

WILDFIRE MITIGATION PLAN

Docket SPR- # 03-084

Inspection date: 7/23/2004

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

Prepared for:

Kenneth & Michele Bradley
234 Verdi Drive
Golden, CO 80403
Phone: 303-582-9577

Prepared by:

Cory Secher - Forester
Boulder District
Phone: (303) 823-5774
E-mail: csecher@lamar.colostate.edu

SITE LOCATION AND PROPERTY DESCRIPTION

The property is located at Lot 36 Pine Cone Circle, Ward CO 80481. Access to the property take Highway 119 between Ward and Jamestown, turn East on Pine Cone Dr. and continue to Pinecone Circle. The legal description is Section 29, Township 2N, and Range 72W Lot 36 Pine Cone Circle. The fire protection district is the Lefthand fire protection district (303-823-6611). There will be one new residence built on site. The lot is .82 acres in size and has a ~25% percent slope with a northern aspect. It is at 8,850 feet in elevation. The proposed building site is mid-slope and it is a relatively moist site. There is a lake to the north of property and Pine Cone Circle road to the south creating a couple natural barriers that may help stop or slow the spread of a surface/crown fire on the site.

The site has a dominant overstory consisting of Lodgepole pine (*Pinus contorta*) with a Douglas-fir (*Pseudotsuga menziesii*), Ponderosa pine (*Pinus ponderosa*) understory component. The area is predominantly fuel model 9 with ground fuels consisting of few shrubs and grasses. 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 no sign of any current insect and disease problems on the property at the time of inspection.

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 metal. The exterior wall material is to be log. Soffits are to be ¾" thick hardiplank. The structure has ~26 medium to large sized windows with the primary viewing direction being toward the north side of the structure. Windows will be double glazed with low e-coated tempered glass and frames made of aluminum clad. Exterior doors are to be 1-3/4", fire-rated, and made of steel. The one deck will be constructed of trex (composite) materials and supported by timber posts and logs. The deck will be open and isolated from the surrounding landscape with crushed gravel over a fiberglass weed barrier. The propane tank will be set on a concrete slab located approximately 35 feet southwest of the residence (located uphill from residence).

EMERGENCY ACCESS

The existing driveway will not create additional site disturbance or soil compaction and will require the removal of no trees. The driveway is a minimum of 12 feet wide with a vertical clearance of at least 13'6" and a grade that is less than 12%. The driveway is only 100 feet long therefore no turn around is required (see plan for details). The driveway is less than 400 feet therefore no pull-outs are required.

WATER SUPPLY / UTILITIES / SEPTIC FIELD

A well will be located approximately 70 feet to the east of residence. The Bradley family will be spending \$3,000 toward the fire department and its community cistern, instead of having a cistern of their own on site. The propane tank will be set on a concrete slab located approximately 35 feet southwest of the residence (located uphill from residence). Vegetation within 10 feet of the cistern/well and propane tank will be kept cleared. Utilities for the property will be above ground on a pole entering from the west side of the house. The septic field is located 20 feet to the west of the residence (downhill from residence), which should create a moist area directly below 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, not against live trees, and at the same elevation when possible. Down or dead Aspen have not been marked, however they will be removed and used for furniture. Slash from the harvest will be chipped and broadcast. 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 (Lefthand fire protection district (303-823-6611)).

DEFENSIBLE SPACE ZONES

There are three defensible space zones to be created around the structure(s) on the site.

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.

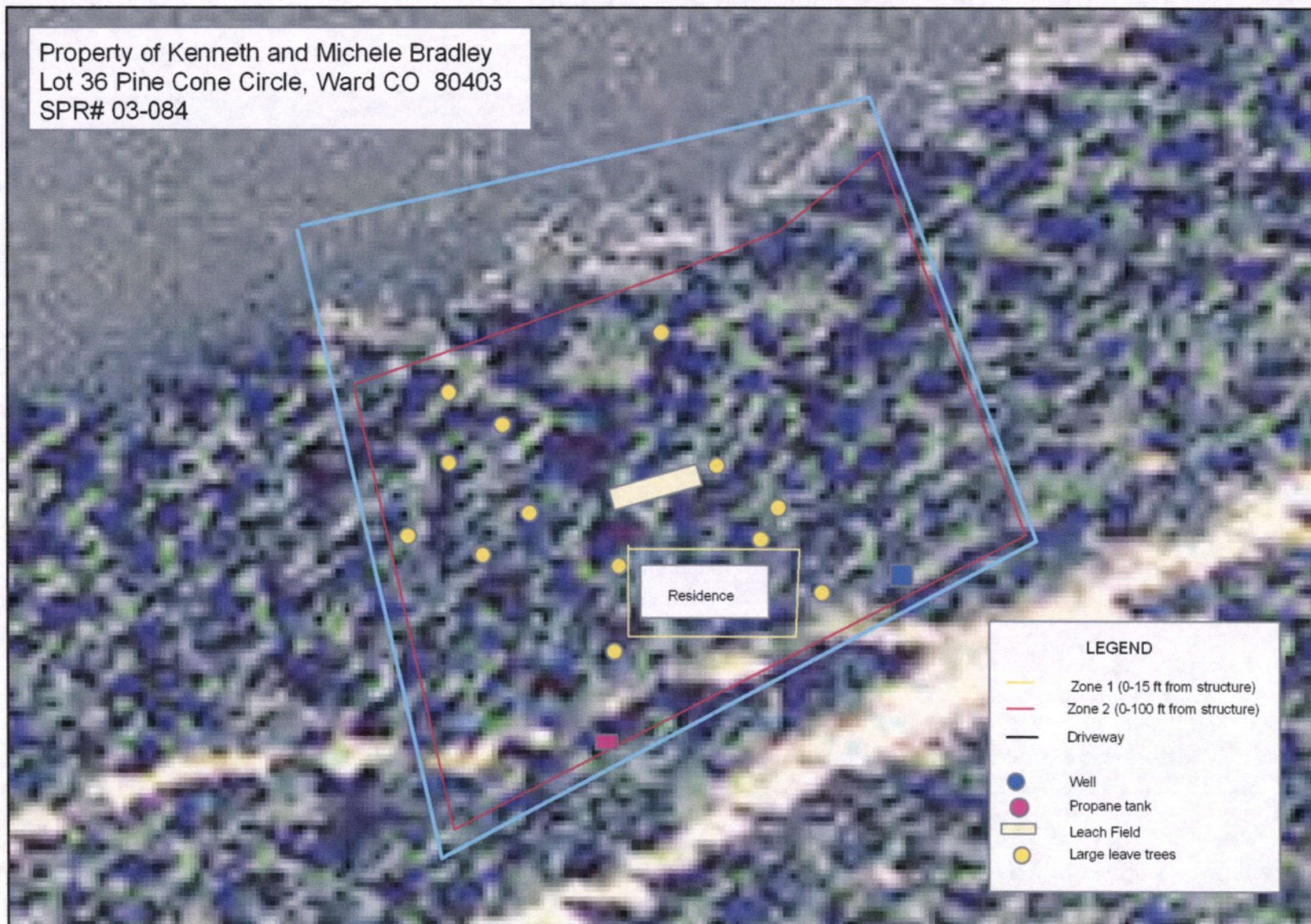
Fuel continuity – The proximity of fuels to each other. Helps determine if a fire can sustain itself.

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.

Property of Kenneth and Michele Bradley
Lot 36 Pine Cone Circle, Ward CO 80403
SPR# 03-084





Knowledge to Go Places

July 26, 2004

Eric Philips
Boulder County Land Use Department
P.O. Box 471
Boulder, CO 80306

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

Hey Eric,

Enclosed is a copy of SPR # 03-084, for the Kenneth & Michele Bradley property. The property address is Lot 36 Pine Cone Circle, Ward CO 80481. My initial inspection was on 7/23/2004.

Kenneth & Michele Bradley plan on building 1 structure including only a residence. The contact number is 303-582-9577. Kenneth & Michele Bradley have been informed to contact you for the final inspection once the work has been completed.

If you have any questions, please contact me at 303-823-5774.

Sincerely,

A handwritten signature in black ink, appearing to read "Cory Secher". The signature is fluid and cursive, with a long horizontal stroke at the end.

Cory Secher
Forester



Knowledge to Go Places

July 26, 2004

Kenneth & Michele Bradley
234 Verdi Drive
Golden, CO 80403

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

Dear Kenneth & Michele Bradley,

Upon your request the Colorado State Forest Service has completed your Wildfire Mitigation Plan per Boulder County Land Use regulations for your property located at Lot 36 Pine Cone Circle, Ward CO 80481. We have submitted a second copy of this plan for you to submit to the County Land Use Department.

The next step in this process is to remove all trees marked with blue spray paint. Trees that do not have blue marking on them should be pruned 6-10 feet from base of tree. Once trees have been removed and pruned please call for an appointment of inspection. Either Boulder County Land Use or the Colorado State Forest Service must inspect all Site Plan Review properties before final plan approval is granted.

We have enclosed an invoice for our services and would like payment within one month of the date it was written.

We thank you for your compliance and look forward to assisting you in the future. If you have any questions regarding the Site Plan Review process please contact your local Land Use Department or if you have question regarding the Wildfire Mitigation plan or forest health please call Cory Secher at 303-823-5774.

Sincerely,

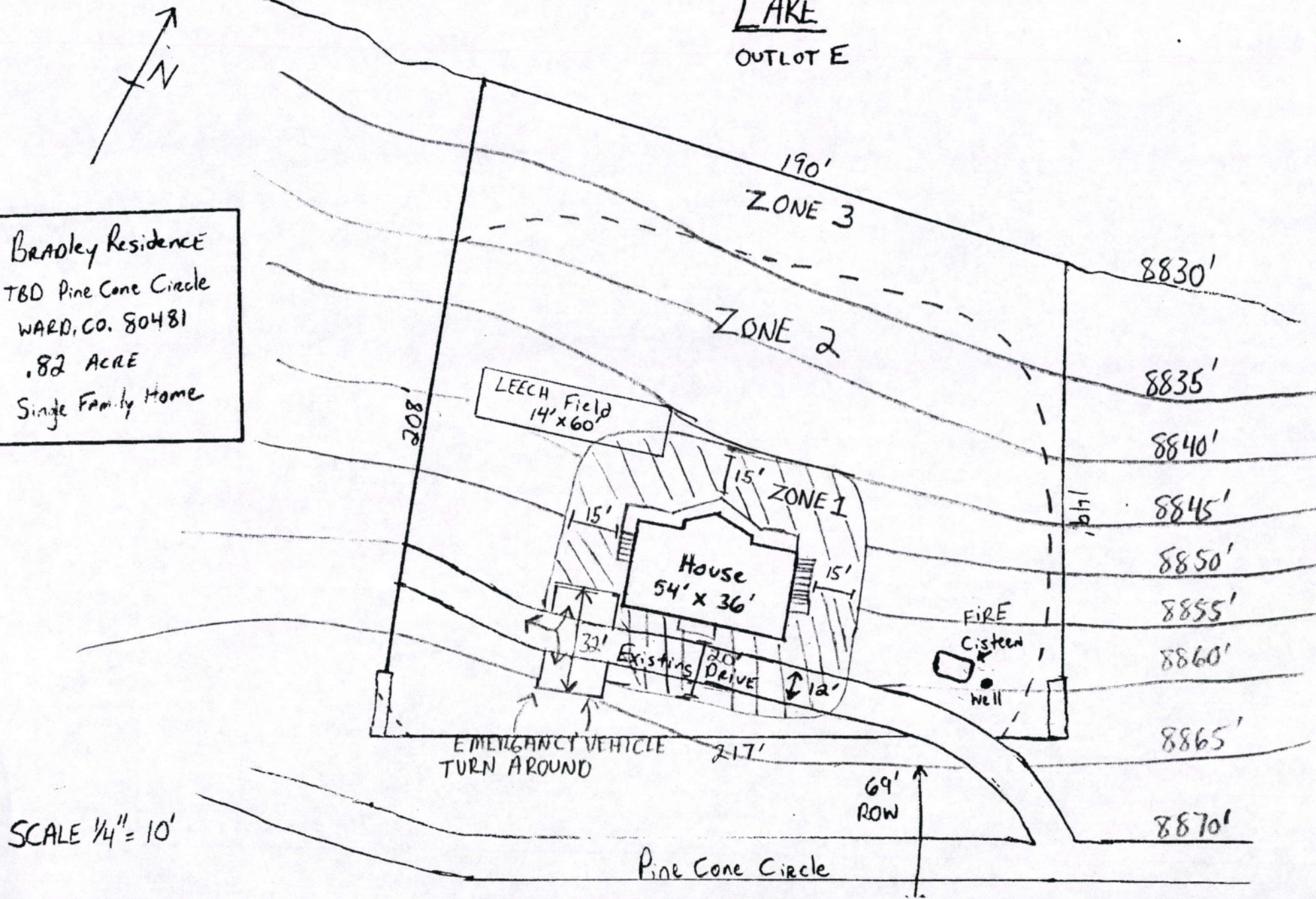
A handwritten signature in black ink, appearing to read "Cory Secher".

Cory Secher
Forester

PROPOSED WILDFIRE
DEFENSE PLAN

LAKE
OUTLOT E

BRADLEY Residence
TBD Pine Cone Circle
WARD, CO. 80481
.82 ACRE
Single Family Home



To:

Invoice No.

64748

**Colorado
State**
FOREST
SERVICE

Date:

7-26-04

Item	Unit Cost	Total
1 Written Wildlife Mitigation Plan + Marking D-space		\$250. ⁰⁰
2 SPR# 03-084		
3		
4		
5		
6		
7		
8		
9		
Tax Exempt No. _____	Sales Tax	

CSFS Originator

Payment Due By

8-26-04

Remit to:

Total		\$250. ⁰⁰
CK-CA-MO Amount Paid:		
Amount Due		\$250. ⁰⁰
Ck#	Dated	
Rcv'd By	F.Y.	
Funding		Amount
223530	0615	\$250. ⁰⁰

Deposit No.

Date

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: 7-23-04

Landowner name: Kenneth & Michele Bradley

Mailing address: 234 Verdi Dr.

City, State, Zip: Golden, CO. 80403

Site address: LOT 36 Pine Cone Circle WARD, CO. 80481

Phone number: 303-582-9577

Road access: Hwy 119 to Pine Cone Dr. to Pine Cone Cir. (Directions from main access road)

Docket Number: SPR-03-084 (SPR, LU, Etc.)

Section: 29 T2N, R72W

Township: _____

Range: _____

Legal Description: LOT 36 Pine Cone Circle

FPD:Dominant fuel type: Ledgepole (Grass/forbs/shrubs/slash/etc)Dominant overstory: LedgepoleCo-dominant overstory: Ponderosa / Doug FirFuel model type: 9Slash disposal: Chip / Scatter (Chipped/hailed/burned/lop-scatter)Aspect: North (Direction of slope)Slope: 20% - 30%Elevation: 8,850 (feet)Building site: mid-slope (Chimney/saddle/valley/ridge/mid-slope)Site moisture: FairNatural fire barrier: Lake to North / Pine Cone Circle to South**Insect & Disease Diagnosis:**Lot size (acres): 1.82 (Acres)Number of Structures: 1 (All structures to be present)Existing Structures: None (House/barn/garage/etc.)New Structure: House (House/Barn/new addition/etc..)Driveway length: 80-100' (Actual length in feet from road to home)Driveway trees removed: None (few/many/none)Home buffer material: Crushed gravel (Stone/crushed gravel/decorative stone)House design: Log Simple (simple/complex)Roof Design: Metal Simple (simple/complex)Roof material: Metal (Asphalt shingles/concrete tiles/metal)

Soffits type: Hardiplank (Plywood/hardboard/cement board)
Siding material: log (Cement/hardboard/log/stucco/stone/wood)
Windows (#): 26 (approximate number of windows)
Windows Size: Med-large (On average: small/medium/large)
Windows Frames: Aluminum clad (Wood/aluminum/aluminum clad)
Windows Aspect: North (Dominant viewing direction)
Window Construction: LowE- Argon Gas fill (Tempered glass/e-coating/etc.)
Door Material: Steel (Wood/steel/fiberglass/composite)
Deck material: Trex deck / Pine (Wood/composite materials)
Deck Description: open (Enclosed/open)
Deck support type: logs (Timber posts/logs/steel/concrete/stone)
Deck buffer material: gravel (Crushed rock/gravel)
Deck weed barrier: Fiberglass/polyester (Fiberglass/polyester)
Structure SQR. FT.: 3,100 (Total square feet of structure)
Utility Location: Pole / West (Pole/buried: Direction from structure)
Structure aspect: North (Dominant facing direction/view)
Leach field: 15-20' North West (Distance from house, and direction)
Cistern: N/A (Distance from house, and direction)
Cistern Type: N/A (Domestic Cistern or Fire Cistern)
Cistern size: N/A (gallons)
Well (if applicable): Appx. 65-70' - East (Distance from house, and direction)
Propane Tank location: 35' South West (Distance from house and direction)

Other:

\$3,000.00 to Fire Dept. instead of Cistern.

Prior to final inspection, the full installation of the approved lighting plan must be inspected and approved by the Land Use Department.

4. *The site plan shall satisfactorily mitigate the risk of wildfire both to the subject property and those posed to neighboring properties in the surrounding area by the proposed development. In assessing the applicable wildfire risk and appropriate mitigation measures, the Director shall consider the referral comments of the County Wildfire Mitigation Coordinator and the applicable fire district, and may also consult accepted national standards as amended, such as the 2003 Urban-Wildland Interface Code; NFPA / 80A, 299, 1231; 2003 International Fire Code; and the 2003 International Building Code.*

A. WILDFIRE MITIGATION, EMERGENCY WATER SUPPLY and FIRE RESISTIVE MATERIAL REQUIREMENTS

This property, like many properties within the semi-remote Hidden Lake Subdivision, is on a steep slope and contains dense stands of trees and flammable ground cover. These factors contribute to a fire prone and hazardous environment.

I. WILDFIRE MITIGATION/DEFENSIBLE SPACE PLAN

The Wildfire Mitigation / Defensible Space Plan submitted with the application meets initial defensible space planning criteria but will require modifications prior to approval. Please contact the Boulder County Wildfire Mitigation Coordinator at (303) 441-3930 and the Indian Peaks Fire Protection District (303) 459-3452 as soon as possible to discuss how the proposed plan must meet the Wildfire/Defensible Space planning requirements. Please contact the Indian Peaks Fire Protection District to arrange for meeting the emergency water supply requirement.

Prior to issuance of any permits, the Wildfire Mitigation Plan must be approved by the Land Use Department.

At the time of foundation form inspection, the defensible space and emergency water supply plans must be approved, implemented, and inspected by the Land Use Department. All trees marked for removal must be cut and all slash, cuttings, and debris must be removed and disposed of properly. One of the water supply options must be selected. If an individual cistern was chosen, it must be located on site in an appropriate location, subject to approval by the Indian Peaks Protection District. The cistern must also be fitted with an appropriate dry hydrant connection, be filled, and have been tested by the Indian Peaks Fire Protection District. Alternatively, a donation for the use and maintenance of a community cistern must have been made to the fire protection district.

Eric Phillips
mitigation
Get Path Talked
to
10/21/03
1:20pm

10. *The development shall not have a significant negative visual impact on the natural features or character of the applicable neighborhood or surrounding area. The applicable neighborhood or surrounding area shall be identified as provided in Subsection 4-806.A.2, above. Development shall avoid prominent, steeply sloped, or visually exposed portions of the property. Particular consideration shall be given to protecting views from public lands and rights-of-way, although impacts on views of or from private properties shall also be considered. Development within or affecting features or areas of visual significance may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonably necessary to avoid significant adverse impacts based upon other applicable site plan review criteria.*

A. TREE PRESERVATION AND SCREENING

The preservation of existing trees around the building envelope is critical to provide visual screening of the residence, diffuse the massing of the residence and to soften the structure's hard lines. Additionally, due to the property's unique location in proximity to Hidden Lake, additional visual buffering of the residence will be required and must include the following:

- (i) The maximum preservation of existing mature trees in the second and third defensible zones is required.
- (ii) The placement of no less than four (4) clusters of aspen trees to the north side of the residence is required to buffer the visual impact of the residence. Please note that each cluster must contain a minimum of 3 aspen trees of one-inch caliper or greater

Please note that tree preservation and screening must be incorporated into the Wildfire Mitigation Plan, and that all aspen clusters must be located within the second defensible space zone as defined on the Wildfire Mitigation Plan (*see item 4.*).

Prior to issuance of any permits, submit to the Land Use Department for review and approval, two (2) copies of a Wildfire Mitigation Plan that incorporates the afore described tree preservation and screening requirements.

11. *The development shall not cause unnecessary or excessive site disturbance. Such disturbance may include but is not limited to long driveways, over-sized parking areas, or severe alteration of a site's topography. Driveways or grading shall have a demonstrated associated principal use.*