

WILDFIRE MITIGATION PLAN

For Kristen Campbell Residence
844 Lakeshore Drive, Boulder CO 80304
Docket: SPR - 03 - 112
Inspection date: 2/1/2005

Boulder District
5625 Ute Highway
Longmont, Colorado 80503-9130
(303) 823-5774

Prepared for:

Kristen Campbell
4155 Riverside
Boulder, CO 80304
Phone: 303-588-9393

Prepared by:

Cory Secher - Forester
Boulder District
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SITE LOCATION AND PROPERTY DESCRIPTION

The property is located at Section 17, Township 1S, and Range 71W, with the physical address of 844 Lakeshore Drive, Boulder CO 80304. The fire protection district is the Cherryvale fire protection district (303-494-3735). There is 1 existing structure located on site, including a small storage shed. There will be a new residence built on site. The lot is 1 acre in size and has a ~14% percent slope with a northern aspect. The residence is at 7,500 feet in elevation, and has a total of 2,050 square feet. The proposed building site is mid-slope and it is a relatively moist site being on the north slope. There are no significant natural or man made barriers that could help stop or slow the spread of a surface/crown fire on the site, however a short distance to the south is Gross Dam Reservoir.

CONSTRUCTION DESIGN AND MATERIALS

The proposed house has a relatively simple design with a simple roofline and is oriented with a northern aspect. The roofing material will consist of asphalt. The exterior wall material is to be hardboard. Soffits are to be ¾" thick and made of plywood. The structure has ~26 medium sized windows with the primary viewing direction being toward the northern side of the structure. Windows will be double glazed with low e-coated tempered glass and frames made of vinyl. Exterior doors are to be 1-3/4", fire-rated, and made of wood/vinyl. The one deck will be constructed of wood materials and will be suspended using a cantilevered technique. The deck will be open and isolated from the surrounding landscape with crushed gravel over a fiberglass weed barrier. Utilities for the property will be buried from a pole that is located approximately 107 feet to the south of the residence off the road. The septic field is located 100 feet north (downhill) from the residence. A well will be located 20 feet south-southwest of the residence.

DRIVEWAY ACCESS FOR EMERGENCY VEHICLES

To access the property from Boulder take Flagstaff west all the way to the end where it will turn into Lakeshore Drive, the property is located on the north side of the road. The driveway will create only a little additional site disturbance and soil compaction and will require the removal of only a few trees. The driveway will be a minimum of 12 feet wide with a vertical clearance of 13'6" and a grade that is less than 12%. The driveway is only ~35 feet long therefore no turn around will be required (see plan for details). The driveway is less than 400 feet therefore no pull-outs are required.

EMERGENCY WATER SUPPLY FOR FIRE FIGHTING

The water source will be from a community cistern in which the resident will be paying into the local community cistern fund. Contact the Cherryvale fire protection district (303-494-3735) for more information and specific details regarding locations of local hydrants and cisterns. A well will be located 20 feet south-southwest of the residence.

FUELS REDUCTION

All trees to be removed are marked with blue spray paint. All trees that are to remain within zones 1 and 2 will be unmarked. If the property is less than 1 acre it may not have zones marked due to boundary interference. Harvested wood that remains on site will be stacked at least 30 feet from the house and at the same elevation when possible. Slash from the harvest will be hauled and burned, while some wood piles will remain for personal consumption. Note that before burning piles, you must obtain a valid Open Burning Permit from the Boulder County Environmental Health Department and notify your local fire protection district (Cherryvale fire protection district (303-494-3735)).

DEFENSIBLE SPACE ZONES AND FOREST MANAGEMENT

The site has a dominant overstory consisting of ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) with a ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) understory component. The area is predominantly fuel model 9 with ground fuels consisting of grasses and forbs. Fuel model 9 is represented by closed canopy stands of ponderosa pine and mixed conifer. Understory may consist of small trees and shrubs, grasses, and moderate concentrations of down, dead woody litter. There was a moderate infestation of Dwarf Mistletoe in the Ponderosa pine at the time of inspection. The defensible space was marked with the Dwarf Mistletoe in mind removing more of the infested ponderosa pines (*Pinus ponderosa*) than the other healthier Douglas-fir (*Pseudotsuga menziesii*).

There are three defensible space zones to be created around the structure(s) on the site. Please note that it is possible that one or more of these zones will cross over the subject property onto adjacent properties. Property boundaries must be respected; mitigation work is not required beyond immediate boundaries. However, landowners are encouraged to contact and work with neighbors if property lines limit the ability to mitigate within the prescribed area. Defensible space is a benefit, not only to the individual but also to the community as a whole.

Zone 1 - Starts at the foundation and extends out 15 feet in all directions from the outside edge of the structure(s). Zone 1 is broken down into three segments:

Zone 1A - Consists of the structure(s) themselves and the area immediately adjacent to and surrounding the structure(s) on all sides. A three-foot wide, non-flammable strip will be created using crushed gravel over a fiberglass weed barrier material. This strip will also extend back under, and out to, two feet past the drip line of any decks.

Zone 1B - Extends out from Zone 1A. In this zone, all highly flammable vegetation is to be removed. Any large dead woody material on the ground will also be removed. Firewise plants will be used for landscaping and re-vegetation. Grasses will be irrigated when possible and mowed to a maximum height of 6 to 8 inches twice per growing season to a distance of 30 feet from the structure.

Zone 1C - This zone extends out from Zone 1B to 15 feet from the house. All understory trees (ladder fuels) will be removed as marked. These are small seedling and sapling size trees that can be ladders for fire to get in the crowns of the larger trees. A few of the larger, healthy trees are to be retained for screening. All remaining trees in this zone will be pruned to a height of 10 feet. They must be well spaced so that the crowns are not touching (10 foot minimum crown spacing). No trees will overhang the house or decks, unless approved by Boulder County or CSFS as "part of the structure" with additional fuels reduction around those trees to insure the defensible space integrity. Trees should be at least 15 feet away from the house on all sides, and a minimum of 10 feet from chimneys.

Zone 2 - This zone extends out from Zone 1C, and acts as a transition zone between the heavily thinned areas near the house to the existing forest setting. It extends down slope between 100-170 feet depending upon slope steepness. Zone 2 also extends on either side of the structure a minimum of 100 feet and behind the house between 70-100 feet assuming no boundary restrictions. Tree spacing begins as in Zone 1C and gradually decreases as you approach the outer edge of the zone. Thinning and crown spacing becomes greater in areas of steep slopes. Ladder fuels and poor quality, suppressed and/or diseased trees, 6 to 8 inches in diameter, make up the majority of the removals. The remaining mature trees will be pruned to a height of 10 feet at the intersection of Zones 1 and 2 with limbing reduced in height to 6 feet as you approach Zone 3. If there are any questions pertaining to slope and the changes in thinning spacing and distance regulations please refer to www.colostate.edu/Depts/CSFS/ and find the *Quick Facts 6.302 Creating Wildfire Defensible Space*.

Zone 3 - This zone extends out from Zone 2 to the edge of the property. It may extend out to areas that are not part of the immediate mitigation efforts. In this zone, a few thicker clumps of trees are acceptable, as well as some unpruned trees near the outer edge. Thinning in this zone adds some protection, but is aimed more at forest health. Trees that are of poor quality or form, or have insect or disease infestations, should be removed. Slash in this zone can be lopped and scattered and/or piled for wildlife use.

- Thin suppressed trees and trees with disease and insect infestations and retain the larger, healthier trees.
- Snags should be retained for wildlife.
- Some slash in this zone can be lopped and scattered and/or piled for wildlife enhancement and shelter.
- Large amounts of slash should be disposed of by chipping, hauling to an approved site, or burning.
- For burning permits, check with your local fire protection district.

MAINTENANCE AND RECOMMENDATIONS

As detailed in fact sheet 6.302, Creating Wildfire Defensible Zones, an important factor that determines a structure's ability to survive wildfire is defensible space. Defensible space is a maintained area around a structure where fuels (flammable materials) are modified to slow the possible spread of wildfire to the structure, as well as from the structure to the surrounding areas. Defensible space provides a place where structure protection and fire suppression operations may occur. Wildfire hazard mitigation work breaks up fuel continuity, potentially decreasing a wildfire's intensity, and for more effectiveness should be completed beyond a home's defensible space, zone 1 and 2, area into zone 3.

In addition to the above recommendations, several other measures can be taken to make your home more fire safe and add an additional measure of safety for your family. While not required through site plan review, the following measures should be undertaken to maintain the home and defensible space in the future.

- Maintain your defensible space yearly; contact your local forester for a 5-year maintenance inspection
- Keep firewood at least 30 feet away from buildings; clear weeds and grass from around pile
- Do not stack fresh cut wood against live trees – this could invite unwanted insects
- When possible, maintain an irrigated green space; mow grasses 6" to 8" high
- Connect, and have available, a minimum of 50 feet of garden hose with an adjustable nozzle
- Have an emergency evacuation plan in place (included in wildfire mitigation plan)
- Be aware of fire danger; check the Boulder Fire Weather website at www.crh.hoaa.gov/den/fireindx.html
- Keep driveways and property address marked with reflective easy to see signs
- Maintain screens on foundations, soffit vents, roof vents, and attic openings
- Get rid of unnecessary accumulations of debris and trash from yards
- Keep tools such as shovels, rakes, ladders, and axes available and ready for use
- Clean debris from the roof and gutters at least two times annually
- Check screens and maintain spark arresters on chimneys annually
- Avoid storing combustibles under decks such as wood piles, scrap lumber, and fuels

DEFINITIONS

Wildfire mitigation plan – A plan to reduce wildfire hazards around a home or other structure through fuels reduction. A document to inform urban interface home owners of the dangers and responsibilities of living in the interface. A plan to help outline the initial and ongoing fuels reduction needed to maintain an effective and healthy wildfire defensible space.

Fuel Model – A number system that identifies the types of fuels found on the property that will directly influence fire behavior

Aspect – Exposure. The direction a slope faces.

Canopy – The cover of branches and foliage formed collectively by crowns of adjacent trees.

Crown – Branches and foliage of a tree.

Dominant fuel type – Matter that would carry a fire, found on the ground.

Fuel continuity – The proximity of fuels to each other. Helps determine if a fire can sustain itself.

Limb (verb) – To remove the branches from a tree.

Overstory – The tree species that forms the uppermost forest layer (dominant and co-dominant).

Snag – Standing dead tree, often used by wildlife such as woodpeckers, owls, and other various mammals.

Landscape Scale Map:
Property of Kristen Campbell
844 Lakeshore Drive
SPR # 03-112



0 1,300 2,600 5,200 Feet

Property of Kristen Campbell
844 Lakeshore Drive
SPR # 03-112



LEGEND

- Zone 1 (0-15 ft from structure)
- Zone 2 (0-100 ft from structure)
- Driveway
- Well
- Leach Field
- Large leaf trees

0 130 260 520 Feet

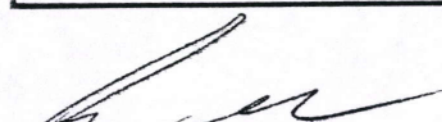
To: Kristen Campbell
4155 Riverside
Boulder, CO 80704

Invoice No. 67067

**Colorado
State**
FOREST
SERVICE

Date: 2-3-2005

Item	Unit Cost	Total
1 Written wildfire mitigation Plan - SPR# 03-112	\$300. ⁰⁰	\$300. ⁰⁰
2 Defensible Space marking		
3		
4		
5		
6		
7		
8		
9		
Tax Exempt No. _____		Sales Tax _____


CSFS Originator _____
Payment Due By 3-3-2005

Remit to:
1st past due notice sent 3-28-05
2nd past due notice sent 5-4-05

Total		\$300. ⁰⁰
CK-CA-MO Amount Paid:		
Amount Due		\$300. ⁰⁰
Ck#	Dated	
Rcv'd By	F.Y.	
Funding		Amount
223530	0615	\$300. ⁰⁰

Deposit No.

Date

White-Customer copy; Yellow-State Office copy; Pink-Project copy

→ Kristen will call by Thursday (5-12-05)
* she is still arguing w/County?
(303-588-9393) - \$150

Set for
Collections

* Prunus trees (v) Aspen on South side. (Apple Cherry)

DIRECTIONS FOR FILLING OUT FORM:

Please fill out as complete as possible and fax to Cory Secher at 303-823-5768 or mail to 5625 Ute Highway, Longmont CO 80503-9130.

Any Bolded categories will be filled in by the CSFS representative at the time of initial site visit and tree marking for the defensible space. If you have any questions about this form please contact Cory Secher at 303-823-5774 or by email at csecher@lamar.colostate.edu.

**Wildfire Mitigation Plan
FIELD DATA FORM**

Inspection Date: # 2-1-05

Landowner name: Kristen Campbell

Mailing address: 4155 Riverside

City, State, Zip: Boulder CO 80304

Site address: 844 Lakeshore Dr

Phone number: 303-588-9393

Road access: Flagstaff → Lakeshore Dr. — end of road. on N. side.
(Directions from main access road)

Docket Number: SPR-03-112 (SPR, LU, Etc.)

Section: 17

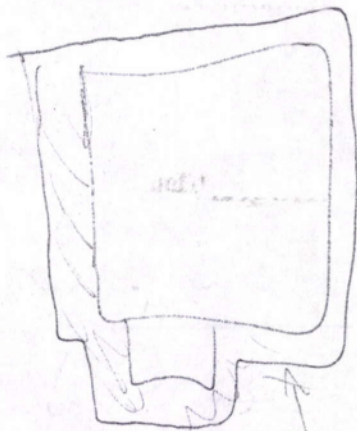
Township: 15

Range: 71W

Legal Description: _____

WILLIAM J. BELL

1957 10/10/57



1-10-57

1-10-57

1-10-57

FPD: _____

Dominant fuel type: _____ (Grass/forbs/shrubs/slash/etc.)

Dominant overstory: DF / Pando

Co-dominant overstory: DF / Pando

Fuel model type: 9

Slash disposal: _____ (Chipped/hailed/burned/lop-scatter)

Aspect: North (Direction of slope)

Slope: ~18%

Elevation: 7,500 (feet)

Building site: _____ (Chimney/saddle/valley/ridge/mid-slope)

Site moisture: Good - North slope

Natural fire barrier: None(?) Reserve ~ Site ~ Wildlife

Insect & Disease Diagnosis: DMT

Lot size (acres): 1 (Acres)

Number of Structures: 2 (All structures to be present)

Existing Structures: accessory shed (House/barn/garage/etc.)

New Structure: house (House/Barn/new addition/etc..)

Driveway length: 35' from the south (Actual length in feet from road to home)

Driveway trees removed: few (few/many/none)

Home buffer material: _____ (Stone/crushed gravel/decorative stone)

House design: Simple (simple/complex)

Roof Design: simple (simple/complex)

Roof material: asphalt (Asphalt shingles/concrete tiles/metal)

Soffit type: (Plywood/hardboard/cement board)
Siding material: hardboard (Cement/hardboard/log/stucco/stone/wood)
Windows (#): 15 upper - (med.)
5 in roof
6 basement walkout
Windows Size: medium (On average: small/medium/large)
Windows Frames: Vinyl (Wood/aluminum/aluminum clad)
Windows Aspect: Northern (Dominant viewing direction) ?
Window Construction: (Tempered glass/s coating/etc.)
Door Material: Wood/Vinyl (Wood/steel/fiberglass/composite)
Deck material: Wood (Wood/composite materials)
Deck Description: open (Enclosed/open)
Deck support type: Cantilevered (Timber posts/logs/steel/concrete/stone) (no supports on ground)
Deck buffer material: (Crushed rock/gravel)
Deck wood barrier: (Fiberglass/polyester)
Structure SQ. FT.: 1800/2050 (Total square foot of structure) → 952' finished/level
Utility Location: buried → South of deck → 107' (Pole/buried: Direction from structure)
Structure aspect: Northern (Dominant facing direction/view)
Leach field: 100' North (Distance from house, and direction)
Cistern: (Distance from house, and direction)
Cistern Type: (Domestic Cistern or Fire Cistern)
Cistern size: (gallons)
Well (if applicable): S-SW ~20' from structure (Distance from house, and direction)
Propane Tank location: (Distance from house and direction)

Other:

Paying
Community
Cistern Fund.
#8

