

YOUR!
**Community Wildfire Protection
Implementation Plan**
Bear Mountain Vista/Stanley Park
**Evergreen Fire Protection District
Jefferson County, CO**

Draft: 4-6-19

“Effective wildfire mitigation can be accomplished through a variety of methods including reducing hazardous fuels, managing vegetation, creating defensible space around individual homes and subdivisions, utilizing fire-resistant building materials, enhancing emergency preparedness and response capabilities, upgrading current infrastructure, and developing programs that foster community awareness and neighborhood activism. Once implemented, these actions will significantly reduce the risk of loss due to wildfire to an individual home, and...to an entire community.” Evergreen Community Wildfire Protection Plan



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CWPIP Certification

The Bear Mountain Vista/Stanley Park Area Community Wildfire Protection Implementation Plan (CWPIP) was developed in accordance with the guidelines set forth by the Healthy Forests Restoration Act (2003) and the Colorado State Forest Service’s Minimum Standards for Community Wildfire Protection Plans (CWPP) (Revised 2010).

This Plan is under the umbrella of the Evergreen Fire Protection District CWPP. It provides analysis and mitigation recommendations for the Bear Mountain Vista/Stanley Park area. The plan:

- Was collaboratively developed – residents, interested parties, local government and stakeholders. State and Federal and local agencies managing land in the area were consulted as appropriate;
- Identifies and prioritizes areas for hazardous fuels reduction treatments and recommends the types and methods of treatment to reduce the wildfire threat to values at risk in the area;
- Presents measures to reduce the ignitability of structures throughout the plan area.

The following entities mutually agree with the contents of this Community Wildfire Protection Implementation Plan:

XXXXXXXXXXXX: Team Leader: (For the Team) Date

Chief: Evergreen Fire Protection District Date

Assistance and Consultation

John Chapman; Plan Facilitator for Evergreen Fire Protection District
Paul Amundson, Wildland Coordinator; Evergreen Fire Protection District
More to be added if needed: eg. USFS, Denver Mtn Parks, etc.

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EXECUTIVE SUMMARY

This is the Community Wildfire Protection Implementation Plan (CWPIP) for the Bear Mountain Vista/Stanley Park (BVSP). It is under the umbrella of the Community Wildfire Protection Plan (CWPP) for the Evergreen Fire Protection District (EFPD), and was formulated by a team of area residents with advice and assistance from the Evergreen Fire Protection District.

The CWPIP details priority mitigation actions selected by the team based on general recommendations made in the Evergreen. These actions are to reduce the impact of wildfire on the neighborhoods and individual residences. As appropriate, State, Federal and local land managing agencies were involved. **Both the Evergreen CWPP analysis and the Jefferson County CWPP gave both the Bear Mountain Vista/Stanley Park area a fire danger rating of “High”.** Also utilized was the Forest Stewardship Plan prepared for the Bear Mountain Vista HOA by the Colorado State Forest Service in 2007.

Specific sections:

Section 1: Community Wildfire Protection Planning;

Section 2: The Bear Mountain Vista/Stanley Park Area & Community Risk Analysis;

Section 3: Wildland Fire Response Infrastructure and Capabilities;

Section 4: Implementation Actions & Recommendations (Mitigation techniques to be applied and priority Fuels mitigation Projects;

Section 5: Plan Implementation and Follow up;

Section 6: Appendices (containing the state forest service guide on creation of Defensible Space and a section with links to important information).

Sections 1, 2, and 4 are important for background and for specific recommended mitigation actions to be carried out by the community working with Evergreen Fire Rescue.

Specific priority recommendations for community mitigation efforts supported by the Evergreen Fire Protection District are the heart of the plan as they call for specific actions.

Recommended Priority 1

Educate Community on CWPIP and fuel break initiative, and develop project and funding requests & owner commitment

This recommendation will help facilitate, define and understand the process of how to complete and work through a large scale project. This could involve creation of a fuel break that encompasses roadways, property owners doing defensible space on their adjacent lands, and possibly public lands.

The goal is to have large project areas identified and all the necessary documents, match dollars and land owner commitments in place and signed, so the area can respond quickly when opportunities arise.

Recommended Priority 2: Availability of Emergency Evacuation Routes

Assure availability of routes for evacuation in event of wildfire emergencies. Final determinations of which routes to take would be made by Sheriff's Department and fire officials at the time of an emergency.

Recommendation:

1. The team coordinates with Evergreen FPD, and Jefferson County Sheriff's Office to provide current and incoming residents with the EFPD information brochure on existing evacuation route recommendations' sheet for Bear Mountain/Stanley Park) showing potential evacuation routes.
 - o If additional route(s) are added work with EFPD to see the brochure is revised.

Recommendation:

- The team coordinates with Evergreen FPD to accomplish recommendations of the Evergreen FPD CWPP: *"Develop and maintain emergency access options along Fern Gulch and Independence"*.

Recommended Treatment Priority 3: Mitigation along area roadways

The Evergreen FPD CWPP calls for *"Shaded fuel breaks along forested primary, secondary, and designated emergency access roads"*. Wildland Coordinator, Paul Amundson, is focusing on recommendations for these mitigation actions as a key in CWPIPs to help with emergency access and as important treatments to slow and break up progress of wildfire.

The team evaluated recommendations of the Evergreen FPD CWPP and the CSFS Stewardship Plan and conducted a survey of roadways, and recommends the following road parcels for priority treatment in unit 18:

1. **South Bear Mountain Drive from the junction with Stanley Park Road north and east to just past the junction with Hawks Circle (treatment priority 1 in priority area 1; map P34).**
2. **South Bear Mountain Drive in the stretch south of its junction with Giant Gulch Road; (treatment priority 2 in priority area 1; map P34).**
3. **Stanley Park Road north from its junction with South Bear Mountain Drive to the junction with Abbey Road; (treatment priority 3 in priority area3; map P34).**
4. **The area outside of the Unit 18 but still within the HOA boundary in portions of Unit 19 which is not part of the Bear Mountain Vista area, along High Drive (noted in blue notation on map, P34).**

Recommended Treatment Priority 4: Work with officials and neighborhoods to facilitate creation of Defensible Space

Recommendation: collaboration between the team and the Evergreen FPD, and neighborhood/community groups and events to educate residents and promote efforts to create Defensible Space on residential lands within the plan area.

- This would include information on standards for visible and consistent home address signage.

Recommended Priority 5: Fuelbreak thinning by Denver Mountain Parks

The team recommends Denver Mountain Parks carry out fuel break thinning in two parks to mitigate wildfire threat. The DMP Forester has indicated he would support this recommendation. In order of importance thinning would be accomplished at:

- Pence Park
- Bell Park
- Stanley Park

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Section 1: COMMUNITY WILDFIRE PROTECTION PLANNING

This Bear Mountain Vista/Stanley Park Area Community Wildfire Protection Implementation Plan (CWPIP) is a plan for all residents of the community. It has been developed by your neighbors with advice and assistance from the Evergreen Fire Protection District (EFPD).

It provides an assessment of wildfire risks and hazards and outlines specific mitigation treatment recommendations designed to make your community a safer place to live, work and play. It will enable you to live with fire as a natural part of the landscape ecosystem.

Much of the land involved is private land. It is extremely important for land owners to create Defensible Space on their land. A land owner does not have to clear cut their property to achieve defensible space against wildfire. But without collaborative, neighborhood action the damage to homes or other buildings can be significant.

Once the CWPIP is finalized and adopted, it is the responsibility of the community...that's US, to move forward and implement the action items in collaboration with the EFPD. It is a living document to be used on a continuing basis... THIS IS OUR PROCESS, NOT A SHELF DOCUMENT!!

The Team – Local residents and agencies involved in developing this plan:

- Residents of the Bear Mountain Vista/Stanley Park; Dennis Stephens-Team lead; Amy Deuble, Dave Erickson, Dale Hermann, Kurt Muenchow, Anne Rosen, Jeff Rosen, Tom Savage, and Kevin Smith
- Paul Amundson; Wildland Coordinator, Evergreen Fire Protection District
- John Chapman; Team Facilitator

There is no legal requirement to implement recommendations in this CWPIP. This is also the case for CWPPs. **Treatments on private land may require compliance with county land use codes, building codes, and local covenants.** Treatments on public lands are carried out by appropriate agencies and may be subject to federal, state, and county policies and procedures such as National Environmental Policy Act (NEPA).

The Challenge

Decades of aggressive fire suppression in fire-dependent ecosystems, coupled with persistent drought, disease and insect infestation converged to create a threat which demanded national attention and substantial resources.

In the Healthy Forest Restoration Act (HFRA) of 2003, Congress directed communities in the Wildland/Urban Interface (WUI) to prepare *Community Wildfire Protection Plans* (CWPPs).

Bear Mountain Vista, Stanley Park is located within Evergreen Fire Protection District (EFPD). The Community Wildfire Protection Implementation Plan (CWPIP) for Bear Mountain Vista, Stanley Park is under the umbrella guidance of the Evergreen Fire Protection District

CWPP. The complete Evergreen CWPP is on the Colorado State Forest Service website at: <http://csfs.colostate.edu/> and the “wildfire mitigation” link.

This plan also references data and information developed by the Colorado State Forest Service in a 2007 Forest Stewardship Plan prepared for the Bear Mountain Vista HOA.

Inclusion of the area in this plan in the EFPD CWPP has enabled residents to qualify for the CO state tax advantage for defensible space work on their individual properties (see Appendix D).

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Section 2: THE BEAR MOUNTAIN VISTA/STANLEY PARK & COMMUNITY RISK ANALYSIS

2.1 The Plan Area: Topography and Vegetation

The CWPIP area (See following map) encompasses the Bear Mountain Vista/Stanley Park as identified in the EFPD CWPP. The area is southeast of Evergreen, CO, (WUI Unit 18 in the Evergreen District CWPP). It is between 7800 and 8600 feet in elevation and is in the Montane Zone. The unit contains approximately 175 residences.

The Evergreen FPD CWPP describes the Bear Mountain Vista/Stanley Park vegetation:

Unit 18: “25% light, 25% medium, 25% heavy; 25% slash; vegetation type and density is controlled largely by slope aspect with grass, brush and open Ponderosa pine stands predominant on south and southeast facing aspects, and heavier stands of Lodgepole pine and Douglas-fir (FBFM 8 & 10) on north facing aspects...”;

“*Fire* is very important for the montane forests. Over time, the forests can be taken over by dense forests of pine trees. Branches and needles fall to the forest floor and pile up into dry, crispy fire hazards. Smaller forest fires help clear the forests of old dying trees and clear the forest floor for new plants to grow. If we prevent all forest fires, all the dry dead trees, branches, and needles get even thicker. When a fire starts, it can quickly become an enormous super-hot firestorm like the Hayman Fire in 2002. Usually fire is helpful for the next generation of seeds to grow...”

The Stewardship Plan describes the vegetative fire regime as follows: “*This ecosystem is not simply a transition zone with great variation, but a collection of complex, distinct fire regimes. It is located between the known fire regimes: high frequency/low intensity fire of the lower montane, ponderosa pine ecosystem and stand-replacing fire of the subalpine, spruce-fir ecosystem. Since ponderosa pine is a key component in the species composition, it has a strong influence on its fire regime, as does its co-dominant species, Douglas-fir. Forests containing the dominant and co-dominant species of ponderosa pine and Douglas fir exhibit a unique, mixed-severity fire regime.*”

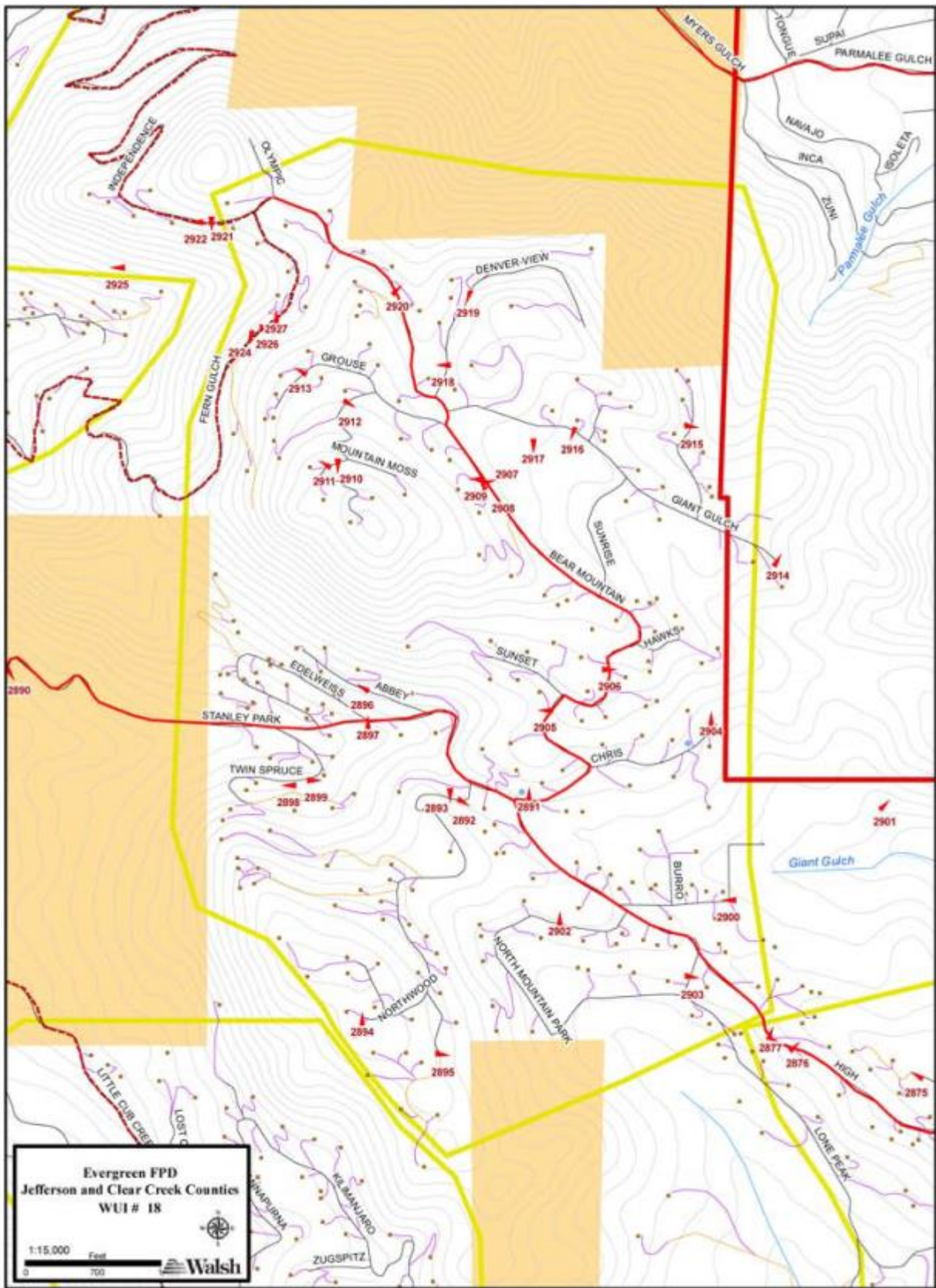


Figure 1: Evergreen FPD CWPP Unit 18: Bear Mountain Vista/Stanley Park

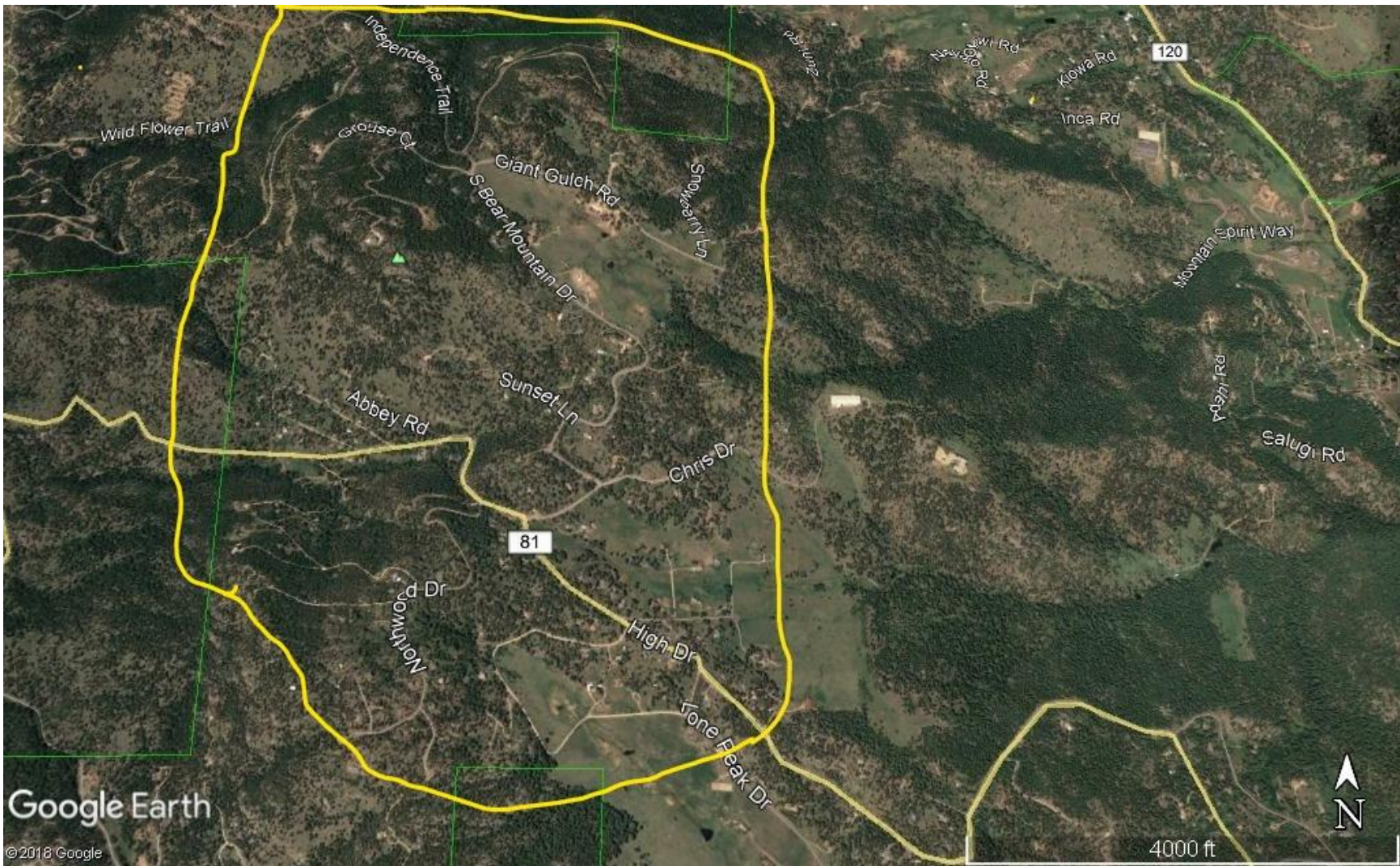
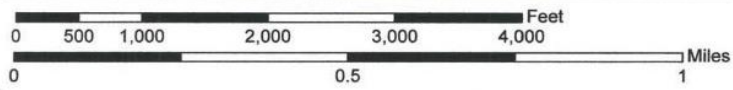
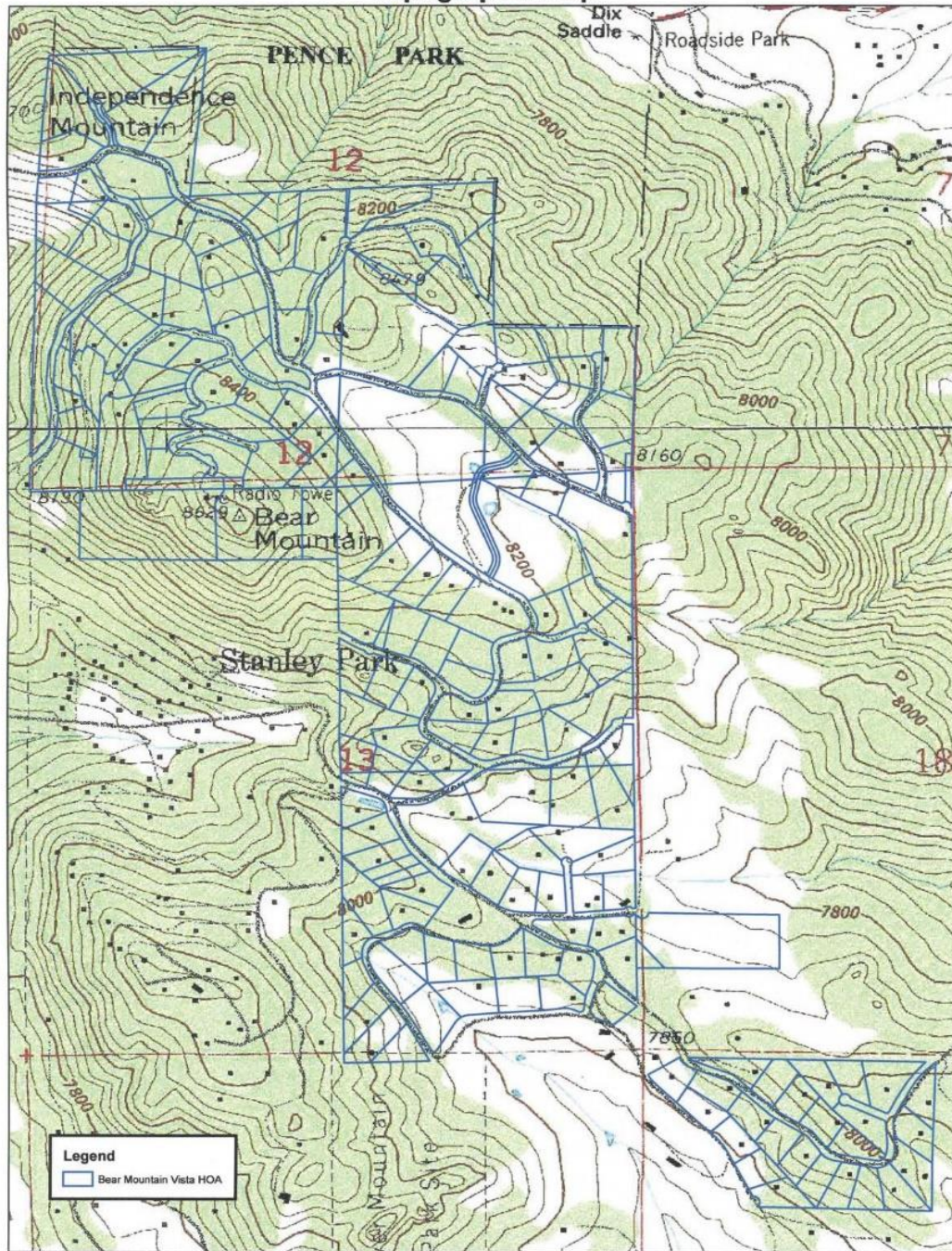


Figure 2: Bear Mountain Vista/Stanley Park Unit 18 CWPIP Boundary



Figure 1
Bear Mountain Vista Homeowner Association
Topographic Map



1:9,725
 3/5/2007

Figure 3: Stewardship Plan area topo



Figure 2
Bear Mountain Vista Homeowner Association
Location Map

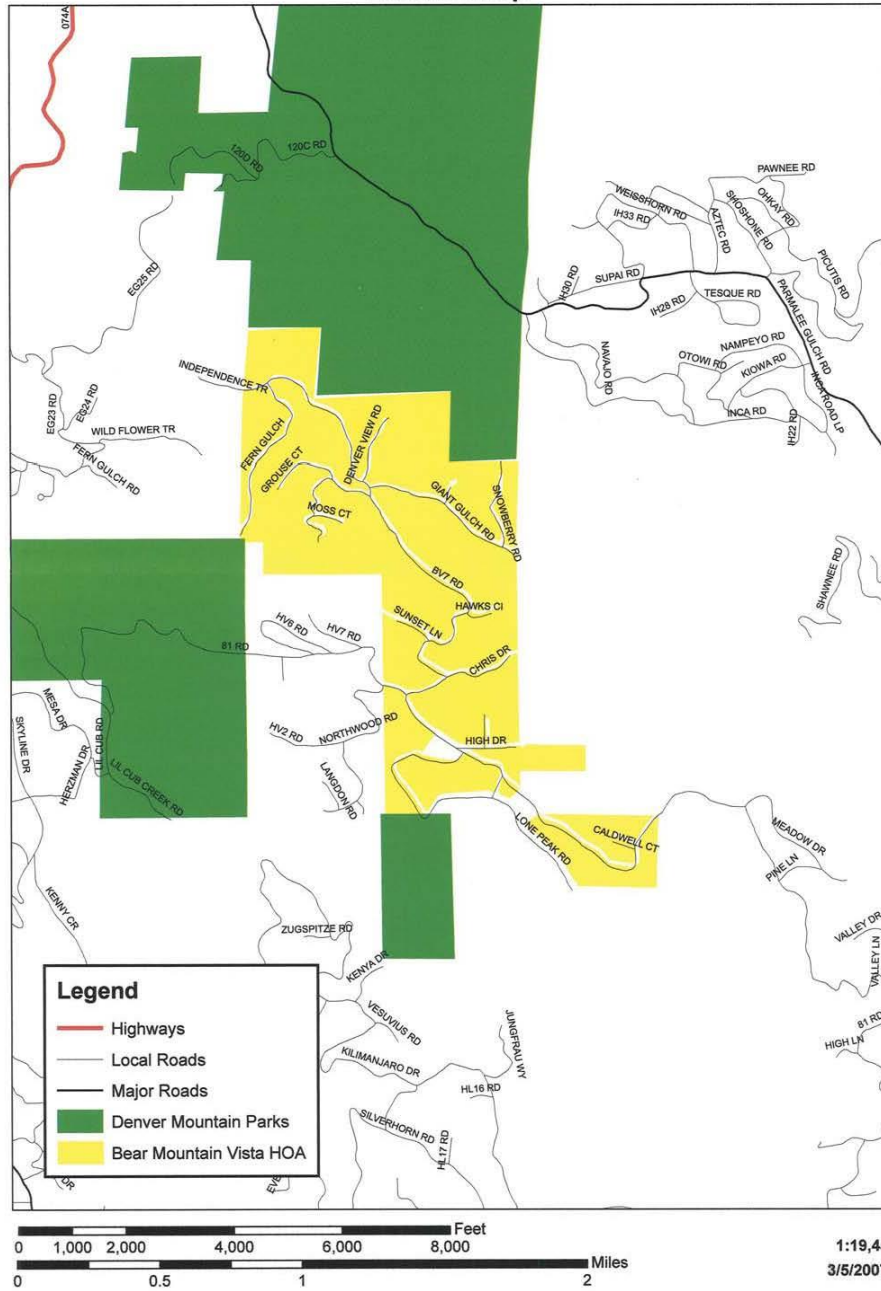


Figure 4: Bear Mountain Vista HOA location (stewardship plan)

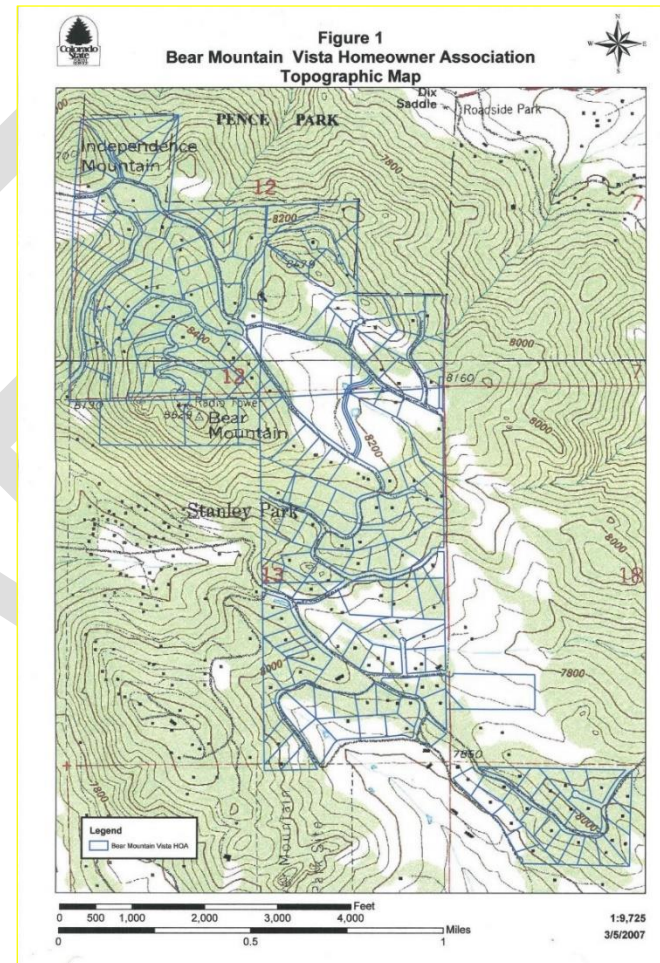
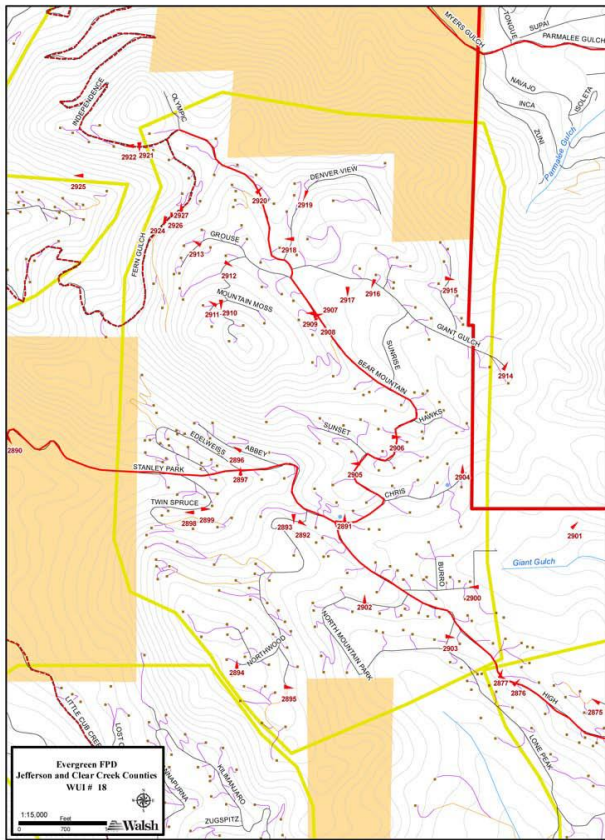


Figure 5: Unit 18 and HOA boundary comparison

2.2 Neighborhoods and Hazard Assessments

Community Risk Analysis

The Core Logic “*Wildfire Hazard Risk Report (Residential Wildfire Exposure Estimates for the Western United States-2015)*” rated the WUI areas of the Evergreen FPD first in the listing for Denver/Aurora/Lakewood in major metropolitan areas of the west with a “Very High” rating for hazard, risk, and potential property loss.

Following are physical descriptions and fire hazard assessments for the Bear Mountain Vista/Stanley Park Area CWPIP. These descriptions are from the Community Assessment Surveys in the Jefferson County CWPP and the Evergreen FPD CWPP. Those plans should be referred to for overall area hazard analysis and fire history. **The EFPD CWPP fire hazard rating for the Bear Mountain Vista/Stanley Park area is “High”.**

Values at Risk

The Evergreen CWPP listed the following as area Values at Risk for the entire district.

The EFPD is characterized by dense suburban development within a forested setting.

Resources at risk include the following:

- | | |
|---|---|
| <input type="checkbox"/> Homes | <input type="checkbox"/> Water quality |
| <input type="checkbox"/> Local economy | <input type="checkbox"/> Air quality |
| <input type="checkbox"/> Municipal water supply | <input type="checkbox"/> Natural vegetation communities |
| <input type="checkbox"/> Community infrastructure | <input type="checkbox"/> View shed |
| <input type="checkbox"/> Wildlife and aquatic habitat | <input type="checkbox"/> Historic structures |
| <input type="checkbox"/> Watersheds | |

- **Life and Property: Protection of life is first in consideration** by residents and emergency services. Protection of property, both personal and business, is the second most important concern.
- **Roadways and Transportation:** Bear Mountain Vista/Stanley Park is accessed via High Drive/Stanley Park Road/Little Cub Creek Road.
- **Wildlife:** The area has important mountain wildlife species needing adequate habitat and protection.

The following pages contain the neighborhood hazard ratings and recommendations developed in the Evergreen FPD CWPP, and maps detailing wildfire hazard from the Bear Mountain Stewardship plan done by CO State Forest Service, and from the Jefferson County CWPP.

Wildfire Fire Risk and Hazard Severity Form NFPA 1144	
Bear Mountain Msta, Stanley Park	
WUI 18 Hazard Rating HIGH	
Means of Access	
Ingress and Egress	3
2 or more roads in & out	0
One road in & out	1
Road Width	
>24 ft	0
>21 ft - 24 ft	2
<21 ft	4
All-Season Road Condition	
Striaced Road, grade <5%	0
Striaced Road, grade >5%	2
Non-striaced Road, grade <5%	2
Non-striaced Road, grade >5%	5
Off-striaced all season	1
Fire Service Access	
<300 ft with no turnout	0
<300 ft with turnout	2
<300 ft with no turnout	4
>300 ft with no turnout	5
Street sign (predom help)	0
Present - reflective	0
Not present	5
Vegetation (fire behavior fuel models)	
Characteristics of predom be situated w/in 300 ft	15
U01 - 1, 2, 3	5
Medium - 5, 6, 7, 8, 9	10
Heavy - 4, 10	20
SBK - 11, 12, 13	25
Defensible Space - Home Lot/ Frame (around structure)	
>100 ft around structure	1
>70 ft - 100 ft around structure	3
>30 ft - 70 ft around structure	10
<30 ft around structure	25
Topography Within 300 ft of Structures	
Slope	4
<9%	1
10% to 4%	4
21% to 4%	7
31% to 4%	8
>41%	10
Additional Rating Factors (rate all that apply)	
Additional factors	15
Topographic features that adversely affect the behavior (0 - 5)	3
Areas with a history of fire occurrence - historical potential (0 - 5)	4
Severe fire weather potential (0 - 5)	4
Separation of adjacent structures contributing to the spread (0 - 5)	2
Roofing Assembly	
Roofing	4
Class A	0
Class B	3
Class C	15
Unrated	25
Building construction	
Materials (predom help)	15
Non-combustible fire-resistive siding, eaves and deck	0
Non-combustible siding, eaves and combustible deck	5
Combustible siding and deck	15
Building setback relative to slope of 30% or more	3
>30 ft to slope	1
<30 ft to slope	5
Available Fire Protection	
Water source availability	3
Hydrant <300 gpm <1000 ft apart	0
Hydrant <250 gpm <1000 ft apart	1
Non-pressure water resource >250 gpm for 2 hours	3
Non-pressure water resource <250 gpm for 2 hours	5
Water storage tank	10
Organized response resources	3
Station <5 mi from structure	1
Station >5 mi from structure	3
Fixed fire protection	
NFPA 13, 13R, 130 sprinkler system	0
None	5
Placement of gas and Electric Utilities	
Utilities	3
Both underground	0
One above one below	3
Both above ground	5
Totals for home or subdivision	
	88
Hazard Rating Scale	
<40 LOW	
>40 MODERATE	
>70 HIGH	
>100 EXTREME	



Description: 1,090 acres; 175 observed homes; elevation 7,720 to 8,600 ft; WUI is isolated with no direct access to primary county roads; 3 large meadows break forest continuity but most home sites are located on forested slopes, many on steep slopes with heavy timber; main roads are paved 2 lane; secondary roads are unpaved and tend to degrade with distance from main roads; street signage is present; home addressing is inconsistent; housing density is light; slope varies widely with homes scattered throughout; defensible space - 35% < 30', 48% 30' to 70', 13% 70' to 100'; roofing - 78% asphalt, 14% non-combustible, 9% wood shake; construction - 86% combustible siding; utilities are above ground; 1 fire department cistern noted at Bear Mountain Rd and Stanley Park Rd.

Vegetation: 25% light, 25% medium, 25% heavy; 25% slash; vegetation type and density is controlled largely by slope aspect with grass, brush and open Ponderosa pine stands (FBFM 2 & 4) predominant on south and southeast facing aspects, and heavier stands of Lodgepole pine and Douglas-fir (FBFM 8 & 10) on north facing aspects; several broad meadows segment timber stands, enough dead and down in some FBFM 10 areas to warrant FBFM 11 designation.

Recommendations

- Defensible space improvements including fuel reduction, seasonal mowing and slash disposal
- Reduce structural ignitability; reduce percentage of flammable roofs, siding and decking
- Shaded fuel breaks along forested primary and secondary access roads including designated emergency access routes
- Develop emergency water availability in the Bear Mountain, Giant Gulch area
- Develop and maintain emergency access options along Fern Gulch and Independence
- Fuel reduction in identified treatment zones
- Potential safety zones in meadows near sunrise, Chris, Burro, North Mountain Park Area
- Visible and consistent home addressing
- Community training for "shelter-in-place"

Figure 6: Bear Mountain/Stanley Park Unit 18 Wildfire Risk Analysis from Evergreen FPD CWPP



Figure 5
Bear Mountain Vista Homeowner Association
Wildfire Hazard Map

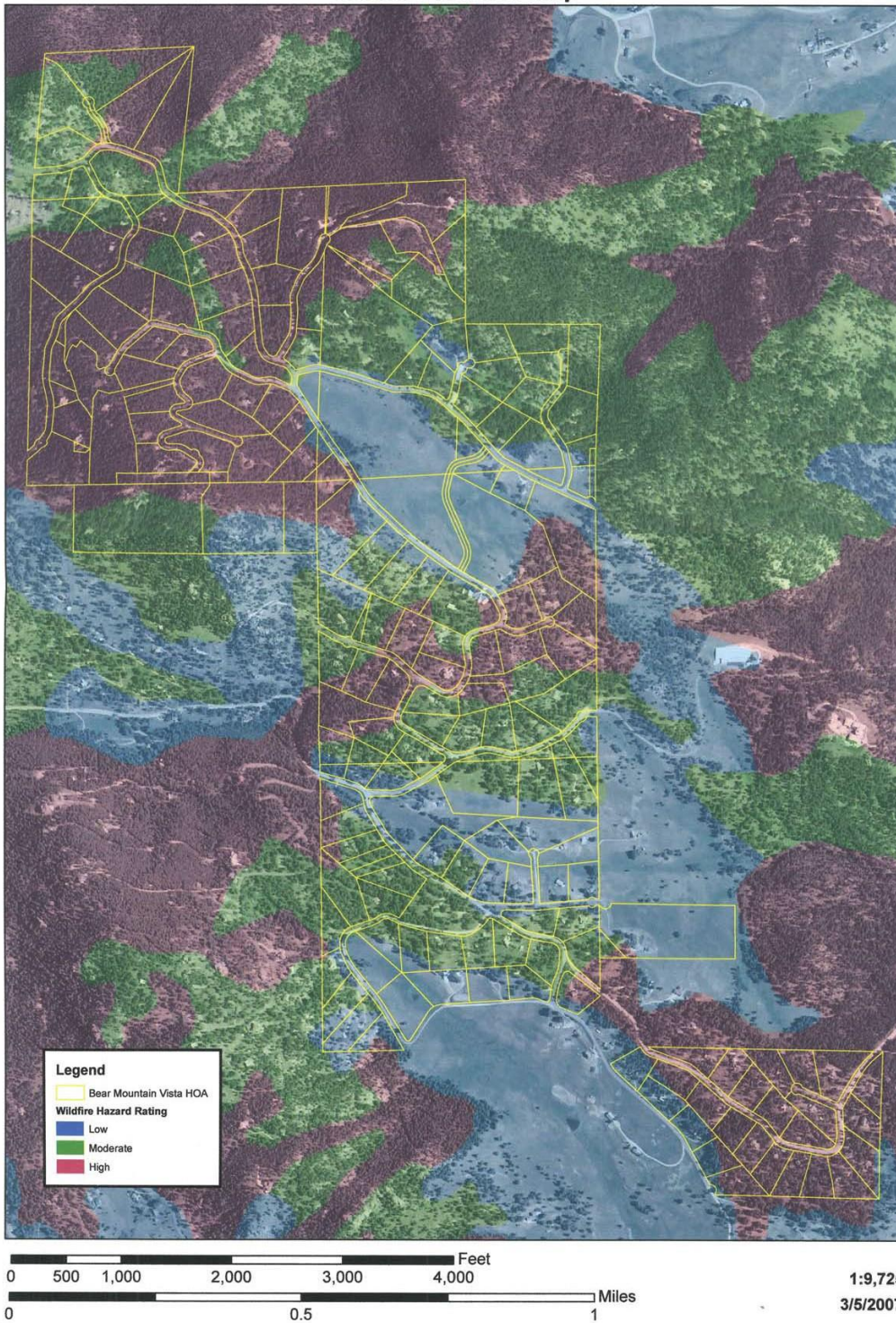


Figure 7: Stewardship Plan Wildfire Hazard Map

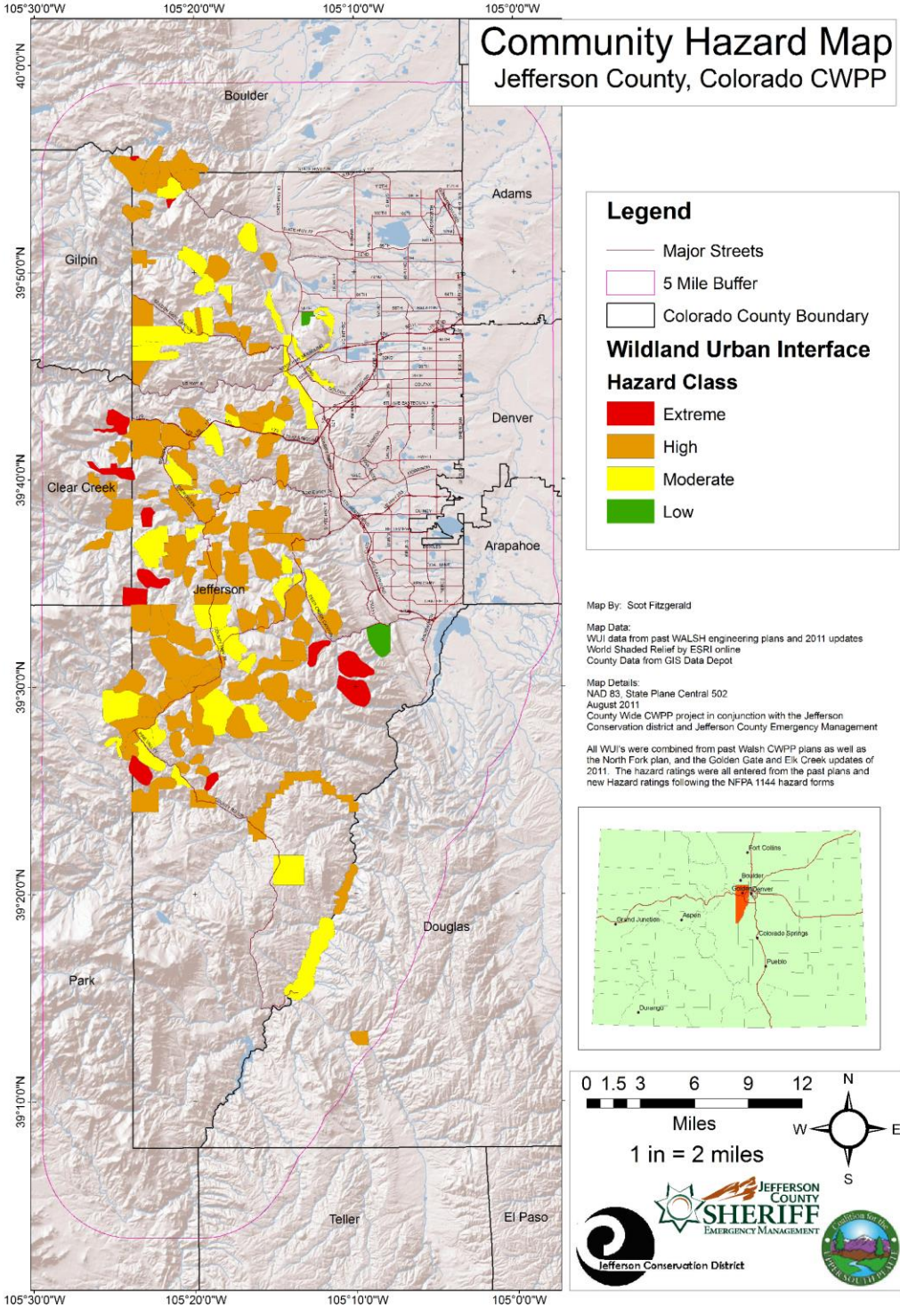


Figure 8: Community Wildfire Hazard Map for Jefferson County

Section 3: WILDLAND FIRE RESPONSE: INFRASTRUCTURE AND CAPABILITIES

Evergreen Fire Protection District:

Wildland firefighting operations within this CWPIP area are the responsibility of the Evergreen FPD. The EFPD is responsible for initial attack on any wildland fire. Refer to the Evergreen CWPP or the Evergreen FPD website for details (<http://evergreenfirerescue.com/>).

Emergency Evacuation for Animals:

The Jefferson County Animal Response Team (J-CART) is the overall management entity for emergency evacuation. It operates under the Sheriff's office. Responders include:

Jefferson County Horse Evacuation Assistance Team (Jeffco Heat):

While residents are primarily responsible for evacuation of their animals this is an important service.

Pre-evacuation tips and overall knowledge of how HEAT works are at:

www.jeffcoheat.org, [facebook.com/jeffcoheat](https://www.facebook.com/jeffcoheat), or 303-674-4669.

- Another site to visit for information is: **Colorado State Animal Response Team/Community Animal Response Team** (<http://www.petaidcolorado.org/?60>); There is a link to "Emergency Preparedness for You and Your Animals".

Ready-Set-Go

Jefferson County endorses the Ready-Set-Go program (RSG) of wildfire action planning for residents and other property owners. This program assists firefighters to teach individuals who live in high risk wildfire areas and the wildland-urban-interface (WUI) how to best prepare themselves and their properties against fire threats. **To register, go to:** <https://public.coderedweb.com/CNE/655AC5D55998>

The RSG Program is a three step process:

- 1) Ready** – Preparing for the Fire Threat; Be Ready, Be FireWise. Take personal responsibility and prepare long before the threat of a wildfire so your home is ready in case of a fire.
- 2) Set** – Situational Awareness When a Fire Starts: Pack your vehicle with emergency items.
- 3) Go** – Leave early! Comply with any evacuation orders and follow evacuation plans early!

The RSG Program provides tools through its website, www.wildlandfireRSG.org. A more complete description of the program is in Appendix D.

Section 4: IMPLEMENTATION ACTIONS AND RECOMMENDATIONS

The heart of a Community Wildfire Protection Implementation Plan is the recommendation of mitigation projects that should be undertaken by the community, landowners, and adjacent land management agencies (county, state and/or federal). Public land projects combined with home owner defensible space and structural protection work together to provide area wide protection.

The Jefferson County CWPP:

“Wildfire mitigation can be defined as those actions taken to reduce the likelihood of loss of life and property due to wildfire. The intent of mitigation is not to completely eliminate the risk of loss nor does it reduce the risk of a wildfire occurring. Effective wildfire mitigation enables residents to evacuate safely, homes to withstand the occurrence of wildfire, and firefighters to safely defend structures and suppress fires where possible...”

As much as possible recommended priority projects are established to include areas with common features: forest types, fuel loads, and ingress and egress routes.

1. **Values at risk: Life and property are always the first values.** Other values as mentioned earlier are: transportation and utility corridors and the natural values of vegetation and wildlife.
2. **Current level of activity:** Experience has shown that wildfire mitigation efforts are most effective when the community is involved.
3. **The important actions that residents should take:** Major components of a Community Wildfire Protection Implementation Plan are mitigation actions private land owners can take.
4. **Proximity to public lands priority zone:** The Healthy Forest Restoration Act builds on efforts to restore healthy forest conditions near communities and essential infrastructure.

4.1 Mitigation Techniques to be applied

The Evergreen CWPP states: *“...Effective wildfire mitigation can be accomplished through a variety of methods including reducing hazardous fuels, managing vegetation, creating defensible space around individual homes and subdivisions, utilizing fire-resistant building materials, enhancing emergency preparedness and response capabilities, upgrading current infrastructure, and developing programs that foster community awareness and neighborhood activism. Once implemented, these actions will significantly reduce the risk of loss due to wildfire to an individual home, and on a larger implementation scale, to an entire community.”*

4.1a Structure Defensible Space – The Land owner

Defensible space is the important area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire towards the structure. Quoting the Colorado State Forest Service, *“Fire is capricious. It can find the weak link in your home’s fire protection scheme and gain the upper hand because of a small, overlooked or seemingly inconsequential factor”*

You, as residents of the Bear Mountain Vista/Stanley Park area, are the most important component of this plan! Your actions are truly meaningful in protecting life, property, and the beauty of the area.

To fully understand and act on Defensible Space go to the CSFS publication: “Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones”, on the CSFS website at: http://static.colostate.edu/client-files/csfs/pdfs/FIRE2012_1_DspaceQuickGuide.pdf.

This document is important! Please use it as a guide! It is Appendix E.

You do not have to clear cut your property! Defensible space can be created in an esthetically pleasing manner that maintains privacy and the natural character of the community, and restores forest health.

Defensible space should be developed around all structures in the planning area. The CWPIP cannot mandate a property owner take any action, but when everyone takes action the broader neighborhood landscape is protected.

Research indicates homes with fire resistant roofs and defensible space have an 85% chance of surviving a wildfire while homes with neither of these characteristics have a 15% survival rate.

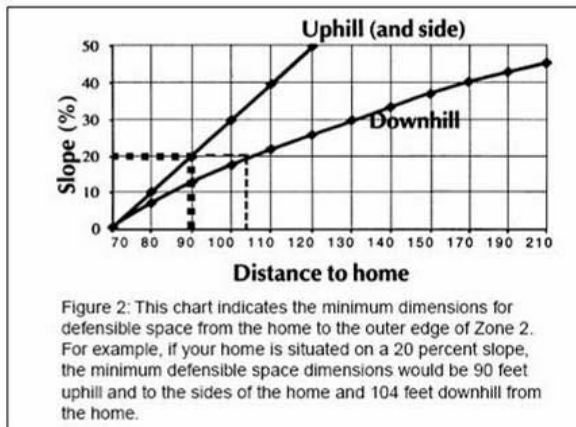
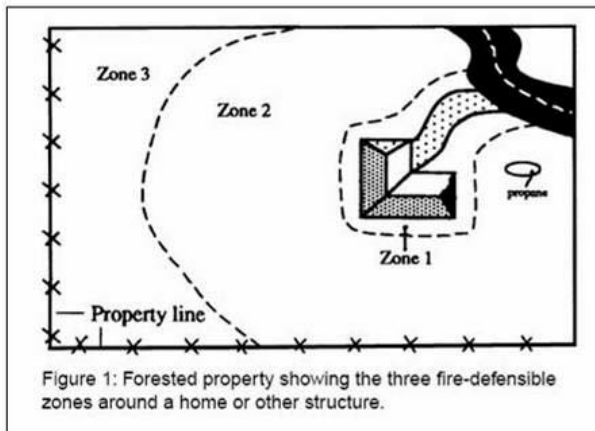


Figure 9: CSFS Defensible Space Standards (Dennis 2003)

Defensible Space consists of three zones that can be adapted to specific building lot situations (See above).

Zone 1 includes a minimum distance of 15-30 feet from a structure. The closest 3 to 5 feet are a non-combustible zone consisting of such things as decorative rock. The lower branches of trees are pruned 5 to 10 feet above the ground (not to exceed one-third of the tree height). Woody and herbaceous plant debris, tall grass, and ladder fuels (low limbs, small trees, and shrubs that may carry fire into tree crowns) will be removed from this area. Leaves and overhanging branches will be removed from roofs. Leaves will be removed from under porches. Woodpiles will be removed and stored uphill in Zone 2.

Zone 2 (at least 100 feet from structures) depends upon the steepness of the slope around the structures. Treatment of ground fuels and ladder fuels will be the same as Zone 1. Trees (or small groups of trees) and shrubs will be thinned to provide 10 feet of clearance among crowns on level ground. The distance between tree crowns needs to increase as slope increases. Herbaceous plants will be mowed as they dry in late summer.

Zone 3 is beyond Zone 2 and extends to the property line. Zone 3 will be managed for the appropriate land use objectives, such as aesthetics, recreation, and/or wildlife habitat.

Zones 1, 2, and 3 should be maintained annually. Two publications that provide information on appropriate plants to use for defensible space landscaping have been prepared by CSFS: *Grass Seed Mixes to Reduce Wildfire Hazard*, Bulletin No. 6.306 (Dennis, not dated), and *FireWise Plant Materials*, Bulletin 6.305 (Dennis, not dated).

Mitigation of Structural Ignitability: Structural mitigation to prevent ignition is very important to defensible space treatment. **Please see CSFS publication *FireWise Construction; Site Design and Building Materials*.**

<http://static.colostate.edu/client-files/csfs/pdfs/firewise-construction2012.pdf>

- 1. Most structures *DON'T* ignite from direct flame contact, but from radiant heat** (heat that doesn't warm the intervening air but does warm objects). As a fire burns the heat passes through air and windows to objects inside the home that warm to the point of ignition then smolder for hours. **Use non-combustible roofing material and non-combustible siding (Class C or better), and spark arresters on chimneys.**
- 2. Embers or fire brands also ignite house fires.** During fires embers land on unburned fuels. Embers can catch in "traps" on roofing, such as beside chimneys or in gutters, and start new fires. **Clean pine needles out of gutters and off roofing. Screen attic and foundation vents with fine mesh screening.**
- 3. Large windows are a threat** because they allow radiant heat to enter the structure. **Remove lacey and other decorative curtains** to prevent ignition through the glass. **Double and triple pane windows are more resistant** to heat transfer.

Signing and Evacuation; all Properties:

- 1. Homes need visible address signing which are non-flammable and reflective** at the ends of their driveways. Emergency personnel respond based on street addresses. **The standard is in the recommendations.**
- 2. Create an evacuation plan – in advance.** Include a meeting place outside your area, and a family member or friend outside of your area who can be a point of contact. Think of the **Four Ps: Pets, Pills, Papers, and Photos.** You may have only a short time to evacuate. If you do leave the house, set a ladder in the driveway and connect garden hoses to spigots so firefighters can use your equipment to help defend your home.

4.1b Fuel Break

Shaded Fuelbreaks: The Evergreen CWPP states that, *“All forested access roads should be maintained as shaded fuelbreaks where possible. Reducing the forest canopy along access roads enhances the effectiveness of the physical canopy break the road provides... This creates safer emergency ingress/egress and aids suppression efforts.”*

Vegetation treatments include reducing biomass, thinning trees and shrubs, and/or removing ladder fuels. Breaking up vertical and horizontal fuel continuity affords better opportunities to control rate of spread. For mitigation actions under this plan the **CSFS publications, *Fuelbreak Guidelines for Forested Subdivisions and Communities*, (Dennis, not dated) and *Lodgepole Pine Management Guidelines for Land Managers in the Wildland -Urban Interface* (Dennis et al) should be followed.** These publications can be found under the “Publications” section of the COSFS website.

Stand Densities

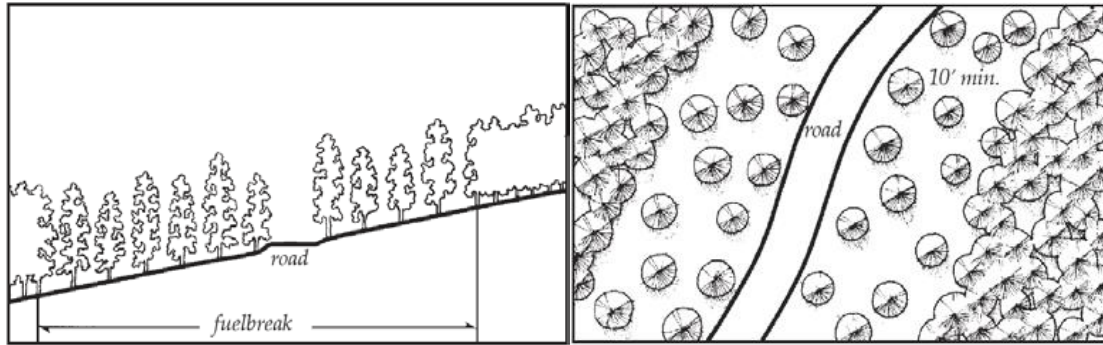
CSFS publications state crown separation is a more critical factor for fuel breaks than a fixed tree density level. Minimum 10-foot spacing between the edges of tree crowns is recommended on level ground. As slope increases, crown spacing should also increase. Small, isolated groups of trees may be retained for visual diversity. Conifer trees would be limbed up approximately 10 feet from the ground. Ladder fuels, such as small trees and shrubs, are thinned so that fire will not easily burn from the ground into the canopy. Aspen trees would not be harvested during the creation of the fuel breaks as aspen are fire resistant.

The Stewardship Plan supports these statements: *“A shaded fuelbreak is recommended because many trees are left standing. The trees should be thinned so that the crowns are thinned to be 10-15 feet apart, with occasional groupings. It is permissible to have some areas where the crowns are even more widely spaced, but to also have some clumps of trees where the crowns touch—the point of this management activity is to break up the continuity of fuels, ... Another key activity is the removal of ladder fuels—brush, tree seedlings and saplings, and debris which exist underneath the crowns of trees and act as a ladder for fire to reach tree tops from the ground.”*

Fuels break Width/Slope

Percent slope %	Minimum uphill distance (ft.)	Minimum downhill distance (ft.)	Total distance of modified fuels (ft.)
0	150	150	300
10	140	165	303
20	130	180	310
30	120	195	315
40	110	210	320
50	100	225	325
60	100	240	340

*As slope increases, total distance for cut-and-fill for road construction rapidly increases, improving fuelbreak effective width.



Cross-section of a typical fuelbreak built in conjunction with a road.

Plan view of fuelbreak showing minimum distance between tree crowns.

Figure 10: Fuel Break Diagram (Dennis not dated)

Logs and other woody material generated from creating the fuel breaks would be disposed through salvage log sales, hauling debris off site to a designated disposal area, or burned on site following CSFS, Golden District *Prescribed Pile Burning Guidelines* (CSFS, not dated). An evaluation should be made to determine marketability of logs prior to logging. Burning the woody debris requires contact with the EFPD and/or CSFS.

Treatment Alternatives and Costs (from EFPD CWPP)

Treatment	Estimated Cost	Comments
Brush Mastication	\$300 - \$500, per acre	<ul style="list-style-type: none"> Brush species (Gamble oak in particular) tend to resprout vigorously after mechanical treatment. <input type="checkbox"/> Follow-up treatments with herbicides, fire, grazing, or further mechanical treatments are typically necessary. <input type="checkbox"/> Mastication tends to be less expensive than manual treatment and eliminates disposal issues.
Prescribed Fire	\$75 - \$300 per acre	<ul style="list-style-type: none"> • Can be very cost effective. • Ecologically beneficial. • Can be used as training opportunity for firefighters. • Cost varies with complexity. • Carries risk of escape, which may be unacceptable in some WUI areas. • Unreliable scheduling due to weather and smoke management constraints.
Timber Mastication	\$300 - \$1,200 per acre	<ul style="list-style-type: none"> • Materials up to 10 inches in diameter and slopes up to 30 percent can be treated. • Eliminates disposal issues. • Environmental impacts of residue being left onsite are still under study.
Manual Treatment with Chipping or Pile Burning	\$300 - \$1,200 per acre	<ul style="list-style-type: none"> • Allows for removal of merchantable materials or firewood in timber. • Requires chipping, hauling, and pile burning of slash.
Feller Buncher	\$750 and up per acre	<ul style="list-style-type: none"> • Mechanical treatment on slopes over 30 percent of materials over 10 inches in diameter may require a feller buncher rather than a masticator. • Costs tend to be considerably higher than mastication. • May allow for removal of merchantable material.

Figure 11: Treatment Alternatives and Estimated Costs

The above cost estimates are several years old. The community CWPIP team should consult with Evergreen Fire Rescue for cost estimate assistance.

4.1c Fire Break

A fire break is an area where vegetation has been removed to bare ground or replaced with non-flammable surface such as asphalt. The purpose of the fire break is to stop fire progression. Herbaceous vegetation should be mowed approximately 10 feet on each side annually to further enhance its effectiveness.

4.1d Slash Management

Removal of slash is an important action to protect property. The Jefferson County website <http://jeffco.us/slash/> states, “*Slash is debris, from nature, such as tree limbs, pruning and pine needles. If not removed, slash can add to potential fire hazards on your property...it is critical that home owners clear debris from their properties to help prevent fire damage...*”

Visit the website for dates, locations, guidelines, and prices.

4.2 Priority Mitigation Projects: Bear Mountain Vista/Stanley Park

Following are the priority projects and their descriptions as determined by the Bear Mountain Vista/Stanley Park CWPIP team.

Recommended Priority 1

Educate Community on CWPIP and fuel break initiative, and develop project and funding requests & owner commitment

Development of large scale mitigation projects is recognized as a major need within the Evergreen FPD, and is a critical part of CWPIP planning. This recommendation will help facilitate, define and understand the process of how to prepare the community for completing a large scale project. A large scale project is, generally speaking, the creation of a fuel break that encompasses roadways, property owners doing defensible space on their adjacent lands, and possibly public lands.

The goal is to have large project areas identified within a CWPIP and all the necessary documents, match dollars and agreements in place and signed, so when grant opportunities become available, each CWPIP team is ready to submit their project within a short time frame.

Committing to and following this process, will lead to landscape resilience, fire adapted communities and safe and effective fire response. **Additional material and a letter of work/financial commitment for individual land owners and HOAs which would be part of a grant request are in Appendix B of this plan.**

Safe and Effective Fire Response

Local fire protection districts play an incredibly important role in serving communities within the Watershed. Evergreen Fire/Rescue (EFR), Elk Creek FPD, North Fork FPD, and Inter-Canyon FPD staff and volunteers work tirelessly to ensure that their residents are prepared for a wildfire, but may not have the capacity to engage everyone. The USPP works in conjunction with local fire professionals to ensure that their staff and employees have enough training opportunities to pass required certifications, exposure to fire on the landscape, and the proper resources to do their job in the event of a catastrophic wildfire.

This priority will include the following:

Large Scale CWPIP project process;

- 1) Make sure the team has an effective means to quickly contact residents in the CWPIP area.
- 2) Continue the defensible space education and project efforts on area properties, have community chip/cutting days (volunteer days) and track all hours and expenses. Designate an individual to do this, keeping good records, as this will help in grant opportunities.

3) Get large scale projects identified; some are already identified in this CWPIP, but additional areas can be identified and placed into the plan; i.e. fuel breaks, ingress/egress fuel breaks in place and ready to go.

a) Figure out properties to be included, get all the addresses, names and numbers of residents within the project area.

b) Get land use agreements completed, which may include door to door visits, to inform the property owners included in the large scale project area of the work that is needed in the area or HOA. The form that is included in Appendix B of this plan is for individual property owners to sign and give permission to have work done on their property. Project planning may include talking to public land agencies such as Denver Mountain Parks (DMP), Jeffco Open Space or USFS, so all the dots are connected to have one contiguous project.

c) Find out how much matching monies and/or “sweat equity hours” each property owner or HOA can commit for the large scale project. This is on the same form as the land use agreements.

d) Complete a home assessment survey for the community or HOA. This will be a quick, simple survey on each property. Software and iPad may be provided by Evergreen Fire/Rescue (EFR) and Coalition for the Upper South Platte (CUSP). The team and community volunteers will be needed to drive their neighborhoods and fill out the short survey for each address. Training will be provided by EFR staff.

4) Depending on the year, the EFR grant program can assist in the funding of the layout or tree marking of the large scale projects. This process would be a simple grant application to the EFR grant program. Depending on dollars available, the applicant could be awarded dollars to complete or assist in this process.

5) This will set up the opportunity for large grant opportunities for large scale project work. There are grant opportunities for the Upper South Platte Partnership (USPP), CSFS, and FEMA type grants. If the CWPIP or community puts in the short term time and effort of getting everything in place sooner than later, then the Jefferson Conservation District (JCD) or CSFS takes over and manages the project, and homeowners can sit back and watch the work being done.

Recommended Priority 2 Availability of Emergency Evacuation Routes

The team seeks to assure availability of routes for evacuation in event of wildfire emergencies. Depending on fire location and behavior various main roads in the area could be cut off from use. Determinations of which routes to take would be made by Sheriff's Department and fire officials at the time of an emergency.

Recommendation:

2. **The team coordinates with Evergreen FPD, and Jefferson County Sheriff's Office to provide current and incoming residents with the EFPD information brochure on existing evacuation route recommendations' sheet for Bear Mountain/Stanley Park) showing potential evacuation routes.**
 - **If additional route(s) are added work with EFPD to see the brochure is revised.**

Recommendation:

- **The team coordinates with Evergreen FPD to accomplish recommendations of the Evergreen FPD CWPP: "Develop and maintain emergency access options along Fern Gulch and Independence".**

This will require the team and Evergreen FPD working with residents to explain the need for thinning along parts of the routes for safe evacuation, and that standard thinning would involve portions of the private properties. Treatment would be by contract or residential and team project. Property owners would need to agree to mitigation actions on their properties.

Shaded fuel break treatment would be in accordance with established guidelines such as:

- The USFS standard for roadside mitigation/hazard tree removal: "... implement hazard tree removal activities within a distance equal to 110% of the height of the tallest hazard tree from the edge of: "...federal, state, county, or other permitted roads..." In this case the height of the tallest tree within the treatment zone would be used.
- The Colorado State Forest Service "Fuelbreak Guidelines for Forested Subdivisions and Communities" by Frank Dennis. Treatment would be primarily hand thinning with some mechanical, and with slash pile and burning of material or some use of wood for biomass purposes. If it is assumed up to 60 feet would be involved on either side of the road this means maximum acreage would be approximately 5.8 acres/mi.

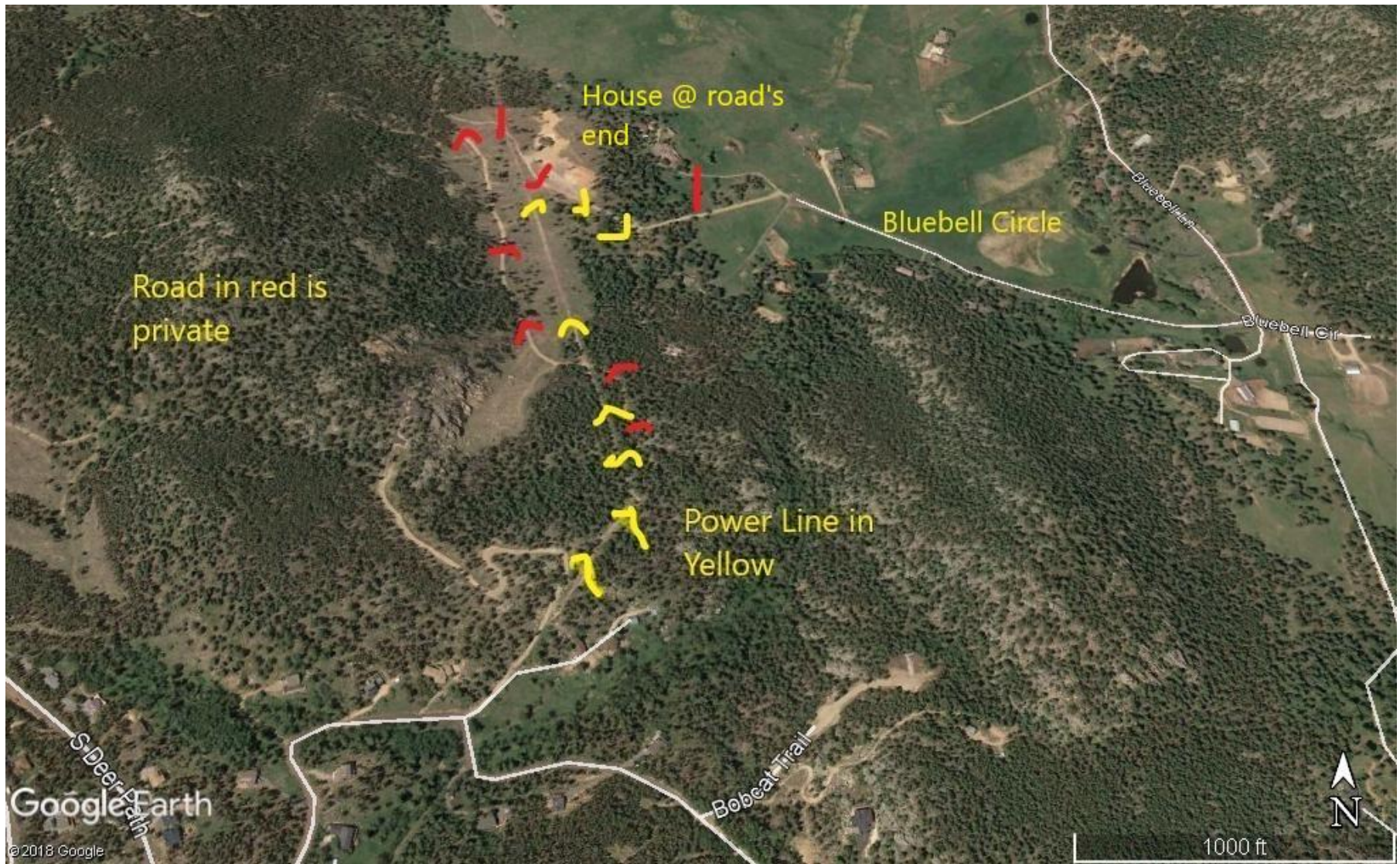


Figure 12: Emergency access option; Brook Forest to Bluebell (Buffalo Park) (EXAMPLE)

Recommended Treatment Priority 3: Mitigation along area roadways

The Evergreen FPD CWPP calls for “Shaded fuel breaks along forested primary, secondary, and designated emergency access roads”, and Wildland Coordinator, Paul Amundson, is focusing on recommendations for these mitigation actions as a key in a CWPIP to help not only with emergency access, but as important treatments to slow and break up progress of wildfire.

Unit 18: Recommendation calls for... “shaded fuel breaks along forested primary and secondary access roads including designated emergency access routes.” “Develop and maintain emergency access options along Fern Gulch and Independence... Improve or construct secondary road turn arounds at dead-ends.”

The Jefferson County CWPP states: “All access roads flanked by heavy vegetation in WUI communities should be targeted for thinning or seasonal mowing. Treatments may be coordinated with property owners along private roads and with county and state transportation departments for public roads.”

Coordination with private landowners

Private property involved along roadways recommended for mitigation will require working with property owners to gain agreement to treatment. While recommended thinning distances may not be achievable in all areas it will be important to educate and work with residents in achieving the best possible thinning results.

The Bear Mountain/Stanley Park Stewardship Plan states: “Fuelbreaks are an important line of defense against a wildfire. Their primary function is to break up the continuity of fuels in a forest and provide an area where the fire will slow down and be more easily controlled.”

The team evaluated the recommendations and conducted a drive around to identify roadsides in need of mitigation. The accompanying map (P34) shows roadways recommended for mitigation. Also shown are priority areas for the unit from among the recommended areas.

The team recommends the following road parcels for priority treatment in Unit 18:

1. South Bear Mountain Drive from the junction with Stanley Park Road north and east to just past the junction with Hawks Circle (treatment priority 1 in priority area 1; map P34).
2. South Bear Mountain Drive in the stretch south of its junction with Giant Gulch Road; (treatment priority 2 in priority area 1; map P34).
3. Stanley Park Road north from its junction with South Bear Mountain Drive to the junction with Abbey Road; (treatment priority 3 in priority area3; map P34).
4. The area outside of the Unit 18 but still within the HOA boundary in portions of Unit 19 which is not part of the Bear Mountain Vista area, along High Drive (noted in blue notation on map, P34).

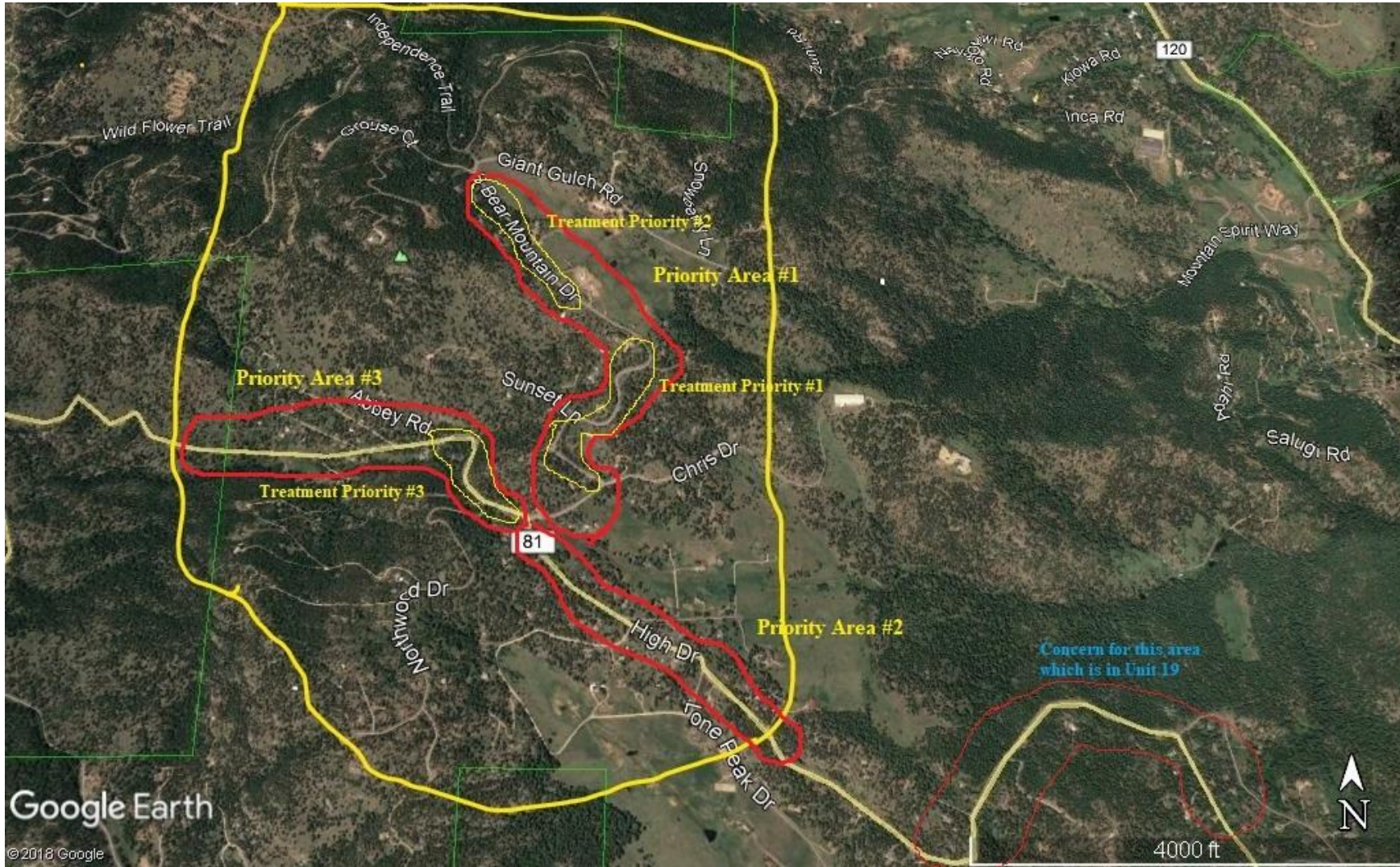


Figure 13: Team Roadway Mitigation Priorities, Unit 18 (Bear Mountain Vista/Stanley Park)

The team reviewed the CSFS Stewardship plan recommendations for this area, taking them into account in final recommendations:

Bear Mountain and South High Drive Fuelbreak

Due to the various slopes and undulating road path across the landscape, both the Bear Mountain and South High Drive fuelbreak should implement a shaded fuelbreak.

Denver Mountain Park-Bell Park Fuelbreak (See Recommended Priority 5)

Little Cub Creek Road and Stanley Park Road are primary access roads to BMVHOA. These roads travel through Denver Mountain Park, Bell Park. BMVHOA should consider working with CSFS and Denver Mountain Parks (DMP) to assist implement of a fuelbreak along this critical ingress and egress route for BMVHOA. Due to the various slopes and undulating road path across the landscape, proposed Bell Park fuelbreak should follow Little Cub Creek Road and Stanley Park road.

Recommended treatment standards are the same for all recommendations:

- Extend 150 feet above the road and 150 feet below the road.
- Separate crowns of trees by at least 10 feet, needle-tip to needle-tip.
- Save the largest, healthiest trees as preferred “leave trees.”
- Save the species of Douglas-fir, ponderosa pine, and aspen as preferred leave trees due to drought tolerance, diversity, and wind firmness (less prone to wind throw).
- Prune branches on leave trees to a height of 8-10 feet, but no more than 1/3 of the total height of the tree.
- Remove ladder fuels of brush and small tree groves.

Treat all slash by chipping, piling and burning, or limited lop-and-scattering.

“Proper construction of the fuelbreak, as outlined above, and committing to its maintenance are crucial. An assessment should be made every five years as to whether or not the fuelbreak needs maintenance. Some signs that it needs maintenance are:

- Regeneration is reaching such a height that it begins to act as a ladder fuel (generally, over 6’ tall).
- An insect or disease outbreak, or an abiotic event such as a windstorm, has killed numerous trees in the fuelbreak.”



Figure 10
Bear Mountain Vista Homeowner Association
Fuelbreak Map

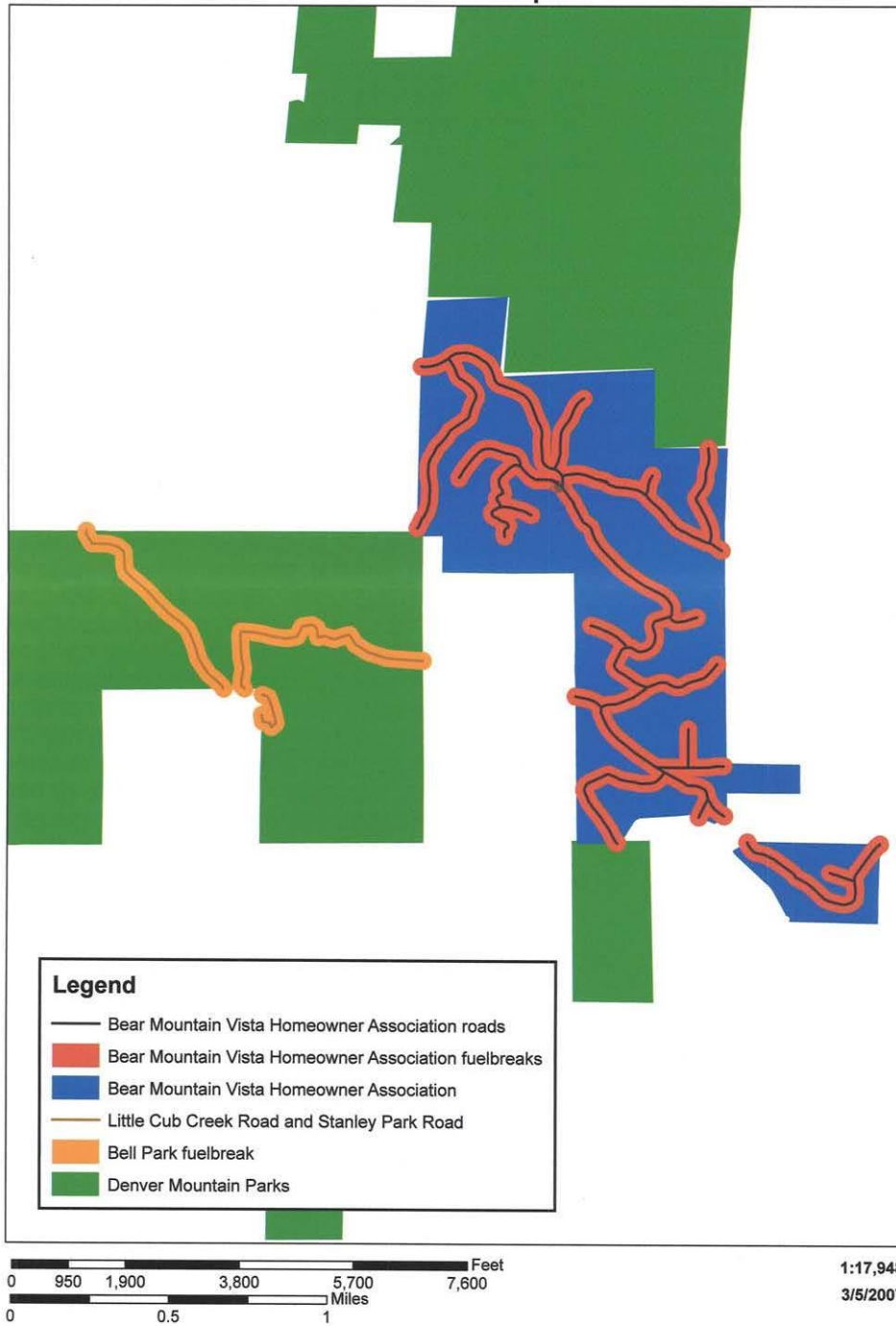


Figure 14: Fuelbreak Map from CSFS Stewardship Plan

The recommendation is for thinning along selected roadways to facilitate evacuation and entry by emergency vehicles. Thin on either side of the road, following guidelines listed below. While encroachment is not along the full lengths of these routes, they will be evaluated for thinning. As noted in the publications, *“Road systems are important to fuel break construction...crown separation is a more critical factor for fuelbreaks than a fixed tree density level.”*

Power lines will also benefit as stated in the Stewardship Plan: *“By reducing fuels near the roads, the power lines are mitigated...”* where there exists a *“concentration of dangerous ladder fuels under power lines and group of dead trees threatening to fall on power lines.”*

Treatment would be in accordance with three main standards as determined by the team and EFPD:

- The USFS standard for roadside mitigation/hazard tree removal: *“... implement hazard tree removal activities within a distance equal to 110% of the height of the tallest hazard tree from the edge of: 1) National Forest System (NFS) roads open to motorized travel (maintenance levels two through five); 2) federal, state, county, or other permitted roads...”* In this case the height of the tallest tree within the treatment zone would be used.
- Colorado State Forest Service: *“Fuelbreak Guidelines for Forested Subdivisions and Communities”* by Frank Dennis
- Colorado State Forest Service: *“Lodgepole Pine Management Guidelines for Land Managers in the Wildland -Urban Interface”* (Dennis et al)

Mitigation would include, *“... fuel break clearing of dead standing and dead-fall coniferous growth and dead low growth with only moderate live-ground growth removal, then seeding with appropriate mixes to encourage grass cover and prevent soil erosion.”*

The fuelbreak guidelines referenced call for a minimum break of up to 150 feet on both sides of the road (P21), and as much as 170 feet depending on steepness of the slope. Minimum 10-foot spacing between the edges of tree crowns is recommended on level ground. The recommended distances are from the toe of the fill for downslope distances, and above the edge of the cut for uphill distances. Minimum acreage would be approximately 24 acres per mile.

With stands of Lodgepole pine there is potential for wind throw if fuelbreak thinning creates “wind” corridors. It is recommended that thinning be accomplished by leaving groups of 7 to 10 trees separated from adjacent groups of trees to create the desired spacing effect.

Treatment would be primarily hand thinning with some mechanical, and with slash pile and treatment of material or some use of wood for biomass business purposes. Cost would be approximately \$3000/acre. **The team should consult with EFPD for advice on getting an up-to-date cost estimate when it begins the process to accomplish this project.**

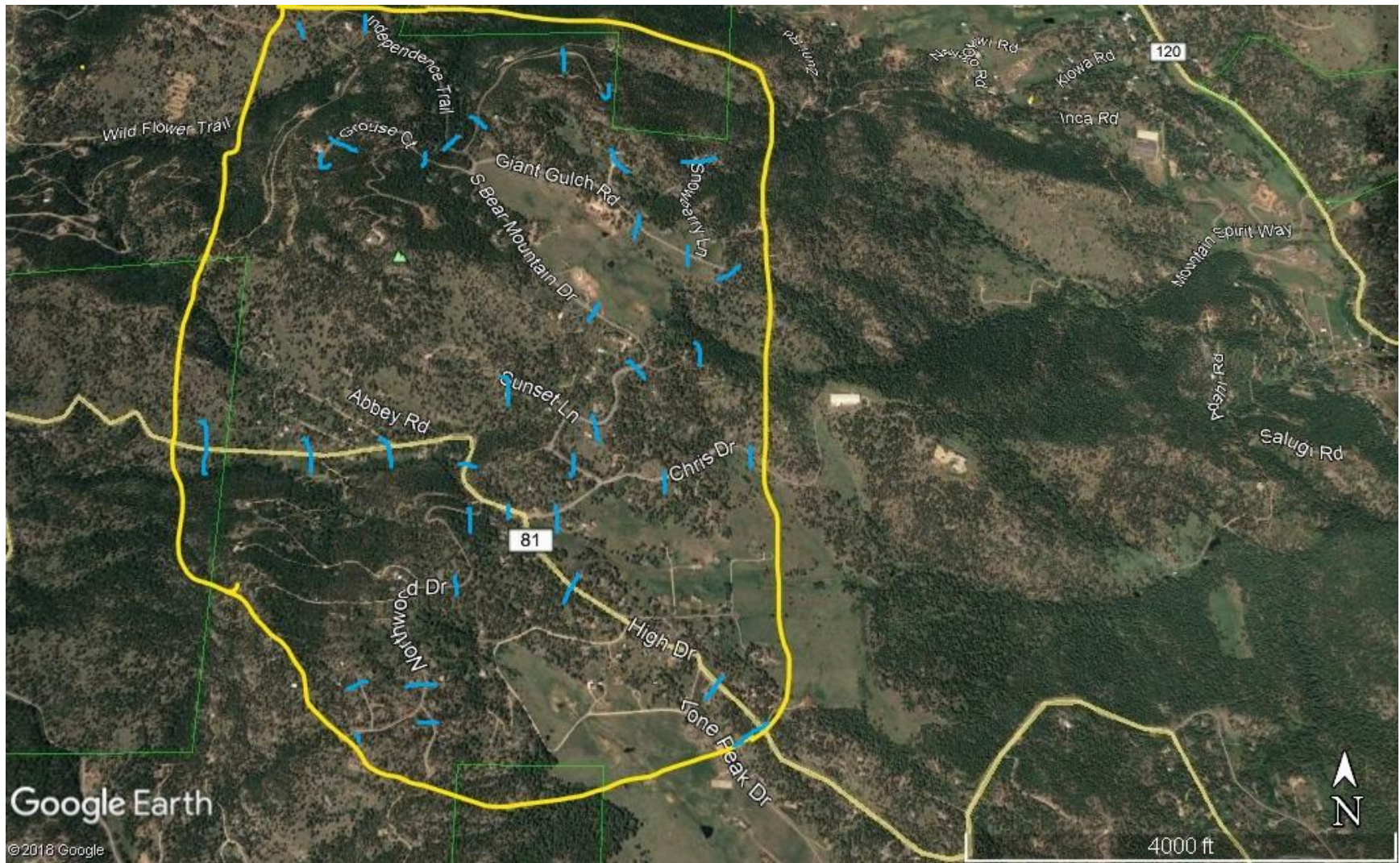


Figure 15: Roads maintained by Jefferson County in Unit 18 (WILL BE UPDATED)

Recommended Treatment Priority 4:
Collaboration with officials and neighborhoods to facilitate creation of Defensible Space

1a. the team recommends collaboration with Evergreen Fire Protection District and development of neighborhood/community events to educate residents and promote efforts to create Defensible Space on residential lands. See Appendix E or CSFS publication: “*Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones*”, on the CSFS website in the Defensible Space section at: http://static.colostate.edu/client-files/csfs/pdfs/FIRE2012_1_DspaceQuickGuide.pdf; and CSFS publication: “*FireWise Construction; Site Design and Building Materials*”: <http://static.colostate.edu/client-files/csfs/pdfs/firewise-construction2012.pdf> for structural ignitability concerns. The Defensible Space Guide is Appendix D of this plan.

Jefferson County has requirements for Defensible Space and has contracted foresters who will evaluate defensible space actions. For information on requirements and contractors go to: <https://www.jeffco.us/2672/Defensible-Space-Wildfire-Mitigation> . This information will also include a link to Defensible Space Contacts.

1b. the team recommends improvements in road and property signage: In areas where road names are similar, street signs should be revised to clearly indicate differences, (e.g. where roads have similar names such as “Drive” and “Road”).

Standard for address signage: Addresses on community driveways should have reflective markers: “...*plainly legible and visible from the... road fronting the property. ...numbers shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters... a minimum of 4 inches...high with a minimum... width of ½ inch... Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used...*”

This system should be repeated every place where the driveway divides and individual driveways leave the community drive. Reflective markers should be placed for each home where the driveway leaves an access road, and on the house itself.

1c. the team recommends working with Evergreen Fire Protection District to develop submittals for grants to complete mitigation actions on properties and area roadways.

**Recommended Priority 5:
Fuelbreak thinning by Denver Mountain Parks**

THIS RECOMMENDATION IS SAME AS IN NORTH TURKEY CREEK CWPIP. NEEDS TO BE DISCUSSED BY TEAM. DENVER MOUNTAIN PARKS' FORESTER, ANDY PERRI has been informed of the recommendation. Two of the areas, Bell and Stanley, are in the North Turkey Creek CWPIP, so are, in effect, approved by DMP.

There are three areas managed by Denver Mountain Parks (DMP) which have boundaries adjacent to the Bear Mountain Vista/Stanley Park CWPIP area. They are: Pence Park (NE of the plan area); Bell Park (SW side of the area), and Stanley Park (S side of the area). These areas are shown on the map, P41.

Two of these areas, Bell and Stanley parks, are not developed and maintained parks. They are all Conservation Areas of the Denver Mountain Parks' system. As stated on the DMP website:

"Some of the most scenic and important lands in the Denver Mountain Parks system were purchased for their open space value and were intended never to be developed. They...provide critical wildlife habitat, watershed protection, and dramatic scenic backdrops. ...Most are surrounded by private land...which...has cut off or limited public access today. Public use is not encouraged or facilitated...The conservation parcels continue to fulfill their original role—to protect the natural and scenic character of the Denver foothills."

Pence Park is a recreational park with facilities.

The team recommends Denver Mountain Parks carry out fuel break thinning in the three parks to mitigate wildfire threat. Two of the three areas, Bell and Stanley parks, are recommended for mitigation in the North Turkey Creek CWPIP, and the recommendation was accepted by the DMP Forester. The Forester's support and his evaluations form the following individual park recommendations. He also indicated agreement with the treatment descriptions and methods in the recommendation.

The DMP Forester recommends the team work with residents adjacent to park areas to provide letters of support for these mitigation efforts. It is important to get neighbors to agree on coordinated work that also supports the Public Land request. As project work is developed for the park areas there may be areas bordering parks where there is a need to identify easements or approval for equipment access to a park.

The Forester also is willing to provide letters in support of mitigation projects on lands adjacent to the DMP areas.

The team would collect letters of support for grant requests. The more community support provided creates a stronger grant request.

Treatment would be in accordance with two standards as determined by the team and Evergreen Fire/Rescue:

- Colorado State Forest Service: *“Fuelbreak Guidelines for Forested Subdivisions and Communities”* by Frank Dennis. Guideline for thinning on various slopes is on P20. Recommended thinning would go into the area up to 300 feet which may not be feasible in all locations.
- Colorado State Forest Service: *“Lodgepole Pine Management Guidelines for Land Managers in the Wildland -Urban Interface”* (Dennis et al)

In order of importance thinning would be accomplished at: (TO BE DETERMINED)

- Pence Park
- Bell Park
- Stanley Park

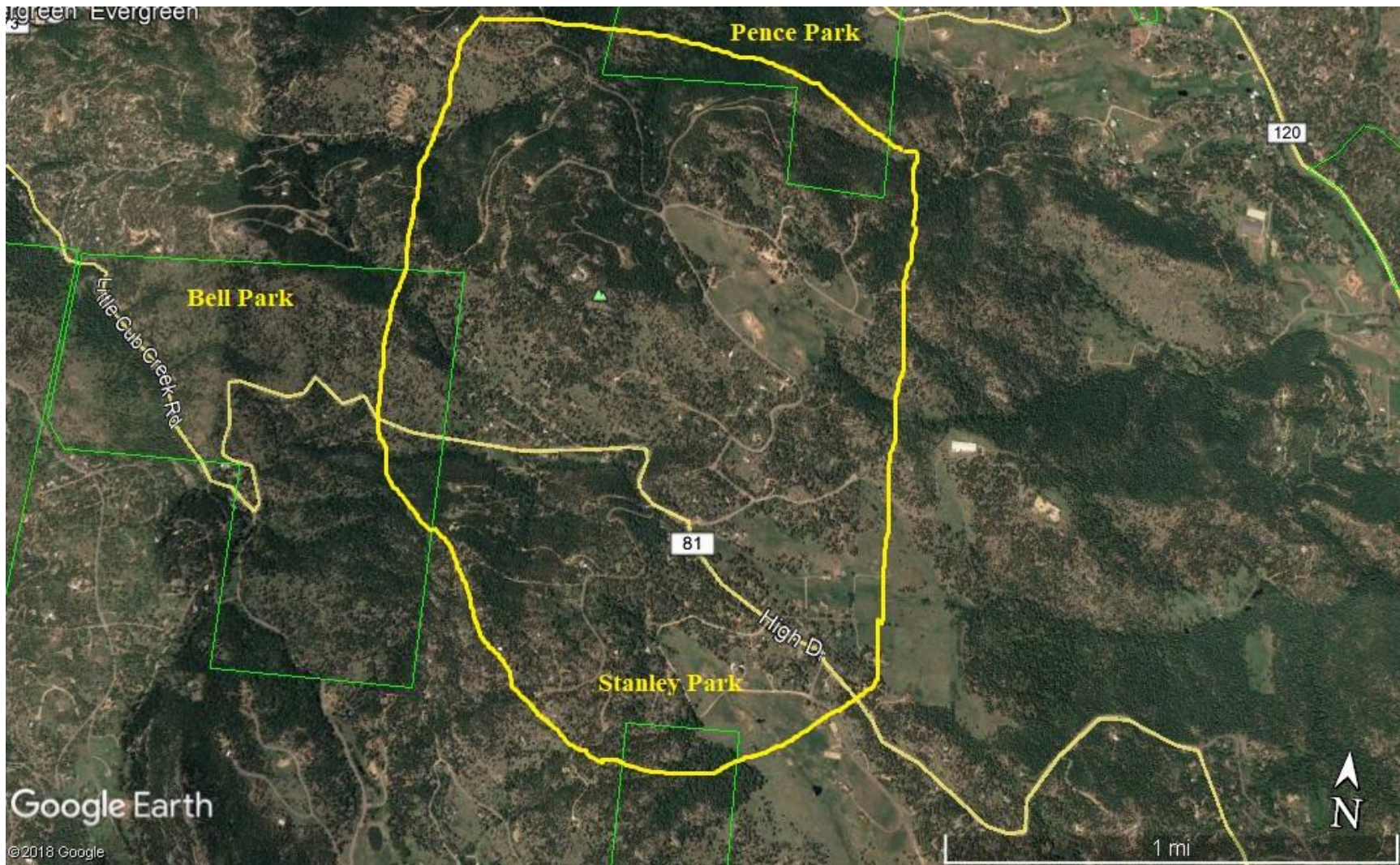


Figure 16: Denver Mountain Parks areas in Unit 18

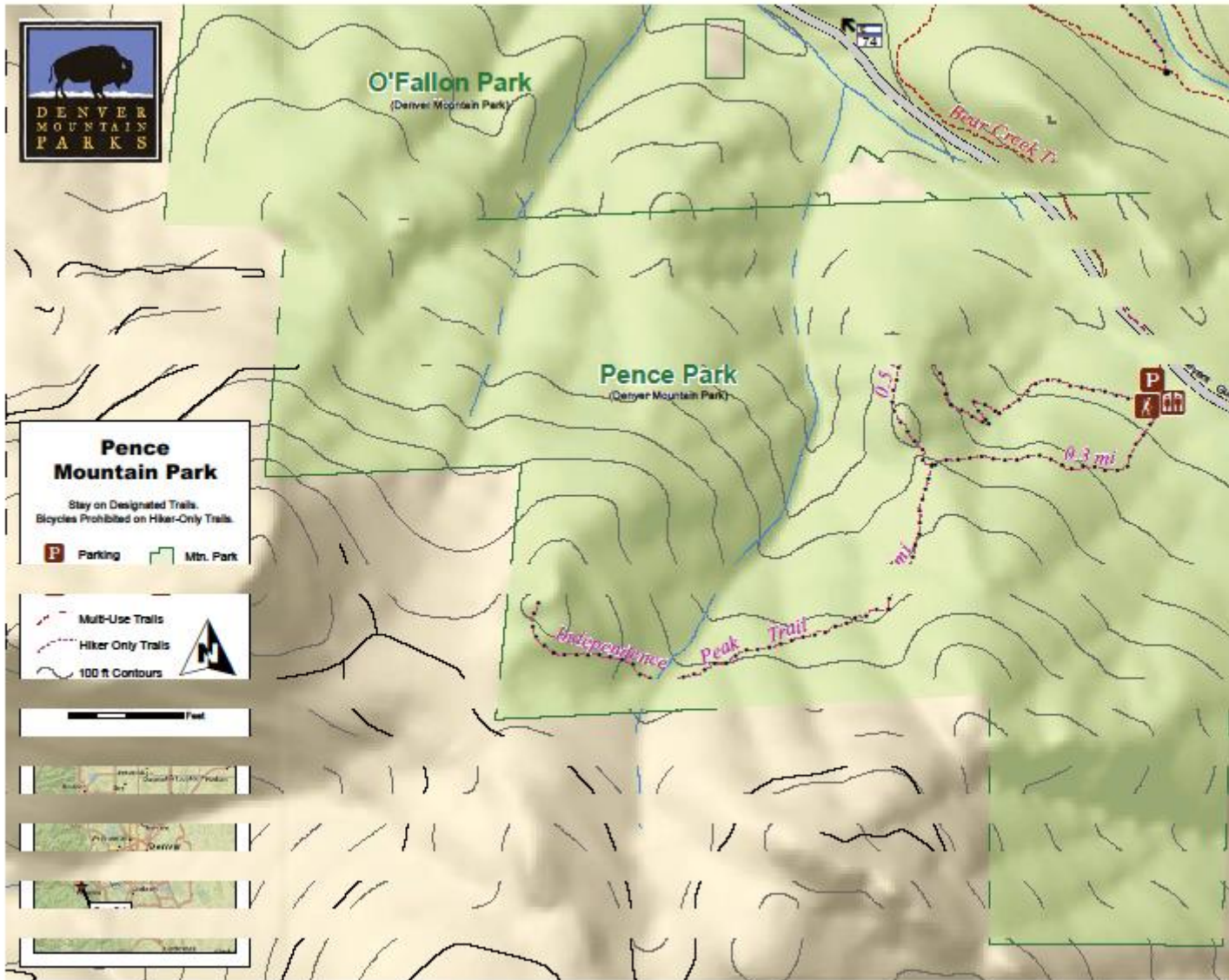


Fig17re xxx: Pence Park

Section 5: IMPLEMENTATION AND FOLLOW UP

To quote the Evergreen CWPP, *“Maintaining the momentum created by this process is critical to successful implementation and ongoing community wildfire hazard reduction. Ownership of this responsibility lies with each community, neighborhood, and HOAs identified in the CWPP.”*

“As wildfire hazard reduction efforts are implemented over time and the characteristics of particular WUIs change, neighborhoods may wish to reassess particular areas and update the findings of the original CWPIP.”

Implementing this CWPIP has the potential to significantly reduce the effects of wildfire. **This will require the efforts of a committed Bear Mountain Vista/Stanley Park CWPIP team collaborating with the Evergreen FPD, involving local interest groups and the citizens of the area.** While groups may not be available for every meeting they should be invited and consulted. Representation from area neighborhoods is important. The team should strive for membership from throughout the neighborhoods.

The effectiveness of this plan will be the result of actions taken over time; *completion of the plan is only the beginning.*

Ongoing community education and demonstration events are needed to demonstrate the necessity of taking personal action. Grant funding, contract crews, and volunteer projects will be spread out over a number of years.

Maintenance of the Plan

The CWPIP is meant to be a **“living document”** which is updated annually to pursue priority concerns. The overall goal is accomplished through:

- 1) Ongoing monitoring of plan accomplishments and effectiveness;
- 2) Adjusting the plan to account for changes in wildfire hazard conditions, response capabilities, technologies and other circumstances;
- 3) Setting goals and selecting projects for the coming year;
- 4) Seeking funding and other project assistance; and
- 5) Facilitating community project days and other events.

Following are some guidelines to be considered by the team:

The CWPIP team should be an ongoing team as long as the community and planning efforts have need of such direction. The CWPIP team should conduct recruitment of new members as needed.

Team meetings should be held at least quarterly (it may be desirable to meet more often as summer approaches each year) to review plan goals, actions and public response. Each year the CWPIP team will conduct a performance review to evaluate accomplishments and problems over the past year. The team should also consider any proposed changes to the CWPIP for the

upcoming year and select new or ongoing project goals. The team should consult with EFPD and reach out to neighborhood stakeholders.

The overall CWPIP evaluation, recommended changes, and upcoming project goals should be presented to the residents through various meetings and informational avenues such as local internet communications, community meetings, and Community Wildfire days and forums.

The CWPIP team contact list should be made available to residents so they can be informed or offer suggestions for the team to consider.

The CWPIP team should organize an annual community open house each spring to keep the public continuously aware of healthy forest restoration and wildfire mitigation needs and opportunities.

The team should develop or participate in demonstration days, chipping days, and other opportunities in area neighborhoods to showcase projects, techniques, and new ideas.

The CWPIP team should follow up on completed projects, using a monitoring and evaluation format which addresses the following issues:

- 1) Implementation: Track the CWPIP project(s) as laid-out for the year and assess the results;
- 2) Execution of project: What issues occurred that either aided or impeded the project?
- 3) Maintenance Needs and Monitoring: Evaluate areas that have been treated in the past, but are in need of maintenance treatments to maintain effectiveness as originally intended.

Based on neighborhood team and individual mitigation actions the team may wish to consider looking into the **National FireWise program** to apply for recognition as a National FireWise Community. Such recognition can be an assist in applying for grant funding.

The CWPIP should be available to residents on various websites, such as various neighborhood information sites and on the Evergreen FPD website.

Section 6: APPENDICES

APPENDIX A: Publications and Websites

APPENDIX B: Large scale mitigation projects: Evergreen Fire Protection District

APPENDIX C: Tips on insurance coverage from a *United Policyholders* handout.

APPENDIX D: Wildfire Action Planning - The Ready, Set, Go! Program (RSG)

APPENDIX E: COLORADO STATE FOREST SERVICE: PROTECTING YOUR HOME FROM WILDFIRE; CREATING WILDFIRE-DEFENSIBLE ZONES

APPENDIX F: Colorado State Income Tax Deduction for Mitigation

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APPENDIX A

Websites and Publications for Assistance

Following is a listing of websites and publications available from the Colorado State Forest Service and elsewhere which provide guidance on a range of mitigation activities and grant opportunities which will aid communities in lessening the impact of wildfire. *Residents are encouraged to view these sites.*

The following publications can be viewed on the Colorado State Forest Service website page for Publications: <http://csfs.colostate.edu/csfspublications/>, (or linked directly from below). If you need copies for events contact the CSFS to order (see website) or you may have to print them from the website.

Funding Assistance

Grant Opportunities:

CO State Forest Service: <https://csfs.colostate.edu>

- Land Owner & Assistance Programs: <http://csfs.colostate.edu/funding-assistance>
- Natural Resource and Grant Assistance Database: <http://nrdb.csfs.colostate.edu/Home/Search>

CO Dept. of Natural Resources:

- Wildfire Risk Reduction Grant (WRRG) Program:

FireWise: <http://www.firewise.org/>

Resources for Homeowners & Landowners

Jefferson County CWPP and plans in county areas such as Evergreen Fire Protection Dist. CWPP: <http://csfs.colostate.edu/> (go down list by county to the plan).

Jefferson County Slash Management Program: <http://jeffco.us/slash/>

Colorado State Forest Service: Publications on Wildfire, Mitigation, and Resources for Home and Land Owners:

Go to: <http://csfs.colostate.edu/csfspublications/>. Publications with the following titles will be found here under the following headings.

Wildfire Mitigation & Education

- Are You FireWise? Notebook
- Are You Plains FireWise? Notebook
- Cheat grass and Wildfire
- Protecting Your Home from Wildfire:
Creating Wildfire-Defensible Zones – 2012
Quick Guide
- Fire-Resistant Landscaping
- FireWise Plant Materials
- Forest Home Fire Safety
- Grass Seed Mixes to Reduce Wildfire
Hazard
- Home Fire Protection

•Living with Fire

•Wildfire & Insurance

Managing your Land & Forest Stewardship

- Colorado's Forest Stewardship Program Brochure (458 KB PDF)
- Landowner Assistance Programs in Colorado
- Landowners Guide to Thinning

FireWise Construction

•

FireWise Construction: Site Design & Building Materials
•Decks

•Roofing Materials
•Siding
•Windows and Glass

Resources for Communities – Community Wildfire Protection Planning

Community Guide to Preparing & Implementing a CWPP

- Community Wildfire Protection Plan Evaluation Guide
- Community Wildfire Protection Planning: HFRA and Beyond
- Community Wildfire Protection Plans: Guidelines for Implementation

- CWPP Briefing Paper – May 11, 2005
- CWPP Minimum Standards – REVISED 2009
- Fuelbreak Guidelines for Forested Subdivisions & Communities
- Leaders Guide for Developing a CWPP
- Preparing a Community Wildfire Protection Plan – Handbook

Post-Fire Rehabilitation

- Fire-Resistant Landscaping
- Forest Home Fire Safety
- Grass Seed Mixes to Reduce Wildfire Hazard
- Insects and Diseases Associated with Forest Fires

- Replanting in Burn Areas: Tips for Safety and Success
- Soil Erosion Control after Wildfire
- Vegetative Recovery after Wildfire

Websites

Evergreen Fire/Rescue: <http://evergreenfirerescue.com/>

Denver Mountain Parks: <https://www.denvergov.org/content/denvergov/en/denver-parks-and-recreation/parks/mountain-parks.html>

Jefferson County: <http://jeffco.us/>

- Sheriff's Office & Wildfire: <http://jeffco.us/sheriff/wildfire/>

Arapahoe & Roosevelt National Forest: <http://www.fs.fed.us/r2/arnf/index.shtml>

Appendix B

Large scale mitigation projects: Evergreen Fire Protection District

The need to expand and increase the Evergreen Fire Protection District's wildfire mitigation landscape is critical for the safety and protection of life and property. The following information will help facilitate and understand the process of how to complete and work through a large scale project in a CWPIP. A large scale project may be many different things, but generally speaking it's a fuel break that encompasses many different property owners, area roadways and open spaces, and possibly public lands. The ultimate goal is to have multiple fuel breaks throughout EFPD so we can slow, divert or stop a large fire's coming into or starting in EFPD.

A major step for a CWPIP team is to have large project areas identified within a CWPIP and the necessary documents, matching dollars and agreements in place so when grant opportunities come available each CWPIP is ready to submit their project and no time is lost.

It is extremely important for the CWPIP team and its community to put in the time and effort of getting project and property commitments in place sooner than later as project announcements and deadlines often are often close together. If project planning is done in advance and requests are awarded, then the Jefferson Conservation District (JCD) or CSFS takes over and manages the project. So homeowners can sit back and watch the work being done and enjoy a cold one!

Committing to and following this process will lead to landscape resilience, fire adapted communities and safe and effective fire response, which is what the Upper South Platte Partnership (USPP) has been working on and encouraging communities to be actively pursuing.

Landscape Resilience (This statement mirrors one in the opening of each CWPIP...do we need it here again?)

Low-severity fire is a natural part of Colorado's forest ecosystem, but as more and more people have moved into Colorado's picturesque mountain communities' fire has been suppressed. This has led to thick and overgrown vegetation, increasing the risk that any fire on the landscape will be severe, rather than more manageable. Forest treatments increase the resilience of your land and your community.

Fire Adapted Communities

Colorado's mountain communities are some of the most beautiful in the US. However, they are also at a higher risk for wildfire. By coming together to identify risk factors for wildfire and create shared solutions, communities of all sizes can improve their community's preparedness against wildfire. Mitigation, neighborhood planning, and education and engagement are all great places to start.

Large Scale CWPIP Project process

- 1) Make sure individual areas are in a current CWPIP and if not, form a new CWPIP in the new area. Contact Paul Amundson; pamundson@evergreenfirerescue.com or John Chapman; resourcehelp@outlook.com with questions.
- 2) Continue the defensible space efforts on personal properties, as these both help the community and receive positive evaluations in grant requests: have community chip/cutting days (volunteer days) and track all hours and expenses. Designate an individual on the CWPIP team to do this, keep good records as this will help in grant opportunities.
- 3) Large scale projects identified in the CWPIP's can be expanded; i.e. fuel breaks, ingress/egress fuel breaks in place and ready to go.
 - a) Work with residents to designate properties to be included: get all the addresses, names and numbers of the project area(s).
 - b) Get land use agreements completed (see draft on following page). This will require door to door visits, to inform the property owners included in the project area on the work that is needed in the area or HOA. The agreement is for each property owner to sign, giving permission to have work done on their property. These agreements would be augmented by public land agencies as needed; i.e. DMP, Jeffco Open Space or USFS projects as needed, so all the dots are connected to have one contiguous project.
 - c) Find out how much matching monies each property owner or HOA can commit for the large scale project. This is on the same form as the land use agreements.
 - d) Complete a home assessment survey for the community or HOA. This will be a quick, simple survey on each property. The CWPIP team will work with community volunteers to do these short surveys. Software and iPad will be provided by EFR and Coalition for the Upper South Platte (CUSP). Training will be provided by EFR staff.
- 4) Depending on the year, the EFR grant program can assist in the funding of the layout or tree marking of the large scale projects. This process would be a simple grant application to the EFR grant program. Depending on dollars available, the applicant could be awarded dollars to complete or assist in this process.
- 5) This will set up the opportunity for large grant opportunities for large scale project work. The grant opportunities for the Upper South Platte Partnership (USPP), CSFS, and FEMA type grants.

20XX Owner Commitment Letter: Fuels & Forest Health Projects, Forest Restoration and Wildfire Risk Mitigation Grant by CSFS

As owner of property in the xxxx HOA area I will participate in the 20XX Grant Program. I agree that I will spend the monies/time that I have committed to in this letter to perform mitigation for defensible space (thinning and laddering of trees and removal of slash) on my property in the xxxx.

I will return this letter to the HOA Grant Committee on or before November 24th, 2017 and agree to be a member in good standing of the xxxx Home Owner Association.

I understand that prior to mitigation; an approved Colorado Forest Service representative will mark all trees on my property that must be removed. The cost for the Forester to mark my property must be paid to the Evergreen Highlands HOA at the time my property is marked. The project will be considered complete only after a State Forest Service representative verifies that all marked trees and slash have been removed. I understand that if I do not complete the work by the grant deadline of xxxx, 20XX, I will be reimbursed nothing for my out-of-pocket costs or my labor.

If I choose to hire a contractor to perform mitigation of my property, I agree to pay the contractor in full and to submit a paid receipt from the contractor to the xxxx HOA for reimbursement after final inspection and receipt by xxxx HOA of grant funding, which could take 90 to 180 days after submission to Grantor.

If I choose to perform these services myself, I agree to submit a log of the dates and hours worked (reimbursable at \$25.96 per hour (prevailing rate at the time)) to the HOA after completion of my project.

I understand that the amount of any grant received by the xxxx HOA will determine how much I will be reimbursed for out-of-pocket expenses or labor for completion of mitigation of their properties.

I will provide only a cash commitment: \$ _____ (maximum)

I will provide only labor commitment: # _____ hours (minimum)

I will provide a combination commitment: \$ _____ cash and # _____ labor hours

My property address is: _____

Exact acreage of my property is _____

Signed: Owner(s): _____ Dated: _____

Mailing Address: _____

Phone: _____ Email: _____

Return completed form to xxxx HOA, Evergreen, CO 80439, or scan/photo & email to xxxx HOA email: xxxx) By xxxx, 20XX.

APPENDIX C

The following insurance tips are from a *United Policyholders* handout and are good tips for home and business owners in the wildland-urban interface. Insurance companies are well aware of the CWPP and Firewise efforts and are taking more in depth looks at how home owners are protecting and mitigating their properties.

Preparedness Tips from the Trenches

What do disaster victims wish they'd known about insurance before they had a loss?

- How can I avoid the most common gaps in coverage?
- What helps fire fighters save homes during wildfires and after earthquakes?

Insurance money – not charitable or government aid makes the biggest difference in people's ability to rebuild and recover after a disaster.

Having the right kind and amount of insurance on your property is so important.

- What do disaster victims wish they'd known about insurance before they had a loss?
- How can I avoid the most common gaps in coverage?
- What helps fire fighters save homes during wildfires and after earthquakes?

FEMA money is needs-based and the maximum allocation is \$39k. SBA loans take time and have to be repaid. Charitable aid generally covers basic needs – not the cost of rebuilding a home.

Ask your insurer if you're covered for flooding, earthquakes, and a total loss from wildfire.

After a 2007 wildfire in San Diego County, 75% of the victims found themselves underinsured by an average of more than \$100,000.

Don't blindly trust that your insurance company has got you fully covered.

The goal of an insurance sales rep is to sell you a policy at a price you're willing to pay. In most cases, the true replacement value of your property gets underestimated at the point of sale and as years go by. Read UP's Home Insurance Buying Tips at www.uphelp.org to avoid this problem. Confirm and keep records of insurance sales promises.

Complete as much of the UP Home Inventory as you can, then store the records off site in a safe place.

If you don't have insurance coverage for flooding and earthquakes, consider buying it.

Hopefully you'll never need it, but if you do, you'll be glad you did and that you created an inventory.

Do it now! Earth movement, earthquakes and landslides are not covered by most homeowner policies. You have to buy this coverage separately. It's worth finding out how much it would cost to add these items to your protection package.

Take advantage of insurance discounts for making your home safer.

Avoid letting your insurance lapse.

Get help if your insurer drops you and you can't find replacement coverage.

Clear brush from around your home and keep it clear.

Have an evacuation plan that includes “grab and go” or off-site access to important documents.

Shop around to find which company offers the best discounts for “mitigation” and/or “retrofitting”. If you install a seismic shut-off valve on your gas line, a premium discount will cover most of the cost. Strapping your water heater and installing plywood shear panels won't cost a fortune but will make your home safer and more insurable.

If money's tight, raise your deductible to keep premium costs down.

Read “Dropped by your insurer?” at www.uphelp.org/pdfs/Wheretogoforhelp.pdf

Ask your local Fire Department if they'll inspect and certify for an insurance company that you've cleared brush adequately. The #1 thing that helps fire fighters save homes is brush clearance. Clean out gutters and roof drains regularly. Install screens on all your roof vents to keep embers from flying in. Install spark arrestors in chimneys and get the chimney professionally cleaned periodically.

Keep a copy of your policy in a safe place away from your home and better yet, scan the complete document onto your computer or onto a UP Roadmap to Preparedness Flash Drive.

Information presented in this publication is for general informational purposes, and should not be taken as legal advice. If you have a specific legal issue or problem, United Policyholders recommends that you consult with an attorney.

APPENDIX D

Wildfire Action Planning

Code Red

Smart 911

The Ready, Set, Go! Program (RSG): www.wildlandfireRSG.org

CodeRed:

CodeRED: The Jefferson County Jefferson County Emergency Communications Authority (JCECA) is the contractor for "CodeRed™" high-speed telephone emergency notification services sometimes referred to as "reverse 911 ®". The CodeRed system allows emergency dispatchers to deliver public safety messages to targeted areas or the entire county.

You may receive a CodeRED call from either Evergreen Fire Rescue Dispatch or from the Jefferson County Sheriff's Dispatch Center. The 911 system works with all phones that have a TDD line (for the hearing impaired). If you have a telephone zapper used to block out telemarketers, or if your phone is blocked to unknown callers, you will not receive 911 calls.

Opt In to CodeRED

The CodeRED system calls numbers from two databases. If you have a land line, it is automatically included. There is also a database of mobile phone and VoIP numbers. **To register go to:** <http://jeffco.us/sheriff/emergencies/code-red/>

SMART 911

Smart911 is a free service that allows citizens to create a Safety Profile for their household that includes any information they want 9-1-1 to have in the event of an emergency. When anyone dials 9-1-1 from a phone associated with their Safety Profile, their profile is immediately displayed, providing information to facilitate the proper response. It is on the internet at: <https://www.smart911.com/>.

Ready-Set-Go!

The RSG Program is a three step process that can significantly increase the safety of residents and the safety of responding firefighters. The RSG Program provides the implementation guidance; background knowledge; and presentation tools to assist fire departments.

- **Ready** – Preparing for the Fire Threat: Be Ready, Be Firewise. Create defensible space by clearing brush away from your home. Use fire-resistant landscaping and harden your home with fire-safe construction measures. Assemble emergency supplies and belongings in a safe spot. Plan escape routes. For more information go to Firewise.org.
- **Set** – Situational Awareness When a Fire Starts: Pack your vehicle with your emergency items. Stay aware of the latest news from media and your fire department.
- **Go** – Leave early! Comply with any evacuation orders and follow evacuation plans early!

The RSG Program provides tools through its website, www.wildlandfireRSG.org.

APPENDIX E
COLORADO STATE FOREST SERVICE: PROTECTING YOUR HOME
FROM WILDFIRE; CREATING WILDFIRE-DEFENSIBLE ZONES

DRAFT



QUICK GUIDE SERIES

FIRE 2012-1

Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones

Formerly CSU Extension Factsheet 6.302

If your home is located in the natural vegetation of Colorado's grasslands, shrublands, foothills or mountains, you live in the **wildland-urban interface (WUI)** and are inherently at risk from a wildfire. The WUI is any area where structures and other human developments meet or intermingle with wildland vegetative fuels. In many vegetation types, it is not a matter of *if* a wildfire will impact your home, but *when*.

Wildfires are a natural part of Colorado's varied forest ecosystems. Many rural communities are located in areas historically prone to frequent natural wildfires. Living in the wildland requires more self-reliance than living in urban areas. It may take longer for a fire engine to reach your area, and a small fire department can easily become overwhelmed during an escalating wildfire. Planning ahead and taking actions to reduce fire hazards can increase your safety and help protect your property. As more people choose to live in areas prone to wildfire, additional homes and lives are potentially threatened every year. Firefighters always do their best to protect rural residents, but ultimately, it is **YOUR responsibility to protect your life, family, animals and property from wildfire**.

The information contained in this document is for use by individual landowners to help reduce wildfire risk on their property. In order to effectively protect subdivisions and communities, all landowners must work together to reduce fire hazards within and adjacent to communities.



Figure 2: Colorado's grasslands, shrublands, foothills and mountains all have areas in the wildland-urban interface where human development meets wildland vegetative fuels. Photo: CSFS

This includes treating individual home sites and common areas within communities, and creating fuelbreaks within and adjoining the community where feasible. This document will focus on actions individual landowners can take to reduce wildfire hazards on their property. For additional information on broader community protection, go to www.csfs.colostate.edu.

In this guide, you'll read about steps you can take to protect your property from wildfire. These steps focus on beginning work closest to your house and moving outward. Also, remember that keeping your home safe is not a one-time effort – it requires ongoing maintenance. It may be necessary to perform some actions, such as removing pine needles from gutters and mowing grasses and weeds several times a year, while other actions may only need to be addressed once a year. While



Figure 1: Firefighters will do their best to protect homes, but ultimately it is the homeowner's responsibility to plan ahead and take actions to reduce fire hazards around structures. Photo: National Interagency Fire Center

This quick guide was produced by the Colorado State Forest Service to promote knowledge transfer.

October 2012
www.csfs.colostate.edu



Figure 3: Burning embers can be carried long distances by wind. Embers ignite structures when they land in gaps, crevices and other combustible places around the home. Photo: CSFS

Remember...

- **Reducing fuels around a home will increase the chances for survival in a wildfire, but there is no guarantee.**
- **This quick guide provides minimum guidelines. The more fuels you remove, the greater the chance your home will survive.**
- **Working with your neighbors and community will increase the effectiveness of your home's defensible space.**

you may not be able to accomplish ALL of the actions described in this document to prepare your home for wildfire, each completed activity will increase the safety of your home, and possibly your family, during a wildfire.

(Note: These guidelines are adapted for ponderosa pine, Douglas-fir and mixed-conifer ecosystems below 9,500 feet. See page 9 for guidelines adapted to other forest ecosystems.)

This guide primarily will help design your defensible space. **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 wildfire. Creating defensible space also reduces the chance of a structure fire spreading to the surrounding forest and other homes.

Three factors determine wildfire behavior: **fuels, weather and topography**. We cannot alter weather or topography, so we must concentrate on altering fuels. Fuels include vegetation, such as trees, brush and grass; near homes, fuels also include

such things as propane tanks, wood piles, sheds and even homes themselves. Some plant species are more flammable than others, and the flammability of vegetative fuels changes depending on the season, recent weather events, and other factors such as drought. Fuel continuity and density also play an important role in wildfire.

Wildfire often creates its own weather conditions. Hot rising air and associated winds can carry embers and other burning materials into the atmosphere for long distances, where they can ignite vegetation and structures up to several miles away. Embers have caused the loss of many homes during wildfires.

As you think about protecting your home and property from wildfire, consider how you can manage fuels on your property to prevent fire from spreading to your home and other structures.

For more information on wildfire behavior, please see [Fire Wise Construction: Site Design and Building Materials](http://www.csfscolorado.edu) at www.csfscolorado.edu.

Fuel Arrangement and Types

When fuels are abundant, a fire can be uncontrollable and destructive. But when fuels are scarce, a fire cannot build momentum and intensity, which makes it much easier to control and is more likely to be beneficial to the land.

The more dense and continuous the fuels, the bigger the threat they pose to your home. The measure of fuel hazard refers to its continuity, both horizontal and vertical. Horizontal continuity refers to fuels across the ground, while vertical continuity refers to fuels extending from the ground up into the crowns of trees and shrubs. Fuels with a high degree of both vertical and horizontal continuity are the most hazardous, particularly when they occur on slopes. Mitigation of wildfire hazards focuses on breaking up the continuity of horizontal and vertical fuels.

Heavier fuels, such as brush and trees, produce a more intense fire than light fuels, such as grass. However, grass-fueled fires travel much faster than heavy-fueled fires. Some heavier surface fuels, such as logs and wood chips, are potentially hazardous heavy fuels and also should be addressed.



Figure 7: Addressing both components of the Home Ignition Zone will provide the best protection for your home. Credit: CSFS



Figure 8: (above) Wood shingle roofs are highly flammable and not recommended. Photo: CSFS



Figure 9: (above right) Class A roofing materials including tile, clay, concrete, slate and asphalt shingles are fire-resistant options. Photo: CSFS



Figure 10: Decks, exterior walls and windows are important areas to examine when addressing structure ignitability. Photo: CSFS

The 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.

Structural Ignitability

The ideal time to address home ignition risk is when the structure is in the design phase. However, you can still take steps to reduce ignitability to an existing home.

The **roof** has a significant impact on a structure's ignitability because of its extensive surface area. When your roof needs significant repairs or replacement, use only fire-resistant roofing materials. Also, check with your county building department – some counties now have restrictions against using wood shingles for roof replacement or require specific classifications of roofing material. Wood and shake-shingle roofs are discouraged because they are highly flammable, and are prohibited in some areas of the state. Asphalt shingles, metal sheets and shingles, tile, clay tile, concrete and slate shingles are all recommended roofing materials.

The extension of the roof beyond the exterior structure wall is the eave. This architectural feature is particularly prone to ignition. As fire approaches the building, the exterior wall deflects hot air and gasses up into the eave. If the exterior wall isn't ignition-resistant, this effect is amplified.

Most **decks** are highly combustible. Their shape traps hot gasses, making them the ultimate heat traps. Conventional wooden decks are so combustible that when a wildfire approaches, the deck often ignites before the fire reaches the house.

The **exterior walls** of a home or other structure are affected most by radiant heat from the fire and, if defensible space is not adequate, by direct contact with flames from the fire.

Windows are one of the weakest parts of a building with regard to wildfire. They usually fail before the building ignites, providing a direct path for flames and airborne embers to reach the building's interior.

Burning embers are produced when trees and structures are consumed by wildfire. These embers sometimes can travel more than a mile. Flammable horizontal or nearly horizontal surfaces, such as wooden decks or shake-shingle roofs, are especially at risk for ignition from burning embers. Since airborne embers have caused the loss of many homes in the WUI, addressing structural ignitability is critical, even if the area surrounding a home is not conducive to fire spread.

This guide provides only basic information about structural ignitability. For more information on fire-resistant building designs and materials, refer to the CSFS *FireWise Construction: Site Design and Building Materials* publication at www.csfs.colostate.edu.

Defensible Space

Defensible space is the area around a home or other structure that has been modified to reduce fire hazard. In this area, natural and manmade fuels are treated, cleared or reduced to slow the spread of wildfire. Creating defensible space also works in the reverse, and reduces the chance of a structure fire spreading to neighboring homes or the surrounding forest. Defensible space gives your home a fighting chance against an approaching wildfire.

Creating an effective defensible space involves a series of management zones in which different treatment techniques are used. Develop these zones around each building on your property, including detached garages, storage buildings, barns and other structures.

The actual design and development of your defensible space depends on several factors: size and shape of building(s), construction materials, slope of the ground, surrounding topography, and sizes and types of vegetation on your property. You may want to request additional guidance from your local Colorado State Forest Service forester, fire department or a consulting forester as you plan a defensible space for your property.

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 more 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.

Defensible Space Management Zones

Three zones need to be addressed when creating defensible space:

Zone 1 is the area nearest the home and other structures. This zone requires maximum hazard reduction.

Zone 2 is a transitional area of fuels reduction between Zones 1 and 3.

Zone 3 is the area farthest from the home. It extends from the edge of Zone 2 to your property boundaries.



Figure 11: Homesite before defensible space. Photo: CSFS



Figure 12: Homesite after creating a defensible space. Photo: CSFS



Figure 13: Defensible space management zones. Credit: CSFS



Figure 14: This homeowner worked hard to create a defensible space around the home. Notice that all fuel has been removed within the first 5 feet of the home, which survived the Waldo Canyon Fire in the summer of 2012. Photo: Christina Randall, Colorado Springs Fire Department



Figure 15: Clearing pine needles and other debris from the roof and gutters is an easy task that should be done at least once a year. Photo: CSFS



Figure 16: Enclosing decks with metal screens can prevent embers from igniting a house. Photo: Marilyn Brown, La Plata County

Zone 1

The width of Zone 1 extends a minimum distance of 15-30 feet outward from a structure, depending on property size. Most flammable vegetation is removed in this zone, with the possible exception of a few low-growing shrubs or fire-resistant plants. Avoid landscaping with common ground junipers, which are highly flammable.

Increasing the width of Zone 1 will increase the structure's survivability. This distance should be increased 5 feet or more in areas downhill from a structure. The distance should be measured from the outside edge of the home's eaves and any attached structures, such as decks. Several specific treatments are recommended within this zone:

- Install nonflammable ground cover and plant nothing within the first 5 feet of the house and deck. This critical step will help prevent flames from coming into direct contact with the structure. This is particularly important if a building is sided with wood, logs or other flammable materials. Decorative rock creates an attractive, easily maintained, nonflammable ground cover.
- If a structure has noncombustible siding (i.e., stucco, synthetic stucco, concrete, stone or brick), widely spaced foundation plantings of low-growing shrubs or other fire-resistant plant materials are acceptable. However, do not plant directly under windows or next to foundation vents, and be sure areas of continuous grass are not adjacent to plantings. Information on fire-resistant plants is available on the CSFS website at www.csfs.colostate.edu.
- Prune and maintain any plants in Zone 1 to prevent excessive growth. Also, remove all dead branches, stems and leaves within and below the plant.
- Irrigate grass and other vegetation during the growing season. Also, keep wild grasses mowed to a height of 6 inches or less.
- Do not store firewood or other combustible materials anywhere in this zone. Keep firewood at least 30 feet away from structures, and uphill if possible.
- Enclose or screen decks with 1/8-inch or smaller metal mesh screening (1/16-inch mesh is preferable). Do not use areas under decks for storage.
- Ideally, remove all trees from Zone 1 to reduce fire hazards. The more trees you remove, the safer your home will be.
- If you do keep any trees in this zone, consider them part of the structure and extend the distance of the entire defensible space accordingly.
- Remove any branches that overhang or touch the roof, and remove all fuels within 10 feet of the chimney.
- Remove all pine needles and other debris from the roof, deck and gutters.
- Rake pine needles and other organic debris at least 10 feet away from all decks and structures.
- Remove slash, wood chips and other woody debris from Zone 1.

Zone 2

Zone 2 is an area of fuels reduction designed to diminish the intensity of a fire approaching your home. The width of Zone 2 depends on the slope of the ground where the structure is built. Typically, the defensible space in Zone 2 should extend at least 100 feet from all structures. If this distance stretches beyond your property lines, try to work with the adjoining property owners to complete an appropriate defensible space.

The following actions help reduce continuous fuels surrounding a structure, while enhancing home safety and the aesthetics of the property. They also will provide a safer environment for firefighters to protect your home.

Tree Thinning and Pruning

- Remove stressed, diseased, dead or dying trees and shrubs. This reduces the amount of vegetation available to burn, and makes the forest healthier.
- Remove enough trees and large shrubs to create at least 10 feet between crowns. Crown separation is measured from the outermost branch of one tree to the nearest branch on the next tree. On steep slopes, increase the distance between tree crowns even more.
- Remove all ladder fuels from under remaining trees. Prune tree branches off the trunk to a height of 10 feet from the ground or $\frac{1}{3}$ the height of the tree, whichever is less.
- If your driveway extends more than 100 feet from your home, thin out trees within a 30 foot buffer along both sides of your driveway, all the way to the main access road. Again, thin all trees to create 10-foot spacing between tree crowns.
- Small groups of two or three trees may be left in some areas of Zone 2, but leave a minimum of 30 feet between the crowns of these clumps and surrounding trees.
- Because Zone 2 forms an aesthetic buffer and provides a transition between zones, it is necessary to blend the requirements for Zones 1 and 3. For example, if you have a tree in Zone 2 with branches extending into Zone 1, the tree can be retained if there is proper crown spacing.
- Limit the number of dead trees (snags) to one or two per acre. Be sure snags cannot fall onto the house, power lines, roads or driveways.
- As in Zone 1, the more trees and shrubs removed, the more likely your house will survive a wildfire.



Figure 17: In Zone 2, make sure there is at least a 10-foot spacing between tree crowns. Credit: CSFS

Shrub Thinning/Pruning and Surface Fuels

- Isolated shrubs may be retained in Zone 2, provided they are not growing under trees.
- Keep shrubs at least 10 feet away from the edge of tree branches. This will prevent the shrubs from becoming ladder fuels.
- Minimum spacing recommendations between clumps of shrubs is $2\frac{1}{2}$ times the mature height of the vegetation. The maximum diameter of the clumps themselves should be twice the mature height of the vegetation. As with tree-crown spacing, all measurements are made from the edge of vegetation crowns.
- Example - For shrubs 6 feet high, spacing between shrub clumps should be 15 feet or more (measured from the edge of the crowns of vegetation clumps). The diameter of these shrub clumps should not exceed 12 feet.
- Periodically prune and maintain shrubs to prevent excessive growth, and remove dead stems from shrubs annually. Common ground junipers should be removed whenever possible because they are highly flammable and tend to hold a layer of duff beneath them.
- Mow or trim wild grasses to a maximum height of 6 inches. This is especially critical in the fall, when grasses dry out.
- Avoid accumulations of surface fuels, such as logs, branches, slash and wood chips greater than 4 inches deep.



Figure 18: Pruning trees will help prevent a wildfire from climbing from the ground to the tree crowns. Credit: CSFS

Firewood

- Stack firewood uphill from or on the same elevation as any structures, and at least 30 feet away.
- Clear all flammable vegetation within 10 feet of woodpiles.
- Do not stack wood against your home or on/under your deck, even in the winter. Many homes have burned as a result of a woodpile that ignited first.

Propane Tanks and Natural Gas Meters

- Locate propane tanks and natural gas meters at least 30 feet from any structures, preferably on the same elevation as the house.
- The tank should not be located below your house because if it ignites, the fire would tend to burn uphill. Conversely, if the tank or meter is located above your house and it develops a leak, gas will flow downhill into your home.
- Clear all flammable vegetation within 10 feet of all tanks and meters.
- Do not visibly screen propane tanks or natural gas meters with shrubs, vegetation or flammable fencing. Instead, install 5 feet of nonflammable ground cover around the tank or meter.



Figure 19: Keep firewood, propane tanks and natural gas meters at least 30 feet away from structures. Photo: CSFS



Figure 20: This ponderosa pine forest has been thinned, which will not only help reduce the wildfire hazard, but also increase tree health and vigor. Photo: CSFS

Zone 3

Zone 3 has no specified width. It should provide a gradual transition from Zone 2 to areas farther from the home that have other forest management objectives. Your local Colorado State Forest Service forester can help you with this zone.

This zone provides an opportunity for you to improve the health of the forest through proper management. With an assortment of stewardship options, you can proactively manage your forest to reduce wildfire intensity, protect water quality, improve wildlife habitat, boost the health and growth rate of your trees, and increase tree survivability during a wildfire.

In addition, properly managed forests can provide income, help protect trees against insects and diseases, and even increase the value of your property. Typical forest management objectives for areas surrounding home sites or subdivisions provide optimum recreational opportunities; enhance aesthetics; improve tree health and vigor; provide barriers against wind, noise, dust and visual intrusions; support production of firewood, fence posts and other forest commodities; or cultivate Christmas trees or trees for transplanting.

Consider the following when deciding forest management objectives in Zone 3:

- The healthiest forest is one that includes trees of multiple ages, sizes and species, and where adequate growing room is maintained over time.
- Remember to consider the hazards associated with ladder fuels. A forest with a higher canopy reduces the chance of a surface fire climbing into the tops of the trees, and might be a priority if this zone has steep slopes.
- A greater number of snags – two or three per acre, standing or fallen – can be retained in Zone 3 to provide wildlife habitat. These trees should have a minimum diameter of 8 inches. Make sure that snags pose no threat to power lines or firefighter access roads.
- While tree pruning generally is not necessary in Zone 3, it may be a good idea from the standpoint of personal safety to prune trees along trails and firefighter access roads. Or, if you prefer the aesthetics of a well-manicured forest, you might prune the entire area. In any case, pruning helps reduce ladder fuels within tree stands, thus reducing the risk of crown fire.
- Mowing grasses is not necessary in Zone 3.
- Any approved method of slash treatment is acceptable, including piling and burning, chipping or lop-and-scatter.

Other Recommendations

Windthrow

In Colorado, some tree species, including lodgepole pine, Engelmann spruce and Douglas-fir, are especially susceptible to damage and uprooting by high winds or windthrow. If you see evidence of this problem in or near your home, consider making adjustments to the defensible space guidelines. It is highly recommended that you contact a professional forester to help design your defensible space, especially if you have windthrow concerns.

Water Supply

If possible, make sure that an on-site water source is readily available for firefighters to use, or that other water sources are close by. Lakes, ponds, swimming pools and hot tubs are all possible options. If there are no nearby water sources, consider installing a well-marked dry hydrant or cistern. If your primary water source operates on electricity, be sure to plan for a secondary water source. During wildfires, structures often are cut off from electricity. For more information on how to improve the accessibility of your water source, contact your local fire department.

Recommendations for Specific Forest Types

The above recommendations refer primarily to ponderosa pine, Douglas-fir and mixed-conifer ecosystems. For other forest types, please refer to the additional recommendations below:

Aspen

Tree spacing and ladder fuel guidelines do not apply to mature stands of aspen trees. Generally, no thinning is recommended in aspen forests, regardless of tree size, because the thin bark is easily damaged, making the tree easily susceptible to fungal infections. However, in older stands, numerous dead trees may be on the ground and require removal. Conifer trees often start growing in older aspen stands. A buildup of these trees eventually will increase the fire hazard of the stand, so you should remove the young conifers. Brush also can increase the fire hazard and should be thinned to reduce flammability.

Lodgepole Pine

Lodgepole pine management in the WUI is much different than that for lodgepole pine forests located away from homes, communities and other developments. Normally, it is best to develop fuels management and wildfire mitigation strategies that are informed and guided by the ecology of the tree species. This is not the case with lodgepole pine.

Older lodgepole pine stands generally do not respond well to selective thinning, but instead respond better to the removal of all trees over a defined area to allow healthy forest regeneration. Selectively thinning lodgepole can open the stand to severe windthrow and stem breakage. However, if your home is located within a lodgepole pine forest, you may prefer selective thinning to the removal of all standing trees.

To ensure a positive response to thinning throughout the life of a lodgepole pine stand, trees must be thinned early in their lives – no later than 20 to 30 years after germination. Thinning lodgepole pine forests to achieve low densities can best be



Figure 21: During high winds, these lodgepole pine trees fell onto the house. Lodgepole pine is highly susceptible to windthrow. Photo: CSFS



Figure 22: Mature aspen stands can contain many young conifers, dead trees and other organic debris. This can become a fire hazard. Photo: CSFS



Figure 23: A young lodgepole pine stand. Thinning lodgepole pines early on in their lives will help reduce the wildfire hazard in the future. Photo: CSFS

The defensible space guidelines in this quick guide are predominantly for ponderosa pine and mixed-conifer forests. These guidelines will vary with other forest types.



Figure 24: Piñon-juniper forests are often composed of continuous fuels. Creating clumps of trees with large spaces in between clumps will break up the continuity. Photo: CSFS



Figure 25: Gambel oak needs to be treated in a defensible space at least every 5-7 years because of its vigorous growing habits. Photo: CSFS

accomplished by beginning when trees are small saplings, and maintaining those densities through time as the trees mature.

Thinning older stands of lodgepole pine to the extent recommended for defensible space may take several thinning operations spaced over a decade or more. When thinning mature stands of lodgepole pine, do not remove more than 30 percent of the trees in each thinning operation. Extensive thinning of dense, pole-sized and larger lodgepole pine often results in windthrow of the remaining trees. Focus on removing trees that are obviously lower in height or suppressed in the forest canopy. Leaving the tallest trees will make the remaining trees less susceptible to windthrow.

Another option is leaving clumps of 30-50 trees. Clumps are less susceptible to windthrow than solitary trees. Allow a minimum of 30-50 feet between tree crowns on the clump perimeter and any adjacent trees or clumps of trees. Wildfire tends to travel in the crowns of lodgepole pine. By separating clumps of trees with large spaces between crowns, the fire is less likely to sustain a crown fire.

Piñon-Juniper

Many piñon-juniper (PJ) forests are composed of continuous fuel that is highly flammable. Fire in PJ forests tend to burn intensely in the crowns of trees. Try to create a mosaic pattern when you thin these trees, with a mixture of individual trees and clumps of three to five trees. The size of each clump will depend on the size, health and location of the trees. The minimum spacing between individual trees should be 10 feet between tree crowns, with increasing space for larger trees, clumps, and stands on steeper slopes.

Tree pruning for defensible space is not as critical in PJ forests as in pine or fir forests. Instead, it is more important to space the trees so that it is difficult for the fire to move from one tree clump to the next. Trees should only be pruned to remove dead branches or branches that are touching the ground. However, if desired, live branches can be pruned to a height of 3 feet above the ground. Removing shrubs that are growing beneath PJ canopies is recommended to reduce the overall fuel load that is available to a fire.

It is NOT recommended to prune live branches or remove PJ trees between April and October, when the piñon ips beetle is active in western Colorado. Any thinning activity that creates the flow of sap in the summer months can attract these beetles to healthy trees on your property. However, it is acceptable to remove dead trees and dead branches during the summer months.

For more information, please refer to the CSFS [Piñon-Juniper Management Quick Guide](http://www.csfs.colostate.edu) at www.csfs.colostate.edu.

Gambel Oak

Maintaining Gambel oak forests that remain resistant to the spread of wildfire can be a challenge because of their vigorous growing habits. Gambel oak trees grow in clumps or groves, and the stems in each clump originate from the same root system. Most reproduction occurs through vegetative sprouts from this deep, extensive root system. You may need to treat Gambel oak near your home every five to seven years. Sprouts also should be mowed at least once every year in Zones 1 and 2. Herbicides can be used to supplement mowing efforts for controlling regrowth.

For more information, please refer to the CSFS [Gambel Oak Management](http://www.csfs.colostate.edu) publication at www.csfs.colostate.edu.

Note: This publication does not address high-elevation spruce-fir forests. For information on this forest type, please contact your local CSFS district office.

Maintaining Your Defensible Space

Your home is located in a dynamic environment that is always changing. Trees, grasses and shrubs continue to grow, die or are damaged, and drop their leaves and needles each season. Just like your home, the defensible space around it requires regular, ongoing maintenance to be effective. Use the following checklists to build and maintain your defensible space.

Defensible Space: Initial Projects

- Properly thin and prune trees and shrubs within Zones 1 and 2.
- Dispose of slash from tree/shrub thinning.
- Screen attic, roof, eaves and foundation vents, and periodically check them to ensure that they are in good condition.
- Screen or wall-in stilt foundations and decks; screens should be 1/4-inch or smaller metal mesh (1/16-inch mesh is best).
- Post signs at the end of the driveway with your last name and house number that are noncombustible, reflective and easily visible to emergency responders.
- Make sure that the driveway is wide enough for fire trucks to enter and exit, and that trees and branches are adequately cleared for access by fire and emergency equipment. Contact your local fire department or check the CSFS website for information specific to access.
- Take pictures of your completed defensible space for comparison of forest growth over time.



Figure 26: Keeping the forest properly thinned and pruned in a defensible space will reduce the chances of a home burning during a wildfire. Photo: CSFS

Defensible Space Tasks: Annual Requirements

- Clear roof, deck and gutters of pine needles and other debris. *
- Mow grass and weeds to a height of 6 inches or less. *
- Rake all pine needles and other flammable debris away from the foundation of your home and deck. *
- Remove trash and debris accumulations from the defensible space.*
- Check fire extinguishers to ensure that they have not expired and are in good working condition.
- Check chimney screens to make sure they are in place and in good condition.
- Remove branches that overhang the roof and chimney.
- Check regrowth of trees and shrubs by reviewing photos of your original defensible space; properly thin and prune trees and shrubs within Zones 1 and 2.
- Dispose of slash from tree/shrub thinning. *

*Address more than once per year, as needed.



Figure 27: Sharing information and working with your neighbors and community will give your home and surrounding areas a better chance of surviving a wildfire. Photo: CSFS

Be Prepared

- Complete a checklist of fire safety needs inside your home (these should be available at your local fire department). Examples include having an evacuation plan and maintaining smoke detectors and fire extinguishers.
- Develop your fire evacuation plan and practice family fire drills. Ensure that all family members are aware of and understand escape routes, meeting points and other emergency details.
- Contact your county sheriff's office and ensure that your home telephone number and any other important phone numbers appear in the county's Reverse 911 or other emergency notification database.
- Prepare a "grab and go" disaster supply kit that will last at least three days, containing your family's and pets' necessary items, such as cash, water, clothing, food, first aid and prescription medicines.
- Ensure that an outdoor water supply is available. If it is safe to do so, make a hose and nozzle available for responding firefighters. The hose should be long enough to reach all parts of the house.

Preparing your home and property from wildfire is a necessity if you live in the wildland-urban interface. It is important to adequately modify the fuels in your home ignition zone. Remember, every task you complete around your home and property will make your home more defensible during a wildfire.

Always remember that creating and maintaining an effective defensible space in the home ignition zone is not a one-time endeavor – it requires an ongoing, long-term commitment.

If you have questions, please contact your local CSFS district office. Contact information can be found at www.csfs.colostate.edu.

List of Additional Resources

- The Colorado State Forest Service, <http://www.csfs.colostate.edu>
- CSFS wildfire-related publications, <http://csfs.colostate.edu/pages/wf-publications.html>
- Community Wildfire Protection Planning, <http://csfs.colostate.edu/pages/community-wf-protection-planning.html>
- Colorado's "Are You FireWise?" information, <http://csfs.colostate.edu/pages/wf-protection.html>
- National Fire Protection Association's Firewise Communities USA, <http://www.firewise.org>
- Fire Adapted Communities, <http://fireadapted.org/>
- Ready, Set, Go!, <http://wildlandfirersg.org/>



Figure 28: This house has a high risk of burning during an approaching wildfire. Modifying the fuels around a home is critical to reduce the risk of losing structures during a wildfire. Photo: CSFS



Figure 29: This house survived the Fourmile Canyon Fire in 2010. Photo: CSFS



Figure 30: Firefighters were able to save this house during the 2012 Weber Fire because the homeowners had a good defensible space. Photo: Dan Bender, La Plata County

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APPENDIX F

Colorado State Income Tax Deduction for Mitigation

Colorado landowners with property located in a wildland-urban interface area may qualify to receive a tax subtraction for the costs of wildfire mitigation work. As authorized by §39-22-104(4)(n)(II), C.R.S., **for income tax years 2009 through 2024** individuals, estates and trusts may subtract from federal taxable income certain costs incurred in performing wildfire mitigation measures.

Following is a summary from the Colorado Department of Revenue.
Colorado Department of Revenue Taxpayer Service Division: 07/14 Income 65 Wildfire Mitigation Measures Subtraction
GENERAL INFORMATION

Individuals, estates and trusts may subtract from their federal taxable income certain costs incurred while performing wildfire mitigation measures on their property.

LIMITATIONS

- The taxpayer must own the property upon which the wildfire mitigation measures are performed.
- The property must be located in Colorado and within a wild land-urban interface area.
- For tax years 2009 through 2012 only, the wildfire mitigation measures must be authorized by a community wildfire protection plan adopted by a local government within the interface area.
- The total amount of the subtraction cannot exceed 50% of the landowner's out-of-pocket expenses, \$2,500, or the owner's federal taxable income, whichever is less.
- The deduction is available for tax years 2009 through 2024.

Jointly Filed Returns

In the case of two individuals filing a joint return, the amount subtracted from federal taxable income shall not exceed \$2,500 in any taxable year. In the case of a married individual who files a separate return, only one individual may claim the deduction.

Tenants in Common

In the case of real property owned by tenants in common, the subtraction can be taken only by one of the individuals.

SUPPORTING DOCUMENTATION

The department may request documentation to support the claim. Correspondence from the department should specify what is required; however, the examples are as follows:

- Proof of property ownership,
- Receipts of costs incurred,
- Approved Wildfire Protection Plan (tax years 2009 through 2012 only). See www.csfs.colostate.edu

DEFINITIONS

Community Wildfire Protection Plan

Community wildfire protection plan must meet the following requirements:

- It must be approved by a local government entity, local fire department and the Colorado State Forest Service...

- It must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatments.
- It must recommend measures to reduce structural ignitability.

Additional information regarding community wildfire protection plans can be found online at www.csfs.colostate.edu.

Costs

Costs means any actual out-of-pocket expense incurred and paid by the landowner and documented by receipt for performing wildfire mitigation measures. The following expenses are specifically excluded:

- Inspection or certification fees;
- In-kind contributions;
- Donations;
- Incentives;
- Cost sharing;
- Expenses paid by the landowner from any grants awarded to the landowner for performing wildfire mitigation measures.

Landowner

Landowner means any owner of record of private land located within the state, including any easement, right-of-way or estate in the land and includes the heirs, successors and assignees of such land and shall not include any partnership, S-corporation or other similar entity that owns private land as an entity.

Wildfire Mitigation Measures

Wildfire mitigation measures mean the following activities to the extent that they meet or exceed any Colorado State Forest Service standards or any other applicable state rules:

- Creating and maintaining a defensible space around structures;
- Establishing fuel breaks;
- Thinning of woody vegetation for the primary purpose of reducing risk to structures from wildland fire;
- Secondary treatment of woody fuels by lopping and scattering, piling, chipping, removing from the site or prescribed burning.

Additional information regarding wildfire mitigation measures can be found online at www.csfs.colostate.edu.

COMMON QUESTIONS

Does the community wildfire protection plan (CWPP) have to be approved before the fire mitigation activities take place? (For example: landowner performed work in the summer of 2011, but the CWPP was not approved until Dec. 2011.)

Yes, the CWPP must be approved before the mitigation measures are performed. The mitigation measures must be performed in a wild urban interface area and authorized by an existing CWPP.

Can a person who leases real property claim the credit if the lessee performs wildfire mitigation measures?

No. The credit is limited to the owner of the property. However, if the owner/lessor reimburses the lessee for the cost of the mitigation effort, then the owner/lessor can claim the credit.

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