aspect. The property lies within the 2013 Black Forest Fire Burn Scar where the entire property and structures were burned. The property and respective lots are located at the headwaters of Kettle Creek in the Kettle Creek Watershed.

The lot, in its entirety, remains located within a "wildfire risk area" (***Figure 7***) according to the **Colorado State Forest Service** (CSFS), and the **Black Forest Community Wildfire Protection Plan.** The property is also located in the Wildland Urban Interface, according to the El Paso County Wildland Urban Interface[2].

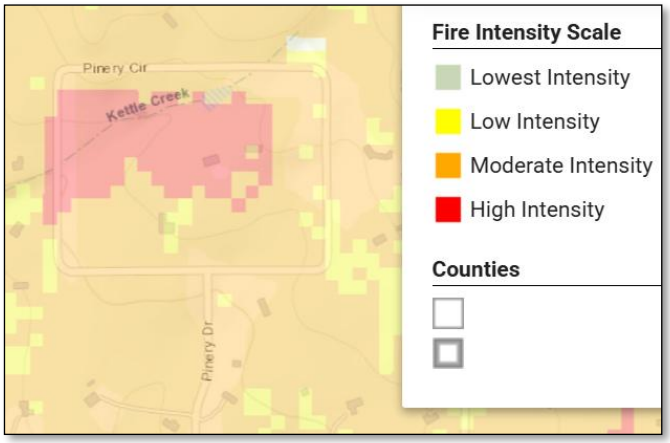


Figure 7 - Wildfire Intensity assessment from Colorado State Forestry Service

7.2 WILDFIRE RISK ANALYSIS

Wildland Fire Vegetation (Fuel Loading and Associated Wildfire Risk)

The property has been identified as a wildfire risk area; however, due to the 2012 Black Forest Fire, the risk or threat of a severe wildfire is low due to minimal large-diameter vegetation on the site. The property contains minimal fuel loading other than a contiguous bed of fine fuels (native grasses). These fine fuels consist of predominantly native grass species including brome, western wheatgrass, various grama species, and needlegrass. Additionally, there are other sporadic invasive grasses and weeds intermixed throughout the six acres. These "short grass" species and fuel types represent the majority of the fuel loading component on the property.

In addressing wildfire risk in Colorado, grass fuels are defined as "short grass", "mixed grass", or "tall grass". In relation to fuels on Pinery Circle, the predominant fuel is "short grass". A short grass is defined as less than ¼" in diameter and less than twenty inches in height. Flame lengths of a short grass fuel type have been observed to be up to 20 ft in height, during extreme, wind-driven fire events.

Extreme fire behavior is influenced by high winds, low humidity, dry fuels, topography (steep slopes/hills), and heavy fuel loading. Heavy fuel loading in reference to "short grass" consists of a thick, continuous, horizontal and vertical bed of grass covering a large area. These factors contribute to fire intensity and the amount of potential heat a grass fire can release. The growing season for the brome and other grasses is between the middle of April until late June or early July. They then begin to cure, slowly dry out and become

[2] Changes in El Paso County's Wildland Urban Interface, 2020, **Changes in El Paso County's Wildland Urban Interface**

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readily available to burn. These factors are important as fast-moving grass fires are often the “carrier fuels” that can preheat and ignite larger fuels such as shrubs, bushes, trees, structures, outbuildings, vehicles, power poles, etc.

All these factors contribute to the potential wildfire risk for the property. While this property does contain a short grass fuel type and characteristics that could support a grass fire, the property lacks heavy fuel loading of contagious grasses and larger fuel types such as trees to sustain high intensity wildfire. Additionally, the property lacks the terrain and topography to pose a significant wildfire threat. This wildfire risk is further confirmed by the Colorado State Forest Service through their wildfire risk assessment. Their assessment identifies the property as a “low to moderate” wildfire risk (***Figure 7***).

Although the property contains low to moderate risk, there is still the potential for a significant fire that can impact the property. An ignition on a dry, windy day would result in rapid growth and potentially extreme fire behavior. Existing and future structures should be mitigated using “structural hardening” techniques including establishing defensible space around the structures, current and planned, as well as outbuildings. Refer to **Firewise USA (NFPA)** for additional information on preparing homes for wildfire.

Surface Fuel Models

The following fuel model classifications were considered as part of the wildfire risk and behavior. These fuel models would be and can be utilized for further calculations in wildfire behavior modeling software. The current fuel distribution on the site is estimated as follows:

GR7 (Grass Fuel Model) – ~50%
Dominated by continuous dry grasses (e.g., brome, bluegrass, mullein). These fuels support high spread rates and flame lengths, particularly under wind-driven conditions.

GS3 (Grass-Shrub Model) – ~30%
Patchy grass and shrub mix with moderate fuel loading. Fire spread rates are high, with moderate flame lengths.

TU5 (Timber Understory Model) – ~20–25%
Characterized by forest litter with shrub and small tree understory. Fire behavior is generally moderate, though torching can occur if ladder fuels are present.

Overall, grass and grass-shrub fuel types dominate approximately 80% of the site and represent the primary drivers of fire behavior on the property.

7.3 WILDFIRE MITIGATION PLAN ACTIONS

Creating and maintaining defensible space is the best way to create stand-alone survivability of a structure during a wildfire. Although the proposed structures have not been constructed at the time of this assessment, incorporating defensible space practices and building practices is an important step towards preparing the property for future wildfires. Given this property has already been negatively impacted by wildfire, creating defensible space of the existing structure and future structures is a best practice.

The current and future homes should adhere to the defensible space tactics by adhering to the three zones of risk reduction. These zones include: The Immediate Zone: 0-5 ft (Zone 1), Intermediate Zone: 5-30 ft (Zone 2), and the Extended Zone: 30-100 ft (Zone 3) (***Figure 8***).

These three zones should be appropriately maintained for wildfire risk reduction through regular maintenance, vegetation separation, and hardened features. These actions may include, but not limited to the following:

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- Zone 1: Remove grasses, shrubs, and other woody debris from the base of the existing and future planned structures. There should be a cleared area in Zone 1, free of ignition vegetation and sources of fuel adjacent to the structure. This area should contain rock, soil, or hardscape that prevents wildfire from encroaching on the structure.
- Zone 2: Selectively remove vegetation or plant approved fire adapted species when selecting desired landscaping vegetation. Since the Black Forest Fire consumed most of the overstory vegetation, selecting the correct tree species and implementing appropriate spacing of tree plantings is critical. While this area can contain larger trees, the understory of trees should be maintained and cleared of tall grass or shrubs that may create a ladder fuel to the tree canopy. Larger trees in this area should also be maintained where they cannot impact the structures over time.
- Zone 3: Keep grass mowed to a low sustainable height, typically less than four inches. Keep separation between regenerating trees, planted trees, and other larger plant species as development of the property continues. Keep larger trees pruned and well maintained.

7.4 FIRE RESPONSE

Fire protection services are provided by the Black Forest Fire Rescue Protection District. The nearest station (Station 1) is located at 1445 Teachout Road in Colorado Springs. The area benefits from established mutual aid agreements for wildfire response.

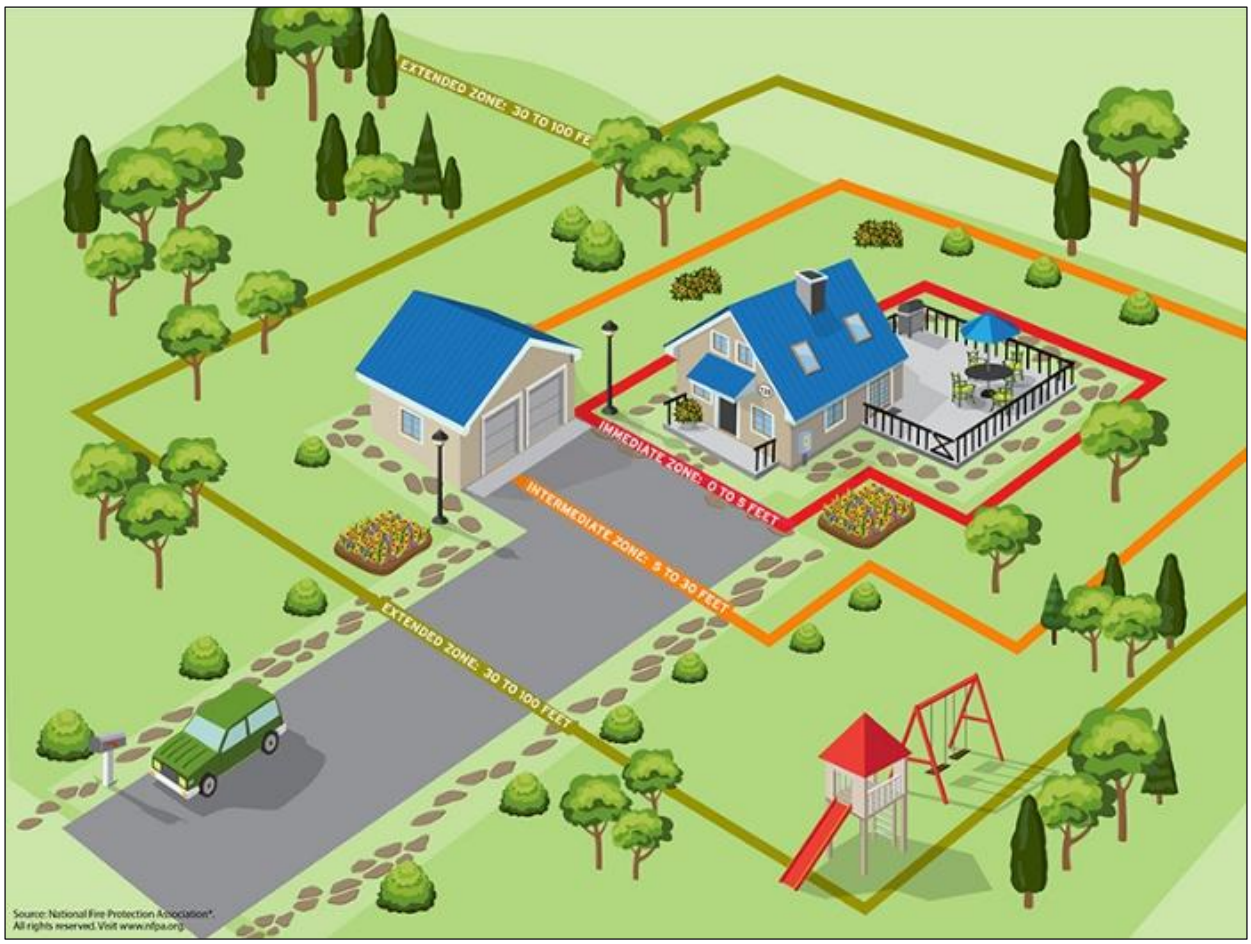


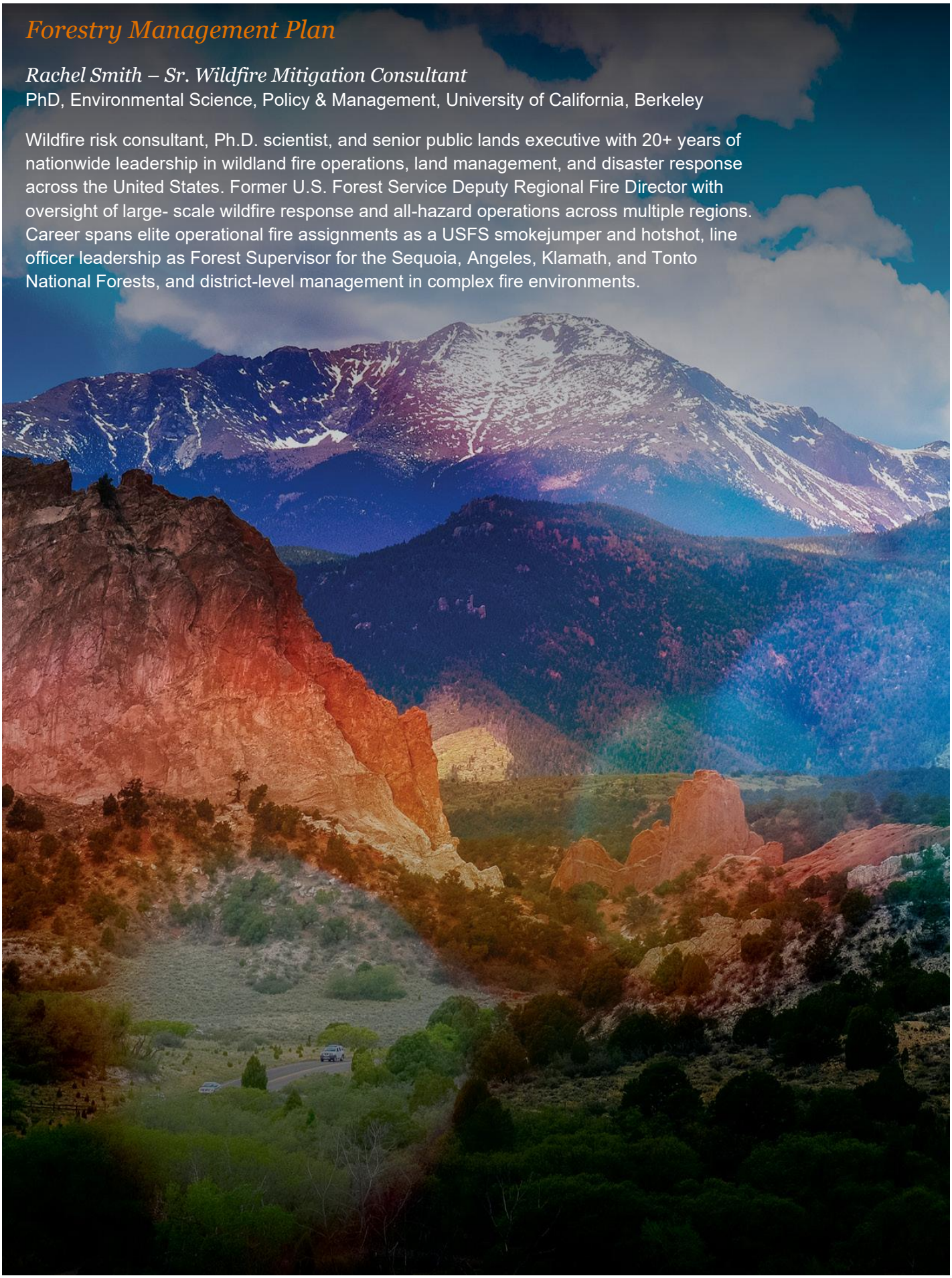
Figure 8 - FIREWISE USA Zones

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Forestry Management Plan

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Wildfire risk consultant, Ph.D. scientist, and senior public lands executive with 20+ years of nationwide leadership in wildland fire operations, land management, and disaster response across the United States. Former U.S. Forest Service Deputy Regional Fire Director with oversight of large- scale wildfire response and all-hazard operations across multiple regions. Career spans elite operational fire assignments as a USFS smokejumper and hotshot, line officer leadership as Forest Supervisor for the Sequoia, Angeles, Klamath, and Tonto National Forests, and district-level management in complex fire environments.



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8.0 Forestry Management Plan

8.1 SITE OVERVIEW AND BACKGROUND

The proposed Pinery Circle Subdivision Project is located in a rural native grass and sparsely populated ponderosa pine forest in the semi-arid, high-elevation desert of the Colorado Front Range. The entirety of six acre project area contains some ponderosa pine species with a predominant vegetation type of mixed native grasses. The few conifers located on the property are scattered, mature, and small-diameter ponderosa pine trees. The native grasses consist of mixed species and very in size from surface growing to 16 inches in height.

The property is a zoned residential rural property (RR-5) with dirt roads on three sides and other rural residential properties adjoining the proposed development. The property contains little topography or elevation change across the six acres, with only a slight southwest aspect. ranges in elevation from approximately 7,520 to 7,550 ft and features a gentle west-to-east slope of approximately 5% with a southwest aspect. The property currently contains only one single-family residential structure.

The vegetation on this property was highly influenced by the 2013 Black Forest Fire. Prior to the Black Forest Fire, the area was characterized by a dense, closed-canopy conifer forest with continuous horizontal and vertical fuel arrangements. These conditions contributed to a high wildfire intensity and severity and the probable consumption of many conifer trees on this property. During the fire, an estimated 80% of standing timber and surface fuels were consumed as the crown fire moved through the area. This resulted in a conversion of the former closed canopy dense pine forest to a sparsely populated pine forest with a predominate grass fuel component.

8.2 CLIMATE

The site is influenced by high-desert conditions, the Palmer Divide, and the regional rain shadow effect. The climate is semi-arid, with low annual precipitation, frequent drought conditions, and significant temperature fluctuations. These conditions stress vegetation and increase susceptibility to wildfire, disease, and invasive species.

Wildfire can occur year-round in El Paso County, though peak activity typically occurs in early spring (prior to green-up) and in early summer (June-July). Dry conditions, high winds, and low humidity are primary drivers of fire behavior.

Wind patterns including Chinook, mountain wave, Bora-type winds, and jet stream influences can further exacerbate wildfire behavior, fuel moisture, and weather patterns. Daily conditions often include high diurnal temperature swings, low humidity recovery, and shifting winds.

The average annual precipitation in the area is approximately 16.7 inches, with a mean annual temperature of about 45°F, based on nearby weather stations.

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8.3 VEGETATION AND FUELS

The proposed area to be developed has recovered with native and invasive grasses replacing much of the former timber stand. The trees and other vegetation burned during the fire have largely been removed, and residents have actively maintained the remaining vegetation.

The vegetation consists of scattered mature Ponderosa pine with some small diameter, less than five-foot, regeneration. The grasses and shrubs dominate the property and understory of trees with the most common consisting of various types of grama, buffalo grass, brome, western wheatgrass, and others. The property also contains some signs of invasive grass species including mullein, thistle, and some downy brome (cheatgrass).

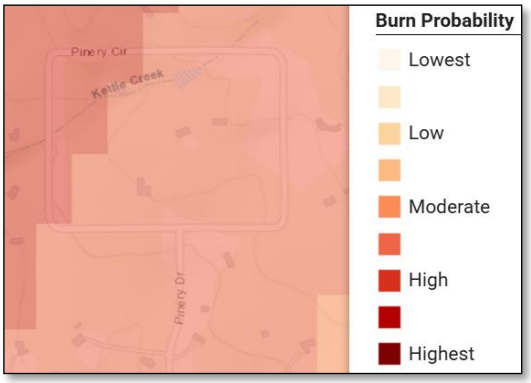


Figure 9 - Burn probability of the development

The density of downed woody debris is minimal, even in the understory of the large pine trees. The predominant surface fuel loading consists primarily of pine duff and small- to medium-diameter slash. Only one downed ponderosa pine (~20-inch diameter at breast height) is located near the northwestern boundary of the development. No significant non-fire-related tree mortality was observed, and surviving trees appear healthy

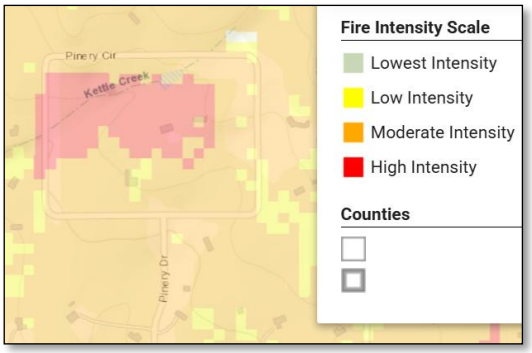


Figure 10 - Fire intensity of the development

8.4 FUEL MODELS AND FIRE BEHAVIOR

At time of inspection, the current fuel conditions present a low to moderate fire risk. This risk was determined through on-site inspection and primarily due to minimal densities of vegetation and minimal fuel loading. This analysis of low to moderate risk was confirmed utilizing the standard wildfire behavior fuel models from Colorado State Forest Service (CSFS) **Wildfire Risk Viewer**. The CSFS risk viewer identifies the property as containing a low to moderate Wildfire Intensity and a low to moderate Burn Probability.

Although the site remains mapped as a moderate to high burn probability area, post-fire conditions including fuel consumption, vegetation changes, and ongoing mitigation have reduced overall fire risk. These wildfire prediction models consider the probability of a wildfire given historical occurrences and the occurrences of grass fires in the area. Given the species conversion from a high-density pine forest to a mixed density grassland with some pine species, the wildfire occurrence may be greater, given the susceptibility of grassfires in the area. Due to the relatively small size (6 acres) and low complexity of the fuels found on the site, advanced fire behavior modeling tools (e.g., BehavePlus, QUIC-Fire) were not utilized.



Figure 11 - Vegetation on the proposed development looking to the East from Pinery Circle

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8.5 WILDFIRE RESILIENT FORESTS

Active mitigation actions utilizing appropriate forest health improvement tactics can reduce wildfire risk to current and future generations of forests. Through proper and selective thinning of trees, planting trees, and monitoring, forests can become more resilient to wildfire. Utilizing proper forestry techniques can increase the survivability of a forest while also allowing for dominant more desirable trees to thrive, making them additionally more resistant to insect and disease. The proper technique for forest treatment is completed through an on-site assessment of any property, as forestry is not a one-size-fits-all approach.

Based upon the assessment conducted for this property, a selective thinning tactic should be applied to create and increase the wildfire resiliency for the property. While this property has been highly impacted by the Black Forest Fire, forested area on the property comprising roughly 20% of the property area remains to be actively managed for increased resiliency.

Through a selective thinning process, smaller diameter trees in dense pockets or trees that are growing in the understory of larger, more desirable, trees shall be removed. The intent is to remove trees that are overpopulated or overgrown to promote trees that are stronger and more sustainable to wildfire, insect, and disease. The tree spacing between these trees should be distant enough that the tree canopies are not touching or contiguous. If smaller diameter trees are growing in areas where separation can be sustained, and impediments to larger trees will not occur, allow these smaller trees to grow, as they provide the future generation of forest.

All pine trees on the property greater than six foot in height shall have the lower branches pruned to no more than 75% of its overall tree canopy, to remove the potential for wildfire to expend into the canopy of the tree. This tactic reduces the fuels or "ladder fuels" (***Figure 122***) that contribute to wildfire spread and allows the tree to sustain enough foliage to survive. Within the understory of the trees remaining on the property, keep grasses short, less than four inches in height, and prevent other shrubs or other plants from growing in these areas. For additional information and after the property has been developed, coordinate with Black Forest Fire Rescue or Colorado State Forest Service for mitigation assessments and forest treatments.

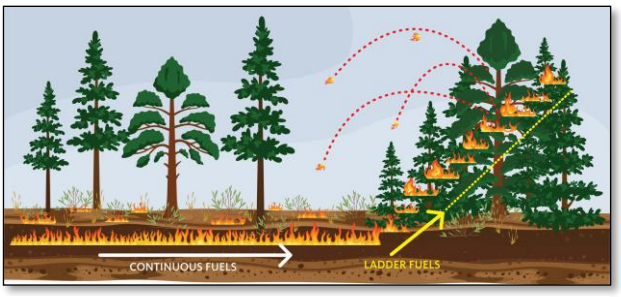


Figure 12 - Ladder Fuels

8.6 FOREST HEALTH

Insects

This property and the greater Black Forest area have been highly impacted by forest health issues, including insect and disease for generations. The Black Forest area has been known to contain areas of infestation containing bark beetles, defoliating insects, parasitic plant infestations, and other insects which result in high levels of mortality of conifer species. Due to the arid climate for this area, the forest is highly susceptible to drought, which further exacerbates the conifer species' susceptibility to these types of infestations. Furthermore, the stress and recovery efforts of the forest following the Black Forest Fire have made it even more challenging for conifers to grow and the surviving trees to survive.

At the time of assessment, there were no identified active bark beetle infestations observed. This was partially due to the timing of the year and when infestations typically display signs of infestation. While the assessment was completed in March, indications of bark beetle will typically emerge in May-June, and some signs in the fall. Although **Ips beetle**, **mountain pine beetle**, **red turpentine beetle**, **pine weevil**, and **roundheaded pine beetles** are all present in the broader Black Forest region, impacts on the site are

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currently are identified as minimal, but certainly possible. Additional insects such as the Pine Weevil and other species may also be present on the site.

Insect Management

With bark beetle infestations on the rise for most of the pine forests in Colorado, insect management is critical to the survivability of the remaining trees on site as well as the regenerating trees on the property. The best practice to manage these trees, and future planted pine species, is to monitor tree populations closely. Bark beetles target highly stressed or drought-impacted trees. These trees make highly susceptible targets to infestations from insects, regardless of the beetle type. Indications of the infestation on these trees will come in the form of pitch tubes, popcorn-shaped globs of sap, on the bark of the tree. Typical infestations of beetles will attack the lower or upper third of the main tree trunk.

The best practice to combat pine beetle infestations is to maintain the stand integrity with proper applications of water, fertilizers, and proactive insect mitigation measures. Due to Colorado's recent warm winters, pine species lack adequate water supplies to keep them resilient through warm winters. Active watering during long warm weeks in the winter can help reduce susceptibility of conifers to drought stress later in the more typical warm spring and summer months. When watering, utilizing approved tree fertilizers can also help boost tree survivability and make them more resilient to insects in the summer months. Lastly, if trees are infested or likely to become infested, chemical applications of insecticide or pheromone repellent packets will help mitigate the insects that are actively on the property or likely going to infest the property. Contact a local arborist or Colorado State Forest Service for further diagnosis of insects and the recommended management tactic for any potential insect infestation.

Disease

There are few common diseases for conifers in the Black Forest area. The most common diseases observed are **dwarf mistletoe** and **spruce broom rust** are the most common disease was observed in nearby areas and may pose a long-term concern for tree health. Both infestations impact the branches or main trunk of the tree and typically display a flowering plant that emerges from the infected part of the tree. Typically, the flowering or extreme growth on the tree takes 2-3 years to fully develop after the tree has been infected. The infection slowly kills the tree by causing additional stress, impacting structural integrity of the tree, and depriving the tree of food and water. This disease is most commonly contracted by spores of the disease being transplanted from one tree to the other via natural pressure of the spore or by animals or humans.

Monitoring and selective pruning of the infected areas are recommended measures to manage potential spread. The careful removal of the infected limbs and branches is the best way to limit spread and to allow the tree to survive. Maintaining tree vigor through proper spacing, removal of stressed or dying trees (due to drought or other influences), and monitoring is key to minimizing insect and disease impacts.



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8.7 FOREST NOXIOUS WEEDS

The proposed development site contains predominant native grasses with some identified noxious weeds. Weeds are predominantly transported via seed from livestock, wildlife, and naturally transported from neighboring properties. There are three classifications of noxious weeds in Colorado; **List A Species**, **List B Species**, and **List C species**. Established noxious weeds are spread by soil disturbance due to wildfire, development, grading, forestry projects and other activities that utilize heavy equipment or create soil disturbance. Managing noxious weeds is critical to sustaining a healthy forest.

List A Species – If you find it, eradicate it
List B Species – Help stop the spread
List C Species – Widely distributed

During the site visit of the proposed development conducted in March of 2026, some noxious weeds were observed on the property. These plants should be managed and monitored to avoid future spread. Although none of the plants were flowers for proper identification, there were no identified List A or List B species identified during the site visit. There are known populations of List A and List B species in Black Forest. Further investigation of these assumed noxious weed species should occur in the spring months for proper identification.

The following noxious weed species potentially identified on the property should be monitored and properly mitigated following best practices. These plants include:

+ List B Species
  - Canada thistle
  - knapweed (exact species undetermined)
+ List C Species
  - Common mullein
  - Downy brome

A weed management and abatement plan is recommended in coordination with the **El Paso County Community Services Department, Noxious Weed Specialist** and other relevant agencies.

8.8 WILDLIFE

A properly managed forest should consider impacts and influences of management activities on wildlife. Forest management actions can have both positive and negative impacts on the natural ecosystem of any forested environment. The greater Black Forest area supports a wide range of wildlife species, including elk, deer, small mammals, raptors, turkeys, and predators such as coyotes and bobcats. Additionally, cavity nestors such as woodpeckers, bluebirds, Chickadees, and owls rely on a sustainable forested environment.

Although this property is small relative to the migratory patterns of wildlife, observations made on the property during the site visit reflect significant signs of wildlife. Evidence of wildlife included tracks, droppings, and nesting trees observed on the proposed property. While this property does not contain known sites of protected species, forest management practices should aim to balance wildfire mitigation with habitat preservation. Retention of selected dead trees to provide habitat trees (e.g., those with cavities or broken tops) is recommended, where safe and appropriate, and proper review of trees prior to removal should be conducted to ensure nests are not disturbed. If nests or other indications of wildlife utilizing trees targeted for removal, consider the timing of seasons for the tree removal process and consult Colorado Parks and Wildlife or Colorado State Forest Service for proper timing of tree removals to prevent wildlife disturbance.

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8.9 FOREST MANAGEMENT PRIORITIES

The proposed Pinery Circle Subdivision Project continues with minimal forest management priorities. Despite significant fuel reduction from the 2013 Black Forest Fire, approximately 25% of the site still contains standing Ponderosa pine. In addition, the development of the property may also include introduction of new planted trees, shrubs, and grass species that should be properly managed and considered. For these reasons, continued mitigation and monitoring is necessary to maintain reduced wildfire risk and forest health sustainability.

Recommended actions to improve the forest health on property (six acres or three two-acre lots):

- Maintain grass height at four inches in height near structures and in the understory of larger trees to reduce fire spread potential
- Remove dead, dying, or stressed trees to prevent insect and disease potential
- Monitor trees on the property for signs of insect and disease and treat appropriately
- Create canopy spacing between larger trees to prevent the potential for a crown fire
- Prune and remove ladder fuels
- Implement ongoing noxious weed control and monitor for future noxious weeds
- Promote native, fire resistant, and drought tolerant vegetation

FORESTRY MANAGEMENT RESOURCES

+ **El Paso County Parks and Recreation**
+ **Colorado State Forest Service**

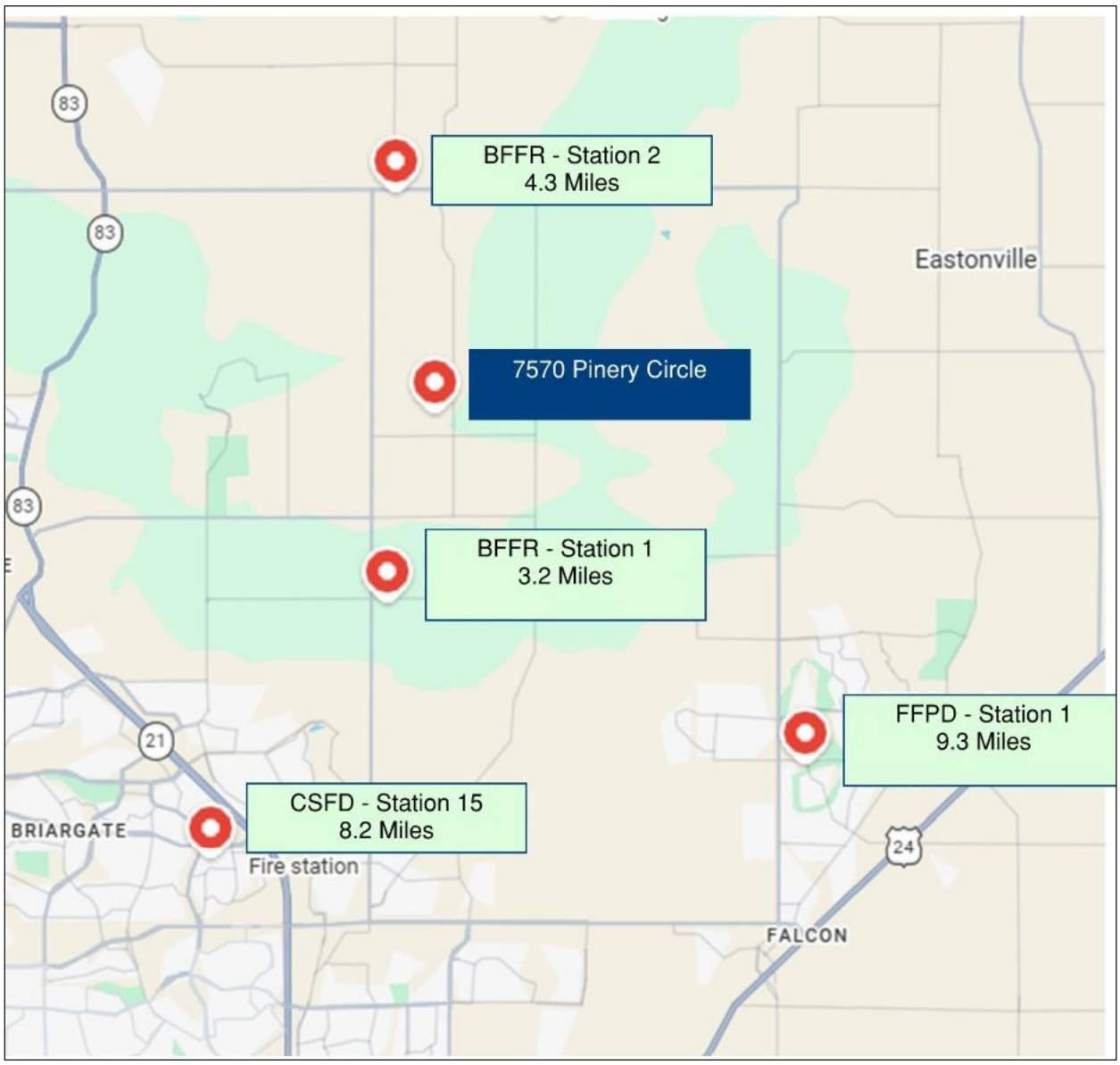
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Appendix A Subdivision Layout



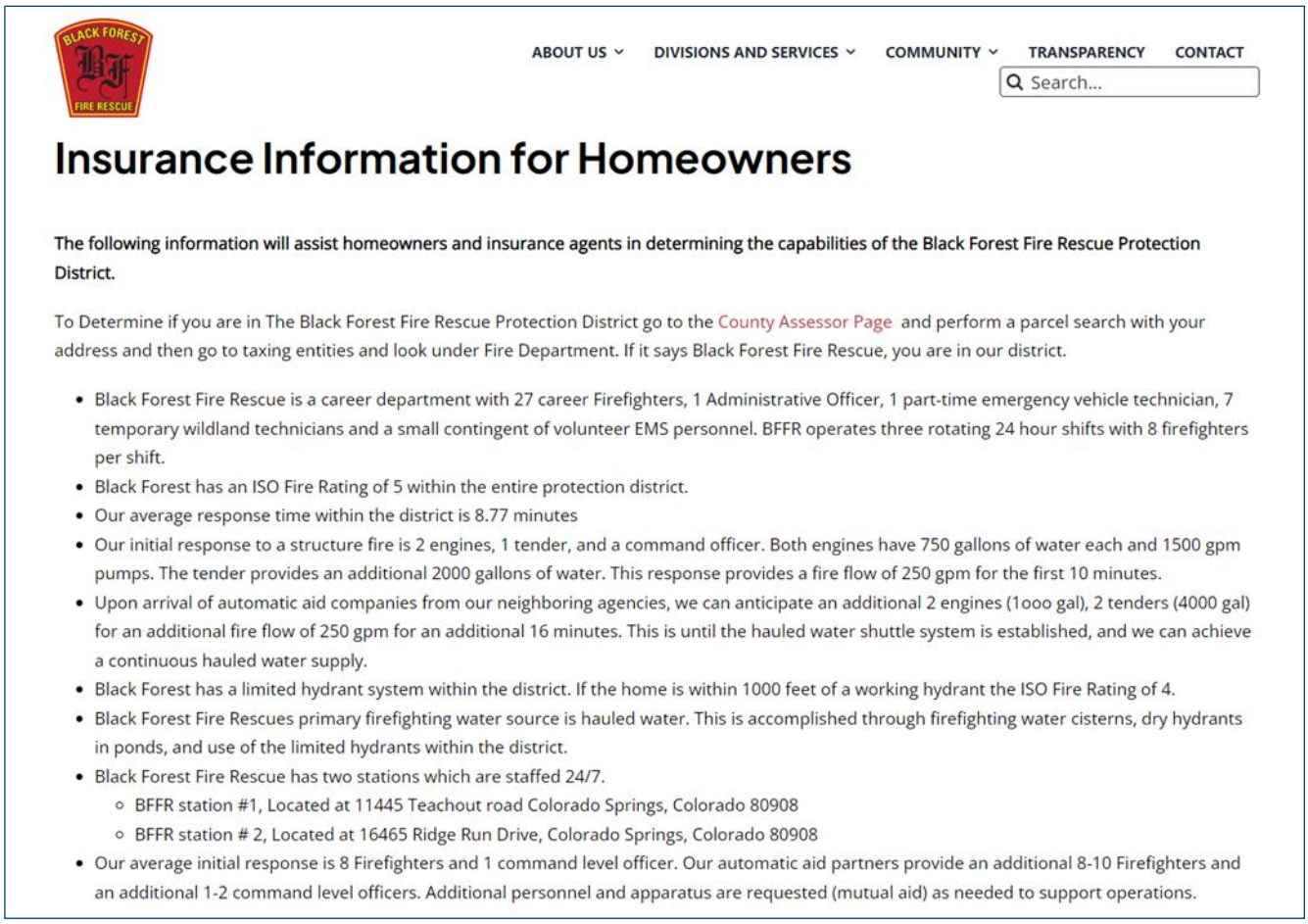
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Appendix B Station Location Map



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Appendix C BFFR Insurance Information for Homeowners



ABOUT US DIVISIONS AND SERVICES COMMUNITY TRANSPARENCY CONTACT

Search...

Insurance Information for Homeowners

The following information will assist homeowners and insurance agents in determining the capabilities of the Black Forest Fire Rescue Protection District.

To Determine if you are in The Black Forest Fire Rescue Protection District go to the County Assessor Page and perform a parcel search with your address and then go to taxing entities and look under Fire Department. If it says Black Forest Fire Rescue, you are in our district.

- Black Forest Fire Rescue is a career department with 27 career Firefighters, 1 Administrative Officer, 1 part-time emergency vehicle technician, 7 temporary wildland technicians and a small contingent of volunteer EMS personnel. BFFR operates three rotating 24 hour shifts with 8 firefighters per shift.
- Black Forest has an ISO Fire Rating of 5 within the entire protection district.
- Our average response time within the district is 8.77 minutes
- Our initial response to a structure fire is 2 engines, 1 tender, and a command officer. Both engines have 750 gallons of water each and 1500 gpm pumps. The tender provides an additional 2000 gallons of water. This response provides a fire flow of 250 gpm for the first 10 minutes.
- Upon arrival of automatic aid companies from our neighboring agencies, we can anticipate an additional 2 engines (1ooo gal), 2 tenders (4000 gal) for an additional fire flow of 250 gpm for an additional 16 minutes. This is until the hauled water shuttle system is established, and we can achieve a continuous hauled water supply.
- Black Forest has a limited hydrant system within the district. If the home is within 1000 feet of a working hydrant the ISO Fire Rating of 4.
- Black Forest Fire Rescues primary firefighting water source is hauled water. This is accomplished through firefighting water cisterns, dry hydrants in ponds, and use of the limited hydrants within the district.
- Black Forest Fire Rescue has two stations which are staffed 24/7.
  - BFFR station #1, Located at 11445 Teachout road Colorado Springs, Colorado 80908
  - BFFR station # 2, Located at 16465 Ridge Run Drive, Colorado Springs, Colorado 80908
- Our average initial response is 8 Firefighters and 1 command level officer. Our automatic aid partners provide an additional 8-10 Firefighters and an additional 1-2 command level officers. Additional personnel and apparatus are requested (mutual aid) as needed to support operations.

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