Date of Report: October 15, 2020

BURNED-AREA REPORT

PART I - TYPE OF REQUEST

A. Type of Report

☒ 1. Funding request for estimated emergency stabilization funds
☐ 2. No Treatment Recommendation

B. Type of Action

☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

☐ 2. Interim Request #___
☐ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Brattain

B. Fire Number: ORFWF-200406

C. State: Oregon

D. County: Lake

E. Region: 6

F. Forest: Fremont-Winema

G. District: Paisley

H. Fire Incident Job Code: P6NKK3

I. Date Fire Started: 9/8/2020

J. Date Fire Contained: 10/9/2020

K. Suppression Cost: $9,900,000

L. Fire Suppression Damages Repaired with Suppression Funds (estimates):

1. **Fireline repaired (miles):** 72 miles of dozer line, 1 mile of handline
2. **Other (identify):** 1 safety zone

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
1712000514	Anna River-Summer Lake	257,786	9,527	3.7
1712000604	Lower Chewaucan	182,788	20,907	11.4
1712000602	Middle Chewaucan	50,327	18,270	36.3
1712000601	Upper Chewaucan	120,982	2,248	1.9

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	23,403

OWNERSHIP	ACRES
OTHER FEDERAL (LIST AGENCY AND ACRES)	10,272 - BLM
STATE	
PRIVATE	17,277
TOTAL	50,952

O. Vegetation Types:
The Brattain Fire area primarily consists of juniper, low sage, and Idaho fescue habitat. Timbered stands are represented by ponderosa pine, with a mixture of juniper, mountain mahogany, and/or bitterbrush. Mixed conifer stands exist as well with a mixture of ponderosa pine, white fir, lodgepole pine, with isolated pockets of incense cedar and whitebark pine. Finally, low sage and Idaho fescue areas round out the vegetation types within the fire boundary.

P. Dominant Soils:

Soils range from silty loams to coarse textured sandy to ashy soils with varying amounts of rock content, generally increasing with depth. The soils are derived from residuum and colluvium from extrusive volcanics, such as basalt, rhyolite, various pyroclastic material, and air laid pumice. Surface soils are shallow to moderately deep (with deeper inclusions) and generally have a xeric (arid) soil moisture regime and a mesic (moist) to cryic (very cold) soil temperature regime. Most soils are well to moderately well drained. Runoff potential is primarily moderate to very high with most soils falling into a low and high erosion potential.

Q. Geologic Types:
A major fault block created the steep and often unstable escarpment associated with Winter Rim that characterizes the northern boundary of the fire. Dominated by basalt, rhyolite, and tuffaceous sedimentary rocks, the partly dissected terrain contains a series of steep drainages, rock outcrops, and talus fields. Less dramatic uplands host several small lakes on flat benches that gradually change from rocky rangeland to steeper sloped dry and mixed forest with increase in elevation.

To the south, much of the fire area is dominated by a north-south trending ridge that divides part of the greater Chewaucan watershed. Several high points, such as Ennis Butte, Brattain Butte, and Morgan Butte, make up some of the highest and most inaccessible terrain within the fire perimeter. Andesite flows, ashflow tuffs, and lahars (volcanic mud or debris flow) dominate here. Lower elevation valley bottoms on either side of the ridge provide unconsolidated weathered pyroclastic and sedimentary rocks with increased erosion potential.

Lacustrine and fluvial sedimentary rocks make up the “shoreline” and wave-cut benches of ancient Chewaucan Lake that were later also influenced by tremendous volumes of pumice and ash from the eruption of Mt. Mazama (Crater Lake). These are present along the part of the eastern fire boundary but most prominent just below the steeply rising escarpment to the north.

Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERRENIAL	30.2
INTERMITTENT	91.8
EPHEMERAL	50.4
OTHER (DEFINE)	0.7 Canal/Ditch

R. Transportation System:
Trails: *National Forest (miles):* 11.0 *Other (miles):*
Roads: *National Forest (miles):* 91.3 *Other (miles):* 34.6 (BLM & Private)

PART III - WATERSHED CONDITION

A. Burn Severity (acres): See Attachment A - Soil Burn Severity Map

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (BLM)	State	Private	Total	% within the Fire Perimeter
Unburned	1,093	2,558		748	4,398	8.6
Low	17,144	7101		14,544	38,789	76
Moderate	4,830	589		1,932	7,351	14.4
High	337	6		53	396	1
Total	23,403	10,272		17,277	50,952	

B. Water-Repellent Soil (acres): 11,281 ac All Land 5,671 ac NFS
Water repellent soils developed on approximately 22% of the fire area. Some of the soils present within the fire perimeter have a natural level of water repellency when dry.

C. Soil Erosion Hazard Rating: Acres of burned area (FS only) by pre-fire soil erosion hazard rating are 1,201 ac (low), 13,709 ac (moderate), and 11,535 ac (high). When adjusted to post-fire conditions, based on field data and observations, ratings reflect soil erosion hazard ratings of 1,058 ac (low), 9,291 ac (moderate), and 16,096 ac (high).

D. Erosion Potential: 14 t/ac on forested land and 8 t/ac on rangeland.

E. Sediment Potential: 10,928 yd^3/mi^2 of potential sediment contribution from forested land and 6,200 yd^3/mi^2 from rangeland.

F. Estimated Vegetative Recovery Period (years): 5 to 10 years for effective ground cover and shrub component.

G. Estimated Hydrologic Response (brief description):
Post-fire peak flows were estimated by adjusting pre-fire peak flows based on the proportion of soil burn severity classes (Unburned, Low, Moderate, High) within each pour-point watershed, which are obtained from the Burned Area Reflectance Classification (BARC) soil burn severity map. To estimate changes in post-fire peak flows, the following assumptions were made: Unburned areas would respond as a 2-year RI (50% annual exceedance probability) peak flow; Low soil burn severity would have a peak flow response that is a 30% increase in the 2-year RI peak flow; Moderate severity would respond as a 5-year RI (20% annual exceedance probability) peak flow; High severity would respond as a 10-year RI (10% annual exceedance probability) peak flow.

The proportion of burn severity classes within each watershed was obtained using GIS; these proportions within different burn severity classes were then multiplied by the 2-year, 5-year, and 10-year RI peak flows and summed to obtain the post-fire peak flow estimate for each watershed. The post-fire modeled flows were then multiplied by a bulking factor of 1.25 that accounts for sediment entrained in the flows and represents a maximum sediment concentration of 20% for a water flow (Elliot et al. 2006).

Five pour point drainages were modeled based upon values at risk (VARs)(Attachment B). Four were chosen due to road concerns at stream crossings. The fifth was chosen due to proximity to popular campgrounds and a popular road. The following table shows increases in peak flows by each pour point drainage. Post-fire flows using the USGS regression method show most of the streams in the fire area will essentially double their flows as a result of the fire.

Table 5. Pre- and post-fire peak discharge of evaluated drainages and amount of increase of peak runoff.

Pre/ Post Fire Discharge and Percent Increase				
Drainage	**Pre-fire (cfs)**	**Post-fire (cfs)**	**Change**	**Times Increase**
Ennis	39.4	74.5	189%	1.9x
Marster	1,102.7	1,409.9	128%	1.3x
Mill Creek	44.6	68.3	153%	1.5x
Schoolhouse	38.6	79.1	205%	2.0x
Worlow	49.6	76.6	155%	1.5x

The burned areas of the Brattain Fire will likely produce between 1.3 – 2 times the peak streamflow as before the fire in the drainages modeled. This could persist for anywhere from 5-10 years depending on the vegetative recovery. However, with the low proportion of high soil burn severity, recovery of the drainages is likely to be on the quicker side.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

A. Describe Critical Values/Resources and Threats (narrative): VAR Table located in Attachments

Table 6: Critical Value Matrix

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	RISK		
Very Likely	**Very High**	**Very High**	**Low**
Likely	**Very High**	**High**	**Low**
Possible	**High**	**Intermediate**	**Low**
Unlikely	**Intermediate**	**Low**	**Very Low**

1. Human Life and Safety (HLS):

Trailheads

There is inadequate signage of hazards within burn area along the Fremont National Recreation Trail. This is a popular trial with moderate usage and thus there is a risk to human life and safety from falling/rolling hazards and flash flooding. The probability of damage or loss to the campgrounds from increased post-fire erosion and stream flows is **possible** with a magnitude of consequence of **major**. This results in a **High Risk** for this critical value.

Hazard Trees at Campgrounds

There are hazard trees at the campgrounds along the Chewaucan River. The campgrounds are popular with a high level of use. These hazard trees pose a risk to human life and safety from falling limbs and trees. The probability of damage of loss from hazard trees in campgrounds is **possible** with a magnitude of consequence of **major**. This results in a **High Risk** to this critical value.

Hazard Trees at Trailheads

There are hazard trees at the trailheads which access the Fremont National Recreation Trail. The trail is popular with a high level of use. These hazard trees pose a risk to human life and safety from falling limbs and trees. The probability of damage of loss from hazard trees in campgrounds is **unlikely** with a magnitude of consequence of **major**. This results in an **Intermediate Risk** to this critical value.

2. Property (P):

Fremont National Recreation Trail
A section of the Fremont National Recreation Trail occurs within the fire perimeter. The location of the trail is on steep slopes with 2.7 miles of the trail within moderate and high soil burn severity areas above, or within trail prism and is at risk of washout, damage and loss of infrastrucure, and trail tread from post-fire erosion. The probability of damage or loss to the trail from increased post-fire erosion is **likely** with a magnitude of consequence of **moderate**. This results in a **High Risk** for this critical value.

Forest Roads
The USFS 33 Road is the primary access road to popular recreational sites within the fire perimeter. It is susceptible to large concentrations of unstable burned trees, rock fall from hillslopes, and damage to the road prism. The probability of damage of loss to USFS 33 Road from post-fire hillslope erosion and hazard trees is **likely** with a magnitude of consequence of **major**. This results in a **Very High Risk** to this critical value.

The primary access roads into the fire perimeter, USFS 33, 3315, 3360, 3510-018, are at risk to a variety of post-fire impacts. These include increased runoff, sedimentation, flooding, rock fall, and hazard trees. In addition, the condition of road infrastructure has been compromised from the fire with damage to guardrails and cattleguards. The probability of damage of loss to these roads from post-fire effects is **likely** with a magnitude of consequence of **major**. This results in a **Very High Risk** to these critical values.

3. Natural Resources (NR):
Sensitive Plants
The critical vegetation values at risk within the area burned by the Brattain Fire are occupied sensitive plant habitat and vulnerable native plant communities where invasive plants are currently absent. Sensitive plants that are known to occur in the burned area are whitebark pine (*Pinus albicaulis*), and blue-leaved penstemon (*Penstemon glaucinus*).The threats to these critical values are the deterioration of habitat and direct competition from invasive plants spreading along areas of suppression actions, primary access roads, and areas of current infestations into previously un-infested areas and the spread of invasive plants into un-infested areas due to conditions created by the fire (removal of competing vegetation cover, loss of shade, early seral conditions). The probability of damage of loss to native plant communities from invasive plants is **very likely** with a magnitude of consequence of **moderate**. This results in a **Very High Risk** to this critical value.

Sensitive Fish
Great Basin Redband trout, montane peaclam, turban pebblesnail, western ridge mussel are regional forester sensitive species that occur in the Chewaucan River and tributaries within and downstream of the fire area. Potential impacts to habitats used by these species from post-fire erosion and sedimentation is a concern. Probability of damage or loss resulting from fire area generated sediment is **likely** with a magnitude of consequence of **minor**. This results in a **Low Risk** for this critical value.

Soils
Soil productivity and hydrologic function is a concern within the Brattain Fire. The loss of surface soil from post-fire wind and water erosion along with localized decreases in infiltration and sediment deposition into waterways are of concern over the short-term. The probability of damage of loss to soil productivity from wind and hillslope erosion is **likely** with a magnitude of consequence of **moderate**. This results in a **High Risk** to this critical value. While post-fire impacts to soil productivity and hydrologic function are expected, they are not out of the ordinary or in locations that would result in increased risk to life and property, other natural resources, or warrant soil specific treatments.

4. Cultural and Heritage Resources:
There are numerous cultural resources within the fire perimeter and include historic structures, historic artifact scatters, prehistoric lithic scatters, and prehistoric rock stacks. These known sites have the potential to be impacted from post-fire hillslope erosion and exposure. The probability of damage of loss

to known cultural sites from exposure and hillslope erosion is **unlikely** with a magnitude of consequence of **minor**. This results in a **Very Low Risk** to this critical value.

B. Emergency Treatment Objectives:
The primary objective of this Burned Area Emergency Response Report is to recommend prompt actions deemed reasonable and necessary to effectively protect, reduce, or minimize significant threats to human life, safety, and property as well as prevent unacceptable risks to critical natural and cultural resources. The application of these BAER treatments are expected to minimize on-site and downstream impacts to the identified values at risk previously mentioned.

Proposed Land Treatments
The objective of the land treatments is:
1. Promote and protect native and naturalized vegetative recovery by reducing the spread of noxious weeds/invasive species (**Treatment #: L1**).

Proposed Road and Trail Treatments
The objective of the road and trail treatments are:
1. Protect road and trail investments from becoming impassable and damaged from increased post-fire runoff and erosion (**Treatment #'s: R1, R2, R3**).

Proposed Protection and Safety Treatments
The objective of the protection and safety treatments are:
1. Protect human life and safety by raising awareness through posting of hazard warning signs at recreation sites, trailheads, and main travel routes into the fire area (**Treatment #'s: PS1, PS3**).
2. Reduce the risk to public safety by removing hazards around high public use areas (**Treatment #'s: PS4, PS5**).
3. Reduce public risk on USFS 33 Road during winter/spring by installation of closure gate (**Treatment #'s: PS2**).

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: NA, only treatment is for Invasive plants/weeds
Channel: NA, not treatments
Roads/Trails: 75%
Protection/Safety: 75%

D. Probability of Treatment Success

Table 7: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	70	75	80
Channel	NA	NA	NA
Roads/Trails	90	90	90
Protection/Safety	85	85	85

E. Cost of No-Action (Including Loss): $154,948

F. Cost of Selected Alternative (Including Loss): $61,979

G. Skills Represented on Burned-Area Survey Team:
☒ Soils ☒ Hydrology ☒ Engineering ☒ GIS ☒ Archaeology
☒ Weeds ☒ Recreation ☒ Fisheries ☐ Wildlife
☐ Other:

Team Leader: Rich Pyzik
Email: richard.pyzik@usda.gov **Phone(s):** 541-943-4440 (Desk); 541-460-2786 (cell)

Forest BAER Coordinator: Gina Rone
Email: regina.rone@usda.gov **Phone(s):** 541-947-6213 (Desk); 509-398-3907 (cell)

Team Members:*Table 8: BAER Team Members by Skill*

Skill	Team Member Name
Team Lead(s)	Rich Pyzik, Gina Rone
Soils	Gina Rone, Terry Craigg
Hydrology	Dustin Walters
Engineering	Terry Orton
GIS	Dacey Mercer
Archaeology	Steve Highland
Weeds	Jeannette Wilson
Recreation	Nate Crabtree
Other	Fisheries – Rich Pyzik; Hazard Trees – Sean Maielua

H. Treatment Narrative: Treatment Map Located in Attachments

Land Treatments: The following treatments for Lands fall under the BAER treatment categories of L1a (Suppression Related Invasives EDRR).

L1 – Suppression Related Invasive Plant Detection and Treatment: EDRR will occur on approximately 24 miles of primarily access roads (ML 3), 37 miles of improved roads used for access, and 43.7 miles of dozer line. Using a buffer of 15 feet for primary access roads and improved roads and a 10-foot buffer for dozer lines, this equates to approximately 165 acres of survey. In addition, 7 safety zones, 8 drop points, 3 parking/staging areas, and 2 helispots that were created on National Forest System lands. These newly created features will be surveyed in conjunction with the roads and dozer lines. Due to the amount of newly disturbed ground, there is an expectation (based off past history from previous wildfire on the forest) to find new invasive plant infestations. This proposal is requesting funds to treat up to 40 acres of new invasive plant infestations.

Locations: Primary Access Roads - 33, 3315, 3360, 3510-018 (ML 3); suppression actions locations (approximately 43.7 miles of dozer line, 37 miles of improved roads used for access, 7 safety zones, 8 drop points, 3 parking/staging areas, and 2 helispots); and treatments of 40 acres of newly discovered invasive plant sites.

Treatment	Units	Unit Cost	# of Units	Total Cost
Suppression Related Invasive Plant Surveys & Detection	Acres	$70	165	$11,550
EDRR Invasive Plant Treatments	Acres	$150	40	$6,000
Total Amount				$17,550

Channel Treatments: None

Roads and Trail Treatments: The following treatments for Roads and Trails fall under the BAER treatment categories of RT1a (Road Drainage/Storm Proofing), RT2 (Storm Inspection and Response), RT13 (Trail Drainage), and RT14 (Trail Infrastructure Protection).

R1 - **Storm Proofing**: Storm proofing drainage features where identified in areas with high and moderate burn severity. Activity will include cleaning culverts and increasing ditch and catchment basin capacity where they exist.

Location: 1) FSR 3510018 (MP 5.35 to MP 7.15)

Treatment	Units	Unit Cost	# of Units	Total Cost *
Storm Proofing	Miles	$3,492	1.80	$6,286

(ditch maintenance @ $306/mile, roadway maintenance (blading and shaping to drain) @ $408/mile, mobilization @ $4000 lump sum; 2 days – GS 7 Engineering Technician with vehicle plus mileage @ $500/day)*

R2 - Storm Inspection and Response: Storm inspection of critical roads and response to any problems found will keep culvert and drainage features functional by cleaning sediment and debris from in and around features between or during storms. This work will be accomplished through use of FS employees and a road maintenance contractor.

Locations: FSR 3300000 (MP 0.00 to MP 11.65); FSR 3315000 (MP 0.00 to MP 7.54); FSR 3360000 (MP 5.18 to MP 10.89); FSR 3510018 (MP 5.35 to MP 7.15); FSR 3510019 (MP 0.00 to MP 2.19); FSR 3510020 (MP 0.00 to MP 4.39): Total of 33.28 miles

Treatment	Units	Unit Cost	# of Units	Total Cost *
Storm Patrol	Days	$2,197	6	$13,182

(33.28 miles ditch maintenance @ $306/mile; 6 days – GS 7 Engineering Technician with vehicle plus mileage @ $500/day)*

R3- Trail Drainage and Infrastructure: Patrol length of trail within burned area and identify areas to install drain dips, water bars, water crossings, check dams and improve trail tread where necessary for the potentially effected 2.7 miles of trail within moderate and high soil burn severity. These trail miles also occur in areas with soils that have a high potential for sheet and gully erosion. Treatment includes bucking and hazard tree removal for worker access. Trail work will follow established National Forest trail standards

Location: Fremont National Recreation Trail

Treatment	Units	Unit Cost	# of Units	Total Cost
Trail Patrol (NRT160)	Each	$850	2.7	$2,295

Protection/Safety Treatments: The following treatments for Protection/Safety fall under the BAER treatment categories of P1a (Road Hazard Signs), P1b (Trail Hazard Signs), P2 (Road Closure Devices), P3a (Hazard Tree Developed Sites), and P4 (Guardrail Repair).

PS1 – Road Hazard Signs: Signs will inform users of the dangers associated with entering and recreating within the burned area. Many of the Road Hazard Signs placed for the 2018 Watson Creek Fire serve as warning signs for the Brattain Fire. Only two additional signs are needed as follows.

Locations: 1) FSR 3300000 at the 3315000 junction; 2) FSR 3500018 at the fire boundary.

Treatment	Units	Unit Cost	# of Units	Total Cost *
Installation of warning signs	Each	$335	2	$670

(2 signs @ $50 ea, 2 - 8' long 4"x4" posts @ $25 each, hardware @ $20 lump sum, 1 day – GS 7 Engineering Technician with vehicle plus mileage @ $500/day)*

PS2 – Closure Device Gates: Due to the high amount of burned hazard trees along FSR 3300000, the road will be closed to the public until the hazard can be adequately reduced. Gates need to be installed

at either end of the closure for public safety and to allow FS employees and contractors access for treating the hazard trees along the road. Coordination with BLM Lakeview District will be needed.

Locations: FSR 3300000 at approximately MP 0.16 and MP 11.71.

Treatment	Units	Unit Cost	# of Units	Total Cost *
Installation of public safety gates	Each	$8,750	2	$17,500

(2 sets of gates and installation @ $8,000 ea, 3 days – GS 7 Engineering Technician with vehicle plus mileage @ $500/day)*

PS3 – Trail Hazard Signs: Signs will be placed at entry points to the fire perimeter, at all trailheads leading to, from, and within the burned area.

Location: Signs will also be posted within campgrounds within the fire boundary (Along FS-33) road.

Treatment	Units	Unit Cost	# of Units	Total Cost
Install Hazard Signs	Each	$150	22	$3,300

PS4 – Hazard Trees Avery Pass Trailhead: Felling of identified hazard trees around Avery Pass Trailhead in order to reduce the risk to life and safety of patrons that congregate around the trailhead. Approximately eight identified hazard trees, and any other that may arise during implementation

Location: Avery Pass Trailhead accessing the Fremont National Recreation Trail.

Treatment	Units	Unit Cost	# of Units	Total Cost
Hazard Tree Mitigation	Each	$92	8	$736

PS5 – Hazard Trees Jones Crossing Campground: Felling of identified hazard trees around Jones Crossing Campground in order to reduce the risk to life and safety of patrons that congregate around the campground. Approximately five identified hazard trees, and any other that may arise during implementation

Location: Jones Crossing Campground on USFS 33 Road.

Treatment	Units	Unit Cost	# of Units	Total Cost
Hazard Tree Mitigation	Each	$92	5	$460

I. Monitoring Narrative:

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

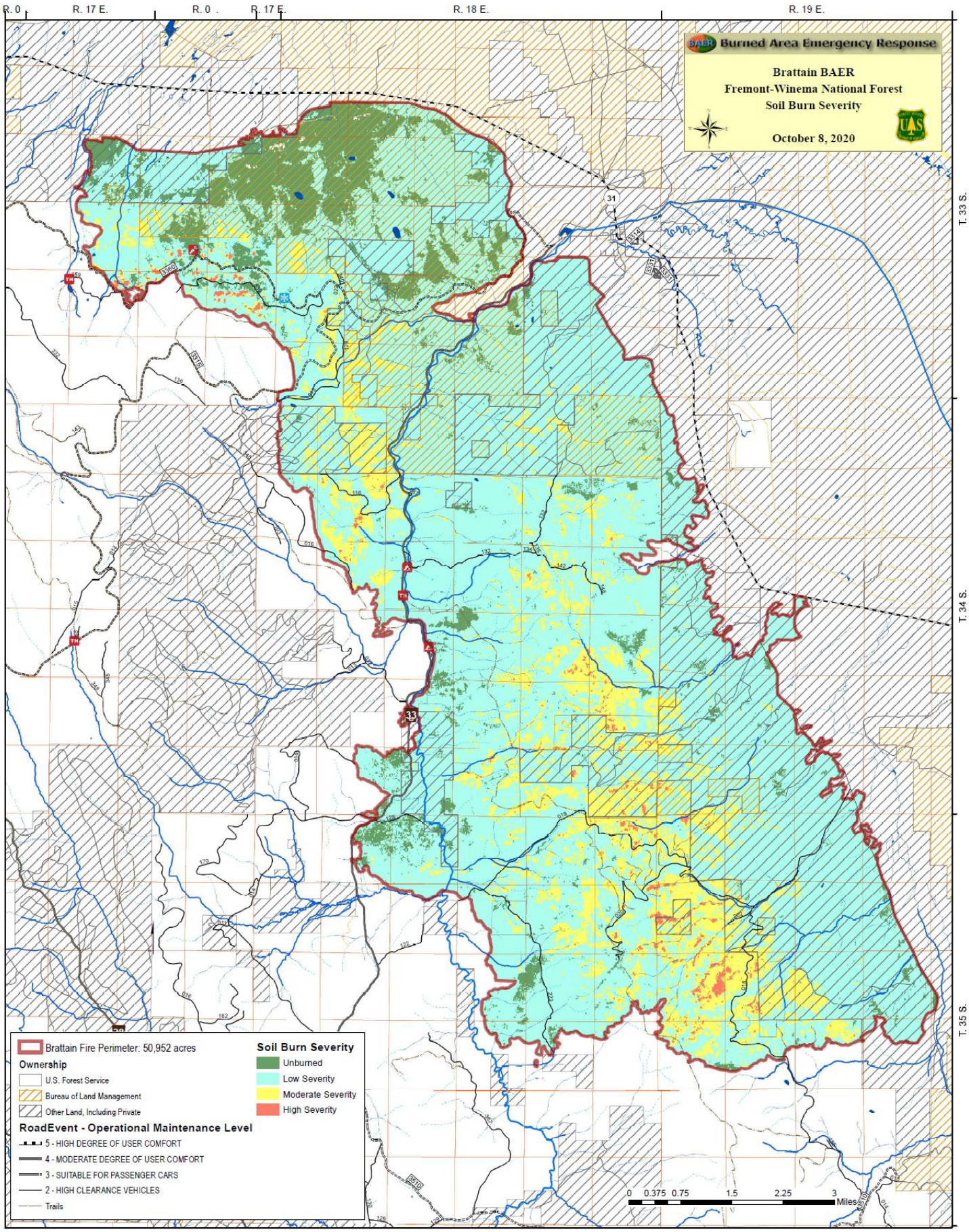
			NFS Lands				Other Lands				All
		Unit	# of		Other		# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$		units	$	Units	$	$
A. Land Treatments											
Suppression Related Surveys & Detection	acre	70	165	$11,550	$0			$0		$0	$11,550
EDRR Invasive Plant Treatment	acre	150	40	$6,000	$0			$0		$0	$6,000
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Land Treatments				$17,550	$0			$0		$0	$17,550
B. Channel Treatments											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Channel Treatments				$0	$0			$0		$0	$0
C. Road and Trails											
Storm Proofing Roads	miles	3,492	1.8	$6,286	$0			$0		$0	$6,286
Storm Inspection/Response	miles	2,197	6	$13,182	$0			$0		$0	$13,182
Train Drainage	miles	850	2.7	$2,295	$0			$0		$0	$2,295
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Road and Trails				$21,763	$0			$0		$0	$21,763
D. Protection/Safety											
Road Hazard Signs	each	335	2	$670	$0			$0		$0	$670
Road Closure Gate	each	8,750	2	$17,500	$0			$0		$0	$17,500
Trail Hazard Signs	each	150	22	$3,300	$0			$0		$0	$3,300
Hazard Trees Avery Pass	each	92	8	$736	$0			$0		$0	$736
Hazard Trees Jones CG	each	92	5	$460	$0			$0		$0	$460
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Protection/Safety				$22,666	$0			$0		$0	$22,666
E. BAER Evaluation											
Initial Assessment	Report	$32,264	1	$32,264	$0			$0		$0	$0
Insert new items above this line!				---	$0			$0		$0	$0
Subtotal Evaluation				$32,264	$0			$0		$0	$0
F. Monitoring											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$0	$0			$0		$0	$0
G. Totals				$94,243	$0			**$0**		**$0**	**$61,979**
Previously approved											
Total for this request				**$61,979**							

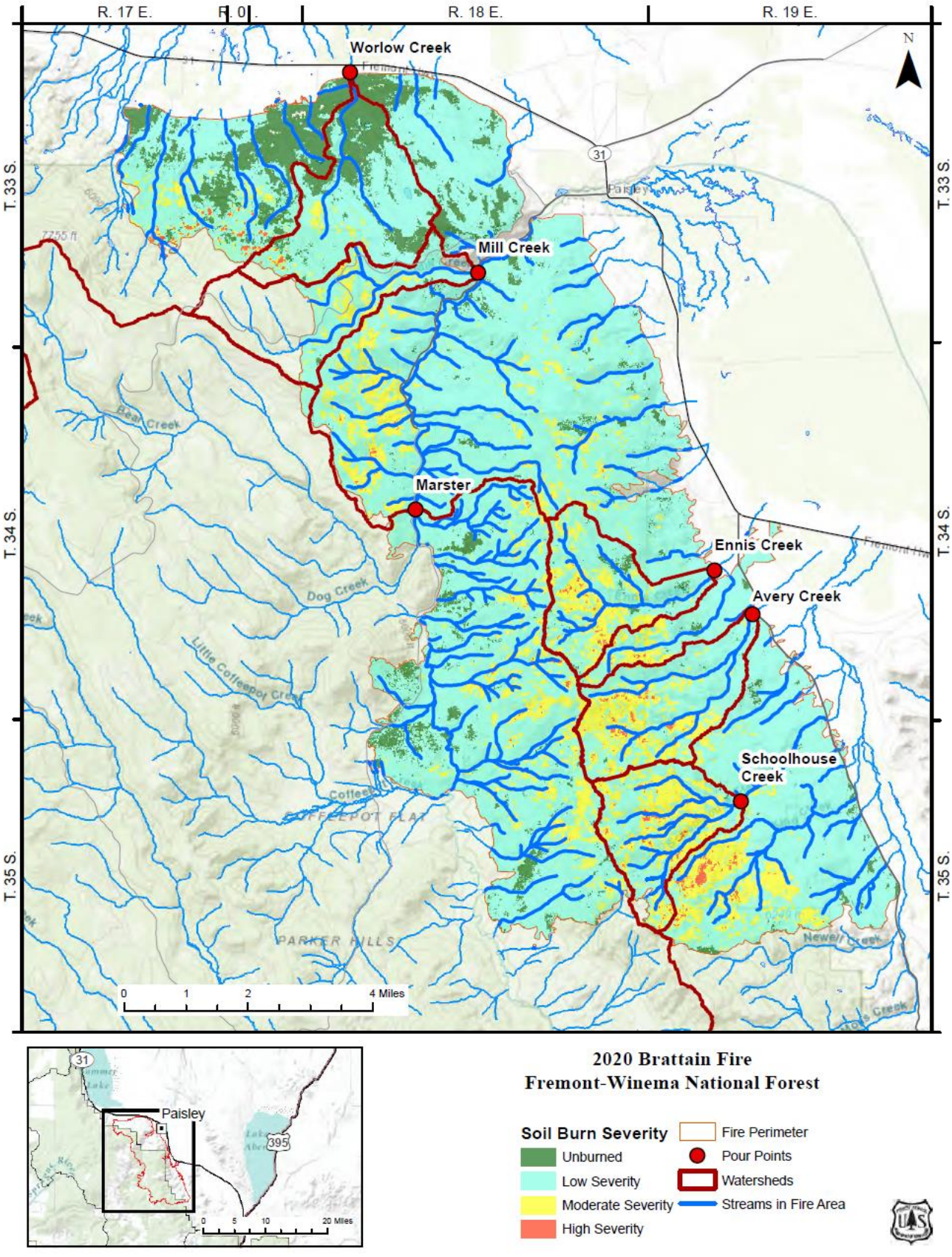
PART VII - APPROVALS

BARRY IMLER Digitally signed by BARRY IMLER
Date: 2020.10.16 10:33:02 -07'00'

1. _____
Forest Supervisor Date

ATTACHMENTS



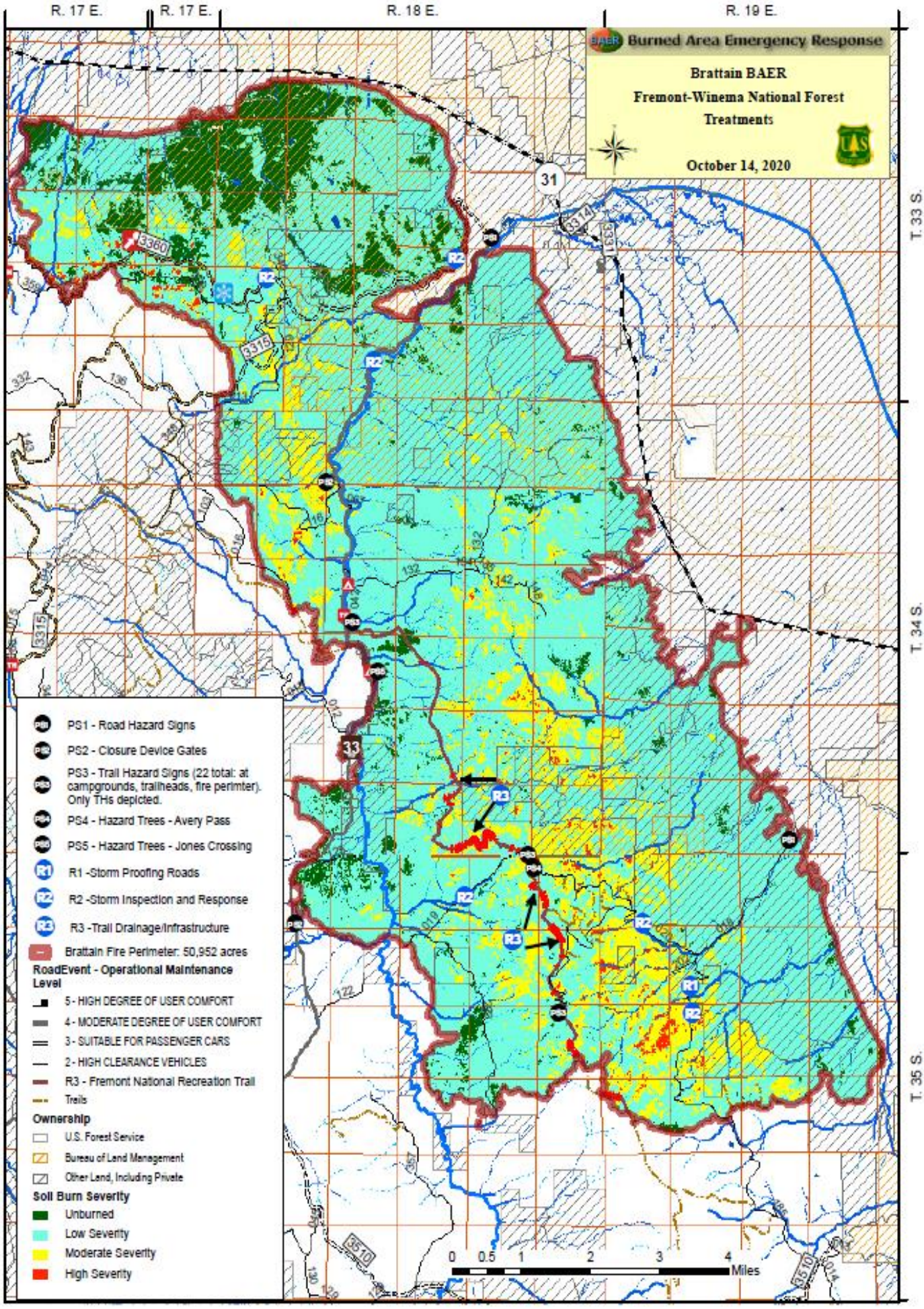

R. 17 E.
R. 18 E.
R. 19 E.
T. 33 S.
T. 34 S.
T. 35 S.
N
Worlow Creek
Mill Creek
Marster
Ennis Creek
Avery Creek
Schoolhouse Creek
Bear Creek
Dog Creek
Little Coffeepot Creek
COFFEEPOT FLAT
PARKER HILLS
Newell Creek
Paisley
31
0 1 2 4 Miles
Paisley
395
0 5 10 20 Miles
2020 Brattain Fire
Fremont-Winema National Forest
Soil Burn Severity
Unburned
Low Severity
Moderate Severity
High Severity
Fire Perimeter
Pour Points
Watersheds
Streams in Fire Area

Brattain BAER - FS Critical Value Table

Click "Enable Content" in the upper left where it says, "SECURITY WARNING Macros have been disabled" or this spreadsheet will not wo

Instructions: Make sure to include enough information to be able to track logic and rationale for determinations of probability and magnitude in the risk assessment process. If needed, see the risk assessment matrix tab.
Additional columns can be added at the end but do not delete columns.
Do not include a risk rating for non-NFS values or NFS values ouside of BAER Critical Values - please track on additional tabs.

Value	Life/ Property/ Resources	Critical Value	Threat to Value	Probability of Damage or Loss	Rationale for Probability	Magnitude of Consequence	Rationale for Magnitude	Risk	Treatment Options Considered	Recommended Treatment
BAER critical value	Life and Safety	Open road system within fire perimeter	Road side hazard trees	Possible	Potential for falling snags, rocks, flooding	Major	Topography and road locations on landscape within fire perimeter	High		Warning signs on entering burned area along major entry points
BAER critical value	Life and Safety	Condition of road infrastructure	Road warning signs burned	Possible	Increased chance for encounter of oncoming traffic	Major	Damage to vehicles or injury/loss of life	High		Replace signs damaged and/or lost in fire
BAER critical value	Life and Safety	Entry to fire at primary access point	Hazard trees, falling debris, flooding	Likely	Area of high concentration of hazard trees and potential for rock fall	Major	High traffic area and potential for vehicle damage or injury/loss of life	Very High		Install gates along USFS Road 33 at 2 locations
BAER critical value	Life and Safety	Condition of road infrastructure	Damaged and burned guardrails	Possible	Increased chance of vehicle traveling over side of road	Major	Damage to vehicles or injury/loss of life	High		Replace damaged guardrails
BAER critical value	Property - Trails	Fremont National Recreation Trail	Risk of washout, damage and loss of infrastrucure, and trail tread	Likely	Location of trail on steep slopes with moderate and high soil burn severity areas above, or within trail prism.	Moderate	Experience from prior fire indicates over $250,000 worth of damage directly, and indirect loss of economic benefit to communites	High	Full rebuild post fire, monitor and enhance drainage, fortify areas of hydrologic conern.	Monitor and enhance threatened areas with check dams, drainage dips, waterbars where necessary.
BAER critical value	Life and Safety	Campgrounds	Potential Loss of Life due to flashflood, or debris flow.	Possible	Location of Campgrounds within River Canyon and near Floodplain	Major	Debris flow and risk of flashflood would pose a series risk of injury or death to the public within the river corridor	High	Seasonal, hard closures to campgrounds, temprorary closures during high risk events	Install 'Angeles' style gates at each campground to keep public out of campgrounds.
BAER critical value	Life and Safety	Trailheads	Inadequate Signage of hazards within burn area	Possible	Popular trail with moderate usage, results in risk to life due to hazards within burn.	Major	Possible loss of life due to falling, rolling hazards, flashflooding within burn	High	Possible closure of trail, installation of warning signs.	Install warning signs at each trailhead, and access to trail within and adjacent to the burned area.
BAER critical value	Life and Safety	Hazard Trees (Campgrounds)	Potential loss of life due to falling hazards adjacent to recreation ares	Possible	Popular campgrounds with high usage, results in risk to life due to falling hazards around campgrounds.	Major	Possible loss of life due to falling trees and limbs around campgrounds.	High	Closure of campgrounds until hazards are mitigated.	Fall all hazard trees adjacent to the Campgrounds to mitigate risk to life and property.
BAER critical value	Life and Safety	Recreation Sites/FS-33 Road	Potential Risk of Life and Property due to access of FS-33 Road	Possible	Popular campgrounds with high usage, results in risk to life due to various hazards around recreation sites.	Major	Possible loss of life and damage to property due to hazards within the Chewuacan River cooridor	High	Informational Signage at beginning of 'River Road' (FS-33)	Install Informational Signage at the beginning of Mill Street/'River Road' (FS-33)
BAER critical value	Life and Safety	Hazard Trees (Trailheads)	Potential loss of life due to falling hazards adjacent to recreation areas	Possible	Moderate use trailheads, with overhead hazards risk property and public health	Major	Possible loss of life due to falling trees and limbs around trailheads, moderate risk to property damage.	High	Closure of trailheads until hazards are mitigated.	Fall all hazard trees adjacent to the trailheads to mitigate risk to life and property.
BAER critical value	Natural Resoures - Native Plants	Whitebark Pine	Loss of viable whitebark stands and cone production	Possible	Species/stands experience moderate to high burn intensity	Moderate	Stands that were not affected by the fire still occur within the fire perimeter	Intermediate		No treatment recommended
BAER critical value	Natural Resoures - Native Plants	Native and Sensitive Plant Communities	Introduction and spread of invasive plant species	Very Likely	Multiple species of invasive plants are present within the burned area, primarily on travel routes and areas of previous disturbance. These infestations are within or adjacent to burned areas and sensitive plant populations.	Moderate	The damage of invasive plant infestation would have considerable long term effects with eventual displacement of native plants, including sensitive plant species	Very High		All known invasive plant infestations regardless of soil burn severity will be targeted for treatment. Detection will focus on locations adjacent to known invasive plant sites, newly discovered invasive plant sites, along primary access roads, and in areas where suppression activities created bare ground
BAER critical value	Natural Resources - Other	Redband trout	Impacts to habitat from post-fire hillslope erosion	Likely	Proximity of habitat to post-fire hillslope erosion	Minor	The amount of habitat impacted in relation to available habitat upstream of fire area.	Low		No treatment recommended
BAER critical value	Cultural Resoures	Historic Structures	Impacts to structures from post-fire erosion	Unlikely	Proximity of resources to erosion-prone hillsides	Minor	Location of resources in relation to erosion-prone slopes	Very Low		No treatment recommended
BAER critical value	Cultural Resoures	Historic Artifact Scatters	Impacts to structures from post-fire erosion	Unlikely	Proximity of resources to erosion-prone hillsides	Minor	Location of resources in relation to erosion-prone slopes	Very Low		No treatment recommended
BAER critical value	Cultural Resoures	Prehistoric Lithic Scatters	Impacts to structures from post-fire erosion	Unlikely	Proximity of resources to erosion-prone hillsides	Minor	Location of resources in relation to erosion-prone slopes	Very Low		No treatment recommended
BAER critical value	Cultural Resoures	Prehistoric Rock Stacks	Impacts to structures from post-fire erosion	Unlikely	Proximity of resources to erosion-prone hillsides	Minor	Location of resources in relation to erosion-prone slopes	Very Low		No treatment recommended
BAER critical value	Property - Roads	Cattleguards	Potential vehicle accident	Likely	Cattleguard bases burned during fire	Moderate	Structural integrity of infrastructu compromised, increased threat to life/safety	High		Repair and replace cattleguard bases
BAER critical value	Property - Roads	3510-018 Road	Road drainage features not functioning properly	Possible	Increased runoff, sediment, debris from fire area	Major	Damage or loss of road prism on major access route to recreation sites	High		Storm proofing existing road ditches and culverts
BAER critical value	Property - Roads	USFS Roads 33, 3315, 3360, 3510-018, 019, 020	Increased runoff, sediment and debris on roads	Likely	Increased potential for runoff, sediment, debris impacting roads	Moderate	Damage or loss of road prism on major access route to recreation sites	High		Storm patrol/inspection and response
BAER critical value	Natural Resources - Soil and Water	Soil Productivity and Hydrologic Function	Loss of surface soil from post-fire wind and water erosion, short term decreases in infiltration	Likely	Increased post-fire susceptibility to erosion due to loss of cover	Moderate	Moderate to high erosion potentials	High	Straw bales and mulch applications in selected headwater drainages	No treatment recommended - no cost-effective treatment available


R. 17 E.
R. 17 E.
R. 18 E.
R. 19 E.
Burned Area Emergency Response
Brattain BAER
Fremont-Winema National Forest
Treatments
October 14, 2020
T. 33 S.
T. 34 S.
T. 35 S.
PS1 - Road Hazard Signs
PS2 - Closure Device Gates
PS3 - Trail Hazard Signs (22 total: at campgrounds, trailheads, fire perimter). Only THs depicted.
PS4 - Hazard Trees - Avery Pass
PS5 - Hazard Trees - Jones Crossing
R1 -Storm Proofing Roads
R2 -Storm Inspection and Response
R3 -Trail Drainage/Infrastructure
Brattain Fire Perimeter: 50,952 acres
RoadEvent - Operational Maintenance Level
5 - HIGH DEGREE OF USER COMFORT
4 - MODERATE DEGREE OF USER COMFORT
3 - SUITABLE FOR PASSENGER CARS
2 - HIGH CLEARANCE VEHICLES
R3 - Fremont National Recreation Trail
Trails
Ownership
U.S. Forest Service
Bureau of Land Management
Other Land, Including Private
Soil Burn Severity
Unburned
Low Severity
Moderate Severity
High Severity
0 0.5 1 2 3 4
Miles