Date of Report and Type: Initial 10/30/2017

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- ☒ 1. Funding request for estimated emergency stabilization funds
- ☐ 2. Accomplishment Report
- ☐ 3. No Treatment Recommendation

B. Type of Action

- ☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
- ☐ 2. Interim Report #___
  - ☐ Updating the initial funding request based on more accurate site data or design analysis
  - ☐ Status of accomplishments to date
- ☐ 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name:Alice Creek

B. Fire Number:MT-HLF-000179

C. State:Montana

D. County:Lewis and Clark

E. Region:01 - Northern

F. Forest:15 – Helena-Lewis and Clark

G. District: Lincoln and Rocky Mountain

H. Fire Incident Job Code:P1K7QW (0115)

I. Date Fire Started:07/22/2017

J. Date Fire Contained:10/09/2017

K. Suppression Cost:$12,983,450

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

1. **Dozer Fireline repaired** (miles): None completed yet
2. **Excavator Fireline repaired** (miles): None completed yet
3. **Other** (identify):

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
100301020202	Big Skunk Creek	9,230	107	1%
100301020103	Falls Creek	25,615	3,805	15%
100301020201	Green Creek	9,901	8,872	90%
170102030204	Lower Alice Creek	11,697	3,721	32%
170102030104	Lower Landers Fork	15,662	544	3%

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
100301020203	Middle Fork Dearborn	24,189	3,965	16%
170102030102	Middle Landers Fork	23,776	2,992	13%
170102030203	Upper Alice Creek	12,561	9,617	77%

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	20,106
BLM	494
STATE	640
PRIVATE	12,297
TOTAL	33,537

O. Vegetation Types: Douglas fir, ponderosa pine, lodgepole pine, sub alpine spruce, and areas of grassland/sagebrush vegetative communities.

P. Dominant Soils: Dominant families are Typic Cryoboralfs and Typic Cryochrepts. Soils are characterized by 20 to 60 inch deep, rocky profiles on steep slopes. Soil material is dominantly loamy-skeletal, and formed from metasedimentary residuum. Surface layers are loam-textured and in places, are formed in volcanic ash influenced loess with an average thickness of 2 to 7 inches.

Q. Geologic Types: The burn scar is underlain by argillites, siltites, and quartzites.

R. Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERRENIAL	39
INTERMITTENT/EPHEMERAL	68

S. Transportation System:
Trails: *National Forest (miles):* 20 *Other (miles):* 0
Roads: *National Forest (miles):* 8 *Other (miles):* 49

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	BLM	State	Private	Total	% within the Fire Perimeter
Low	2,840	147	141	3,203	6,331	19%
Moderate	8,773	131	348	3,371	12,623	38%
High	3,112	9	24	498	3,643	11%
Unburned	5,381	207	128	5,225	10,940	33%
Total	20,106	494	640	12,997	33,537	100%

B. Water-Repellent Soil (acres): 3,765

C. Soil Erosion Hazard Rating: Burned acreage with available data: 7,873 acres slight; 4,701 acres moderate; 1,469 acres severe

D. Erosion Potential (tons/acre):14.2 (24-month post-fire average)

E. Sediment Potential(cubic yards/square mile): 5,486 (24-month post-fire average)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period (years): 1-3 grass, 20-25 shrubs, 20-50 conifers

B. Design Chance of Success (percent): 80

C. Equivalent Design Recurrence Interval (years): 25

D. Design Storm Duration (hours): 6 hr. and 24 hr.*

E. Design Storm Magnitude (inches): 2 in and 3.0 in

F. Design Flow (cubic feet / second/ square mile): 142**

G. Estimated Reduction in Infiltration (percent): 83***

H. Adjusted Design Flow (cfs per square mile): 531

*Actual model input was an SCS Type II rainfall distribution, which captures shorter duration events. **Mean estimated post-fire normalized flow.***All acres burned under moderate and high severity were assumed to have sustained at least a partial reduction in infiltration.

PART V - SUMMARY OF ANALYSIS

Introduction/Background:

The Alice Creek Fire was a lightning caused ignition that was first detected on July 22, 2017. The Alice Creek Fire burned approximately 33,537 acres and was contained on October 9, 2017. The burned area is located along the Continental Divide on the Lincoln and Rocky Mountain Ranger Districts of the Helena-Lewis and Clark National Forest, approximately 15 Miles northeast of Lincoln, MT. The soil burn severity (SBS) map shows that approximately 49% of the burned area experienced high or moderate soil burn severity. The rest of the areas within the fire perimeter were either low soil burn severity or unburned. Increased post fire soil erosion and runoff are likely to occur within and downstream of the moderate and high soil burn severity areas and may result in localized flooding, scouring and/or deposition of materials.

Long duration (6+ hour), high intensity storms are the precipitation events of primary concern. Based on historic precipitation patterns, these types of events are likely to occur in the spring months following the fire. The risk of flooding and erosional events has increased as a result of the fire, creating hazardous conditions within and downstream of the burned area.

Recovery of pre-fire slope stability and watershed hydrologic response is dependent on many factors and typically occurs within 3-5 years following the fire. Recovery of high burn severity areas is slower because little or no vegetative ground cover remains, the potential for needle cast is low, and soils may be impacted by fire effects.

A. Describe Critical Values/Resources and Threats (narrative):

A list of values important to the Helena-Lewis and Clark National Forest was compiled by the BAER team during the assessment kickoff meeting. The BAER team subsequently evaluated this list of values through field assessment and associated analysis to determine the critical BAER values (FSM 2523.1 – Exhibit 01) that may be treated within the BAER program. The risk (FSM 2523.1 – Exhibit 02) to these critical values

has been assessed by the BAER team and is described below. A list of treatment numbers has been included below each critical value description to ensure tracking between values and treatments.

Table 5: 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):

a. Very high risk to travelers along routes (roads and trails) within and downstream of the burn scar due to an increased threat of flooding and debris flows from contiguous areas of high and moderate burn severity in watershed source areas. The probability of damage or loss is likely and the magnitude of consequences is major. (Treatments: T02, T03, T04, T05)

b. Very high risk to travelers along routes (roads and trails) within and downslope from hillslopes burned at a moderate to high severity due to an increased threat of falling trees, rocks, and other debris. The probability of damage or loss is likely and the magnitude of consequences is major. (Treatments: T05)

2. Property (P):

a. Very high risk to road infrastructure on the Alice Creek/293 road due to an increased post-fire watershed response to precipitation and runoff events that is expected to result in the loss of control of water, overwhelming of existing drainage features and erosion of the road prism. Approximately 5.5 miles of road are at risk. The probability of damage or loss is very likely and the magnitude of consequences is major. (Treatments: T02, T03, T07)

b. Very high risk to trail infrastructure throughout the burn scar due to an increased post-fire watershed response to precipitation and runoff events that is expected to result in the loss of control of water, overwhelming of existing drainage features and erosion of the trail prism. The burned area contains approximately 9.5 miles of trails at risk. The probability of damage or loss is likely and the magnitude of consequences is major. (Treatments: T04)

c. Low risk to numerous NFS and non-system spur roads road due to an increased post-fire watershed response to precipitation and runoff events that is expected to result in the loss of control of water, overwhelming of existing drainage features and erosion of the road prism. The probability of damage or loss is likely and the magnitude of consequences is minor. BAER treatments are not recommended.

d. Very low risk to Lincoln Telephone Company lines that are buried within the 293 road and 493 trail prisms. Threats include debris flow and prism erosion exposing and damaging the lines. The probability of damage or loss is unlikely and the magnitude of consequence is minor. BAER treatments are not recommended.

e. Very low risk to the Alice Creek Trailhead infrastructure due to increased watershed response to precipitation and runoff events that could result in flash flooding or debris flows. The probability of damage or loss is unlikely and the magnitude of consequence is minor.

3. Natural Resources (NR):

a. High risk to native plant communities due to the threat from the spread of noxious weeds and invasive plant species. Known noxious weed and invasive plant populations (spotted knapweed, Dalmatian toadflax, yellow toadflax, Canada thistle, musk thistle, bull thistle, common mullen, St. Johnswort and houndstongue) exist within and immediately adjacent to the burned area. The probability of damage or loss is likely and the magnitude of consequences is moderate. Treatments (T01)

b. Intermediate risk to Bull Trout habitat downstream of the burn scar in Landers Fork and Lower Alice Creek due to the threat of debris flows and sedimentation resulting in a loss of spawning and rearing habitat. The probability of damage or loss is possible and the magnitude of consequences is moderate. Implementation of T02 and T03 will reduce the potential for transportation system failures and channel sedimentation effects on Bull Trout habitat.

c. Intermediate risk to soil productivity and hydrologic function due to the threat of increased erosion and watershed response to precipitation events on areas that experienced moderate and high soil burn severity. The loss of ground cover and presence of hydrophobic soils will result in increased soil erosion during runoff producing events. The probability of damage or loss is possible and the magnitude of consequences is moderate. BAER treatments are not recommended.

d. Intermediate risk to Lynx habitat throughout the burn scar due to the consumption of multi-forest structure and subsequent loss of habitat. The probability of damage or loss is possible and the magnitude of consequences is moderate. BAER treatments are not recommended.

4. Cultural and Heritage Resources:

a. Very high risk to NRHP eligible cultural resources located in easily accessed slope positions that are threatened by increased post-fire runoff, erosion, and loss of pre-fire ground cover. This has resulted in a risk of loss of scientific value for irreplaceable artifacts due to the threats of mobilization of artifacts following transportation system drainage feature failure and hillslope erosion events, as well as potential artifact looting. The probability of damage or loss is very likely and the magnitude of consequences is major. (Treatments T06)

b. Low risk to NRHP eligible cultural resources present within the burn scar at slope positions that are less susceptible to increased post-fire erosion and looting. The probability of damage or loss is unlikely and the magnitude of consequences is moderate. BAER treatments are not recommended for these sites.

5. Other non-BAER Values:

a. There are numerous NFS values that are not BAER Critical Values in addition to non-NFS values potentially at risk from post-fire threats originating primarily on NFS lands. Treatments for these other values have not been identified. Activities to address the non-BAER Critical Values on NFS lands can be considered for discretionary program funding. It is recommended the non-NFS values potentially threatened by post-fire conditions be communicated to the appropriate parties through interagency coordination.

B. Emergency Treatment Objectives:

Mitigate and protect, to the extent possible, threats to personal injury or human life of forest visitors and Forest Service employees by raising awareness through posting hazard warning signs on roads and trails, improving stream crossings, and communicate hazard of flooding, debris flows, and rock fall. Provide safe access to the burned area for personnel implementing authorized BAER response actions and communicate threats to cooperating agencies.

Protect or minimize damage to NFS investments in road and trail infrastructure by installing drainage features capable of withstanding potential increased stream flows and/or debris flows. Minimize damage to key NFS travel routes.

Protect or mitigate potential post-fire impacts to critical natural resources within the burned area. Implement treatments that minimize threats to native and naturalized ecosystems by minimizing the potential for expansion of non-native invasive species (NNIS) into the burned area; minimize expected invasion of NNIS within and adjacent to the area where soils and vegetation was disturbed as a result of fire suppression activities.

Mitigate potential post-fire impacts to cultural resources to prevent irretrievable loss of archaeological assets.

Evaluate authorized BAER treatments and existing infrastructure to determine effectiveness in post-fire flow conditions. Monitor weeds for effectiveness of BAER treatments and to identify need for future treatments.

Assist cooperators, other local, State, and Federal agencies with the interpretation of the assessment findings to identify and address potential post-fire impacts to communities and residences, domestic water supplies, public utilities (including power lines, roads, and other infrastructure).

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land 80%
Roads/Trails 70%
Channel N/A
Protection/Safety 80%

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): (Replacement cost of Roads = $40,000*5.5 miles) + (Replacement cost of trails = $15,000*9.47 miles) + (Weeds non-BAER treatment cost = $63,287) = **$427,337**

F. Cost of Selected Alternative (Including Loss): (Roads treatment = $81,771) + (Roads loss = .20*$81,771) + (Trails treatment = $26,139) + (Trails loss = .3*$26,139) + (Weeds BAER treatment cost = $25,225) + (Weeds non-BAER treatment cost = $9,622) + (Warning signs = $3,345) + (Cultural Resource Protection = $20,758) + (Implementation coordination/consultation = $13,800) = **$204,856**

F. Skills Represented on Burned-Area Survey Team:

☒ Archaeology	☐ Botany	☐ Ecology	☐ Economist	☒ Engineering
☒ Fisheries	☐ Forestry	☒ GIS	☒ Hydrology	☒ Range
☒ Recreation	☒ Soils	☒ Team Lead	☐ Wildlife	☐
☐	☐	☐	☐	☐

Team Leader: Brendan Waterman

Email:bwaterman@fs.fed.us **Phone:**801-999-2175

Forest BAER Coordinator: Wayne Green
Email:wgreen@fs.fed.us **Phone:**406-791-7740

Core Team Members:

Table 7: BAER Team Members by Skill

Skill	Team Member Name
Team Lead(s)	Brendan Waterman
Archaeology	Mark Bodily, Jen Ryan
Range/Weeds	Megan Dawson
Engineering	Chris Martin, Mary Smith
Fisheries	Alli Russell
GIS	Laura Burns
Hydrology	Kate Condon
Recreation	Forest Moulton
Soils	Alex Rozin, Allison Torres

H. Treatment Narrative:

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

T01 – Early Detection and Rapid Response

General Description:

Invasive plants and weed assessments will be conducted in FY2018 for Early Detection and Rapid Response (EDRR) on any new infestation located within the fire perimeter. Treatments will occur at proper phenology of each species to ensure maximum control.

Because noxious weeds are scattered throughout the burn area, there is a high risk for new infestations within the fire perimeter to become established due to the disturbance caused by the wildfire and the suppression equipment used to fight the fire. There are known infestations of spotted knapweed, Dalmatian toadflax, yellow toadflax, Canada thistle, musk thistle, bull thistle, common mullen, St. Johnswort and houndstongue within the burn perimeter.

Assess the 325 acres of Forest Service land within the Alice Creek Fire for new infestations of noxious weeds. Invasive and noxious weed assessments from FY2017 will establish baseline data to be tracked through the Lincoln Ranger District GIS databases and will be used to determine the priority, amount and intensity of control for new infestations of noxious weeds located within the burn area for FY2018. Spotted knapweed, Dalmatian toadflax and yellow toadflax are the primary species of concern to invade the burn.

The priority areas proposed for noxious weed/invasive species monitoring and EDRR are very susceptible to invasion due to fire suppression activities and existing populations of noxious weeds are now adjacent to non-infested areas that are devoid of surface vegetation. A program of early detection and rapid response to control new infestations is cost effective because it helps to prevent new weed and invasive species invasions from becoming large and too expensive to control.

Location/Suitable Sites:

Assess areas that have a high potential for weed/invasive species establishment. Critical areas include roads, dozer lines, trails, moderate to high soil burn severity areas, and burned areas where suppression vehicles and equipment traveled through known noxious weed plant species populations.

Treatment will occur on 285 acres of inventoried noxious weeds that are within the area of high to moderate soil severity and 40 acres of linear features that were disturbed by suppression resources. The noxious weeds of highest concern in these areas are spotted knapweed, Dalmatian toadflax and yellow toadflax. These infestations have been treated in previous years and have been reduced to minor amounts within the know boundaries of the infestations. Noxious weeds are concentrated on road corridors, the trail heads/trails and the land within the Alice Creek drainage.

Design/Construction Specifications:

Conduct short-term monitoring in FY2018 using early detection and rapid response (EDRR) assessment/monitoring of noxious weed plant species infestations within the burned area. Monitoring will be done with crews able to treat infestations located during monitoring.

Inventory/assessment, map new noxious weed infestations within burned area using GPS technology and upload into the Helena-Lewis & Clark NF GIS Noxious Weeds database.

Chemical treatments using pickups, UTVs and backpack spray units will be used on any noxious weeds located within the fire on public lands.

Purpose of Treatment:

This treatment is necessary to prevent the establishment and to control the spread of new noxious weeds species into the burned area. EDRR will be used to prevent new noxious weed infestations from becoming established and to ensure the natural recovery of the native perennial grasses and forbs is not affected by the establishment of noxious weeds. This treatment will also ensure the ecological indicators (Soil Stability, Hydrologic Function, and Biotic Integrity) are functioning properly during the natural recovery period on lands administered by the FS. Chemical treatment of new and existing noxious weed infestations will reduce the likelihood of their spread to disturbed areas and help to re-establish high quality wildlife habitat within the burn.

The fire is a disturbance that provides a receptive avenue for the spread of noxious weeds. Noxious weeds and non-native invasive species are a concern for biodiversity. Weed invasion is a potentially threatening process leading to competition and habitat modification. Plant communities and native species likely to be at greatest risk from weed invasion are those which occupy weed-prone habitats that have experienced moderate to high burn severity and/or were disturbed by suppression resources. This treatment mitigates this risk by allowing for an early means of detecting new noxious weed occurrences and a quick response for control.

Table 8: T01 - Weeds EDRR Treatment Types and Cost

TREATMENT DESCRIPTION	TARGET WEED SPECIES	PRESCRIPTION	ESTIMATED ACRES	COST PER ACRE	COST	TIMING
EDRR - SUPPRESSION IMPACTS	spotted knapweed, Dalmatian toadflax and yellow toadflax	Monitor dozerlines, roads, trails, handlines heavily impacted by suppression resources. Treat target	40	73.25 – Includes: GS7 for 5 Days; GS5 for 10 Days; 4-wheel Drive Pickup (300 miles)	$2,930	FY18

TREATMENT DESCRIPTION	TARGET WEED SPECIES	PRESCRIPTION	ESTIMATED ACRES	COST PER ACRE	COST	TIMING
		weeds species upon detection				
EDRR – IN HIGH PRIORTY NATURAL COMMUNITIES	spotted knapweed, Dalmatian toadflax and yellow toadflax	Herbicide application by contract crew on moderate and high SBS sites where weeds are known to be present in minor amounts	285	78.23 – Includes: UTV Spraying @ 26/acre x 205 acres; Backpack Spraying @ 123/acre x 80 acres; Herbicide @ 25/acre x 285 acres	$22,295	FY18

Channel Treatments: None proposed

Roads and Trail Treatments:

T02 - Road Drainage Maintenance

General Description:

The roads identified for treatment were found to have issues with their drainage system due to the expected increase in post-fire watershed response to precipitation events. Road systems are necessary for administrative use, recreation, and other uses and represent a significant financial investment. Implementation of the treatments protects those investments and provides continued access for a variety of uses. The potential monetary cost to repair roads that would be damaged by post fire flows if left untreated significantly exceeds the cost of the treatments.

The minimal treatments required to remedy these issues are:

Drain Dips (with or without armor) – Roadway dips modify the road drainage by altering the template and allowing surface flows to run off the road to prevent any excessive erosion of the surface. The armor consisting of rip rap is placed where runoff could possibly cause erosion to the road surface and fillslope.

Culvert Installation – New culverts will be installed in ditch lines on insloped roads that have insufficient relief culverts to prevent scouring of the ditch bottoms and resultant sediment delivery to streams during post fire runoff events. Catchment basins will be constructed as necessary, and culvert inlets/outlets will be armored in areas to prevent erosion. Road surface and approaches will be armored with aggregate to prevent erosion due to runoff or overtopping.

Culvert Cleaning – Culvert cleaning includes the cleanout of catchment basins, inlets and outlets. The cleanout of catchment-basins below the inlet of the culvert is done to capture the sediment transported from the channel or ditch. Capturing the sediment will help in preventing the culvert inlet from being partially plugged or completely buried. Culvert outlet cleanout is done to remove any material that would impede the flow of water through the outlet of the culvert.

Replacing Damaged Culvert Sections – Culverts with damaged inlets will not function well enough to pass increased run-off and debris caused by post-fire conditions. By cutting off damaged sections of pipe and banding on new sections the hydraulic function of the pipes will be restored and the risk of plugging or overtopping is greatly reduced.

Ditch Cleaning – The cleanout of drainage ditches is required to remove any debris that may deflect the flow out of the ditch and also to ensure the flow reaches the outflow structure.

Corrugated Inlet Guard – Installation of a corrugated inlet guard protects the inlet of the culvert from becoming filled with sluff material coming off of the burned cut bank which is now susceptible to accelerated rates of hillslope erosion.

Road Template Reshaping – Road surfaces that channel water down the roadway need to be reshaped to shed the increased flows quickly before additional road surface erosion occurs. This will be accomplished by a combination of insloping and removal of berm where water will drain off the road surface.

Hazard Tree Removal – Hazard tree removal includes the removal of any hazard trees in the immediate vicinity of specific work area in which workers are stationary for a period of time (i.e. culvert installation

Location/Suitable Sites: Refer to BAER Treatment Map.

Design/Construction Specifications:

Drain Dips (with or without armor) – Construct rolling dips per Forest Service standards. Place rip rap across the roadway and on the fill slopes where potential runoff can occur if flow was to overtop the roadway from a plugged culvert or excessive runoff.

Culvert Installation – Install culverts in locations as directed by the Engineer. Culverts shall have sufficient slope to allow water to flow while keeping the velocities to a minimum. Catchment-basins shall be constructed as necessary at the inlets, and armored with riprap to prevent erosion of slopes. Roadway over the new culvert and on the approaches shall be armored with 4" lift of aggregate.

Culvert Cleaning – Remove any blockages from inlet, outlet and inside barrel. Straighten bent inlets. Catchment-basins shall have all existing silt and debris removed and either hauled away or spread out such that the material cannot reenter the drainage structure during a runoff event.

Replacing Damaged Culvert Sections – Cut pipe immediately beyond the damaged section and band on new pipe using either standard or dimple bands. Backfill and compact according to Forest Service specifications.

Ditch Cleaning – All drain ditches along the length of the roads shall have all existing silt and debris removed and either hauled away or spread out such that the material cannot reenter the drainage structure during a runoff event.

Corrugated Inlet Guard – Installation shall be completed in a manner that allows catchment basin to be cleaned by backhoe.

Template Reshape - Reshape the road surface to provide positive drainage to ditches and culverts. Remove berm where water will flow off roadbed, repair large ruts in the middle of the roadbed that channel water downgrade. Inslope and Outslope roadbed to provide drainage of surface water as directed by the Engineer.

Hazard trees shall be removed as directed by the Engineer, as to create a safe work environment at each work site

Purpose of Treatment:

The purpose of this treatment is to mitigate additional risk to Human Life and Safety, property, emergency ingress/egress, loss of access to visitors and local residents, and impacts to water quality, riparian, and bull trout (listed species). Approx. 7.7 miles of Forest Roads and two (2) concrete ford crossings are located within the fire perimeter, representing a significant financial property investment. Adjacent community, Lincoln, and numerous in-holdings, are located within or adjacent to the fire perimeter, the road and crossings provide critical access needs and emergency ingress/egress to the public and administrative personnel.

Increased runoff resulting from burned slopes and stream channels which are adjacent to roads will cause damage to roadway surfaces, drainage structures, and debris flows and threats to Human Life and Safety unless treatments are implemented to handle or minimize the effects from the post fire flows.

Table 9: T02 - Road Drainage Maintenance Treatment Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
CONTRACT PREPARATION	Each	2,842	1	$2,842
CONTRACT ADMINISTRATION	Each	2,842	1	$2,842
ACQUISITION MANAGEMENT	Each	1,421	1	$1,421
COR PER DIEM	Day	164	10	$1,640
COR FLEET	Mile	.266	1200	$319
CULVERT CLEANING	Each	95	17	$1,615
ROAD TEMPLATE RESHAPING/DITCH CLEANING	Mile	800	5.5	$4,400
CORRUGATED INLET GUARD	Each	100	1	$100
SMALLER DRAIN DIPS	Each	300	6	$1,800
NEW CULVERT INSTALL	Each	4,800	4	$19,200
REPLACE DAMAGED 18" CULVERT SECTION	Each	500	1	$500
HAZARD TREE REMOVAL AT WORK SITES	Each	100	8	$800

T03 – Culvert Replacement

General Description:

The treatment is for the replacement of existing culverts at stream crossings on Forest Roads. Following post-fire streamflow analysis, the pipe crossings listed below were identified as being undersized due to the anticipated increase in flows from the burned watersheds above the crossings and pose an unacceptable risk to the road infrastructure and other critical values. These culverts will be removed and upsized in order to pass the increased flows that are anticipated from future storm events.

Replacing these undersized culverts reduces the risk of pipe failure, road fill loss, and associated sediment delivery. The culverts are located on roads that have high to moderate traffic volumes, provide emergency ingress and egress and/or critical access to the Forest. The costs of these culvert replacements at these locations are cost effective as their failures would cause significant damage to adjacent road prisms, potentially unacceptable risk to human life and safety, and other critical values including nearby NRHP eligible cultural resources.

An evaluation of lesser cost treatments (i.e. armored fords/critical armored dips) at the locations identified for culvert upsizing was conducted by the BAER team. It was determined that larger culverts were appropriate at these locations for a number of reasons. The selected locations have channels at elevations well below the road surface. If dips or fords were to be installed, the disturbance required to construct approaches and departures would result in a larger disturbance without necessarily reducing the threats to both adjacent cultural sites and the road prism, as well as numerous non-BAER values.

Location/Suitable Sites: Refer to BAER Treatment Map.

Design/Construction Specifications:

Forest Service personnel will monitor and direct the work. The design and specifications written will be site specific for each culvert installation. Contract specifications shall conform to FP14-Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects and Forest Service Supplements.

Replacement of culverts shall include setting up traffic control, excavating and removing the existing culvert off of Forest Service lands, salvaging on-site aggregate, hauling away any excess excavated material to an approved waste site, and reconstructing the road prism.

Inlets and adjacent fill slopes of specified culverts shall be armored with riprap to prevent erosion of slopes.

Purpose of Treatment:

The purpose of this treatment is to reduce the very high risk of damage to the highest priority stream crossing structures on the Alice Creek Road. Roads within and downstream of the Alice Creek Fire contain numerous drainage structures that cross intermittent and perennial streams located in watersheds that have a moderate to high burn severity. These streams now have the potential for increased runoff and debris flows. These increases in flows to the existing crossings may result in plugging of culverts or exceeding their maximum flow capacity. Increased runoff resulting from burned slopes and stream channels which are adjacent to roads may cause damage to roadway surfaces, drainage structures, or block roads with debris. In certain cases, the inadequately sized culverts pose unacceptable risks to property, water quality, and human life and safety, it is beneficial and appropriate to remove and upsize the pipe.

In the five locations identified in Table 10, the inadequately sized culverts pose an unacceptable risk to the highest priority road infrastructure affected by the burn scar and other non-critical BAER values (impacts to water quality and riparian areas from the additional erosion, primarily from the road fill slopes).

Lower priority crossings were identified during the BAER survey, however treatments were not recommended due to an acceptable level of risk (low) to the existing infrastructure. These sites included two concrete fords on intermittent reaches in Wildcat Gulch and Alice Creek that are capable of passing post-fire design flows, two adequately sized NFS road culverts in the Alice Creek Road on Tom's Gulch and an unnamed tributary to Alice Creek, and additional smaller culverts on non-system spur roads with lower amounts of burn severity in the watershed source area. While these crossings have not been identified for storm inspection and response (T07) due to the low risk rating, patrollers will be able to easily see these crossings while responding to the portions of the Alice Creek road that were found to have a high BAER risk rating.

Table 10 lists the highest priority culverts that are undersized and are to be removed and replaced under this treatment. The road identified to require a culvert replacement has been designated as a Maintenance Level 3.

Table 10: T03 – Culvert Replacement Data

LOCATION	Existing	Replacement Size	Flow Regime	Drainage Area (ac)	% Burned Mod+High	Post-fire Failure Event of Existing Pipe	Cost of Repair* (replacement in-kind)	BAER Cost of Replacement
FR #293 MP 7.27	18"x36'	24"x 36'	Ephemeral	71	86	Q2	$9,520 + irreparable loss of scientific data	$2,880
FR #293 MP 7.42	29"x18"x 44'	58"x36" x 44' (pipe arch)	Perennial	213	79	Q2	$12,460 + irreparable loss of scientific data	$6,030
FR #293 MP 8.53	24" x 32'	58"x36"x32' (pipe arch)	Perennial	440	98	Q2	$9,560 + irreparable loss of scientific data	$3,840
FR#293 MP 9.33	18" x 24'	50"x31" x 24' (pipe arch)	Perennial	389	96	Q2	$9,430 + irreparable loss of scientific data	$3,270
FR #293 MP 9.74	18" x 26'	36"x22" x 26' (pipe arch)	Perennial	46	91	Q2	$9,570 + irreparable loss of scientific data	$2,600

*Monetary cost of repair includes emergency mobilization and road closure, road fill repair, structure replacement in-kind, surfacing, and armoring. Flow regime data has been added to this table by request, but should not be a determining factor in the approval of these structures. The need for the upsized culverts is to pass **storm response flows** during a **damaging event**.

There is no designated bull trout critical habitat within the burned reaches of Alice Creek, although, it has been documented that bull trout may occupy the lower reaches of Alice in very low numbers. It is thought that these bull trout are strays from a more intact local population from Landers Fork/Copper Creek. Additionally, the Blackfoot River, which is designated bull trout Critical Habitat, has the potential to be effected from downstream sedimentation even though it is well below the fire perimeter.

FSR 293 provides recreational access to campsites, trails, and extremely popular hunting areas.

Natural recovery is expected within 3-5 years but more immediate risk of road damage is considerable in the first year even under a 50% recurrence interval rain event (Q2). Armoring of fill and addition of drainage dips are recommended in order to plan for overtopping events in the first year post-fire. Elevated peak flows are expected to persist for at least several years, particularly in smaller, steeper draws that burned at higher severity. Upsizing of stream culverts and installation of additional ditch relief (T02) is recommended in these locations.

The Alice Creek and Wildcat Gulch armored concrete-slab ford crossings are located in a wide valley bottom and are in good condition with a low approach angle, and therefore no additional treatment is recommended at these sites. Arched pipe with equivalent capacities were chosen in place of traditional size pipes (i.e. 18", 24") for locations in which there was lack of sufficient cover, so that anticipated flows (Q2) could still be accommodated. A minimal amount of surfacing is included over pipes for multiple reasons – primarily to protect the road surface in the event of overtopping. Where surfacing is required, existing material will be salvaged to minimize importation of new material.

The existing pipes that are recommended for upgrade are currently undersized for the post-fire Q2 (refer to table 10). The design upgrade dimensions were selected by considering post-fire flow predictions under events ranging from the Q2 to the Q25, the existing pre-fire bankfull channel dimensions as a minimum starting point, and dimensions of the existing road prism (to minimize the need for additional road lift). In several cases, overtopping is planned for by armoring inlets and roadfill and adding drainage dips to direct flows.

These culvert replacements are expected to be installed before the first damaging event.

Table 11: T03 – Culvert Replacement Treatment Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
CONTRACT PREPARATION	Each	1,862	1	$1,862
CONTRACT ADMINISTRATION	Each	1,862	1	$1,862
ACQUISITION MANAGEMENT	Each	931	1	$931
COR PER DIEM	Day	164	20	$3,280
COR FLEET	Mile	.265	2400	$637
24" CMP CULVERT INSTALLED	Lineal Foot	80	36	$2,880
58"X36" CMP CULVERT INSTALLED	Lineal Foot	120	76	$9,120
50"X31" CMP CULVERT INSTALLED	Lineal Foot	105	24	$2,520
36"X24" CMP CULVERT INSTALLED	Lineal Foot	100	26	$2,600
RIPRAP ARMORING INLETS/FILL SLOPES	CY	150	10	$1,500

T04 – Trail Drainage Restoration /Tread Stabilization

General Description:

Treatment would provide immediate protection to the trail system. Trails may capture increased surface runoff caused by the lack of effective ground cover to inhibit excessive flow. Flows will intercept system trails and cause severe tread erosion and initiation of soil rutting adjacent to the trails. The trail system would be improved to withstand increased runoff, protecting property, workers and users.

Location/Suitable Sites:

Trails located within the Alice Creek fire perimeter include 5 National Forest System Trails (NFST), which were impacted for a total of 19.57 miles. Of the miles impacted, 9.83 miles are within the moderate to high burn severity. 9.47 miles of trail would be treated. The managed uses for these trail systems are Hiker and Pack and Saddle. Priority trails to be worked on include those that are within or below moderate to high soil burn severity slopes and those with sustained steep grades that have inadequate drainage. Refer to BAER Treatment Map for specific locations

Design/Construction Specifications:

Install waterbars depending on steepness of trail (18 per mile) in areas of moderate or high severity.

Install waterbars in sections of trail that have continuous gradient for a length of greater than 50 feet and are either insloped (cupped) or show evidence of routing water (rills, gullies).

Construct tread retention structures where necessary and downslope, stabilizing vegetation has been consumed.

Hazards within the trail route that restrict access to work sites will be removed (rocks, trees).

Clean existing water bars.

Removal of identified hazards surrounding work site locations.

If the area poses a large safety risk then the work will be delayed until safety risk is stabilized.

Purpose of Treatment:

Trails within the Alice Creek Fire are located within and downslope of moderate to high soil burn severity slopes. Predicted increased runoff due to water repellant soils and lack of effective ground cover will be intercepted and captured by trails, leading to severe trail tread erosion that will render the trails unusable or dangerous to use. Hikers and stock parties are the primary users. Additional hazards caused by the fire such as hazard trees and rock fall will create unsafe conditions at trail access points and worksites along the trails to workers.

The fire has burned adjacent slopes above and along the trail routes that will result in runoff that will damage the system substantially enough to prevent future use of the trails. The increased erosional risk to trails can be mitigated with drainage structures, tread stabilization, and scheduled drainage maintenance. The treatments directly mitigate these increased threats in that adequate trail tread drainage will pass accelerated erosional runoff off the tread and prevent tread erosion, and fire-generated hazards such as hazard trees and rock fall will be removed.

These treatments would prevent unacceptable erosion and loss of trail investment and minimize degradation to water quality. Treatments ensure drainage structures are sufficient to divert water effectively given increased runoff and increased sediment movement. Treatments will protect property and watershed values. Treatment will prevent injury and remove risk to workers and users.

Table 12: T04 – Trail Drainage Restoration Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
REC SPECIALIST	Day	220	5	$1,100
FORCE ACCOUNT CREW	Day	700	22	$15,400
MINI-EXCAVATOR	Day	900	10	$9,000
MISCELLANEOUS EXPENSES (SAW GAS, TOOL MAINTENANCE, ETC	Each	191	1	$191
FIELD PER DIEM FOR CREW	Day	$28	16	$448

Protection/Safety Treatments:

T05 – Warning Signs

General Description:

Burned area signs warn the public identifying of the possible dangers associated with a burned area on major entry points into the burned area and developed recreation sites. They shall contain language specifying items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods.

Location/Suitable Sites: Refer to BAER Treatment Map for the spatial locations.

Design/Construction Specifications:

Burned Area warning signs along the roads shall consist of 0.08" aluminum, sheeted in high intensity Orange with black letters. The lettering shall be a minimum of 5 inches in height and all remaining lettering shall be a minimum of 3.5 inches in height.

Burned Area warning signs at trail access points shall consist of 0.08" aluminum, Orange with black letters. The WARNING lettering shall be a minimum of 2 inches in height and all remaining lettering shall be a minimum of 1.5 inches in height.

Purpose of Treatment:

The purpose of the Burned Area signs is to provide safety to the motorists, trail users and campers of upcoming dangers and/or objects. The risk to human life and safety is increased by post fire effects such as falling trees, rolling rocks, and flash floods. The need to warn the public of these hazards with which they be totally unfamiliar is a direct result of the fire.

Table 13: T05-Warning Signs Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
GS-09 (FOR SIGN INVENTORY/DESIGN)	Days	300	2	$600
GS-11 (FOR PROJECT REVIEW AND INSPECTION)	Days	350	1	$350
2-GS-04 OR 05 (SIGN INSTALLATION) CREW	Days	300	4	$1200
BURNED AREA WARNING SIGNS, MAJOR ENTRY POINTS	Each	300	1	$300
BURNED AREA WARNING SIGNS, DEVELOPED REC. SITES AND TRAILS	Each	100	7	$700
VEHICLES FOR INSTALL/MONITORING	Miles	0.325	600	$195

T06 – Cultural Resource Protection

General Description:

There are a total of nine previously identified cultural resources sites in the Alice Creek Fire, of which five (24LC0089/24LC1051, 24LC0250, 4LC0416, 24LC1015, and 24LC1017) are at high or very high risk from post fire erosion and looting impacts. These are located along the Alice Creek Drainage up to the top of Lewis & Clark Pass. Treatment includes lop and scatter of local woody debris to hide artifact concentration and to reduce the risk of erosion. Waterbars will also be used to reduce erosion in trails and two-track roads that cut through sites.

This lop and scatter and waterbar treatments are consistent with standard erosion protection treatments used by the Forest for erosion purposes. The treatment monitoring and documenting site conditions is also consistent with FS Heritage Program direction. These treatments are less expensive and more acceptable to local Native American Tribes than other measures such as site excavation and data recovery.

Location/Suitable Sites:

Refer to the 2017 Alice Creek Fire_BAER_Heritage Sites Poly Map

Design/Construction Specifications:

Install non-ground disturbing waterbars (ie. straw wattle, log, rock) on trail and two-track road that runs through site 24LC0250. Waterbars should be spaced between 50-75 feet apart from each

other and direct water out of the two-track road and trail ruts. Lop and scatter of smaller local woody debris needs to be scattered over artifact concentration on five sites where these are located near dispersed camping areas or hiking trails in order to conceal those artifacts and protect them from looting. Lop and scatter of smaller local woody debris needs to be scattered over those portions of sites that are at risk from erosion (i.e. 24LC0089/24LC1051). Monitoring of treatment effectiveness and consultation is also necessary for the treatments.

Purpose of Treatment:

The purpose of treatments are to reduce or mitigate the risk of archeological looting, erosion, runoff, and flash flooding on significant cultural resources in the Alice Creek Fire that can damage or destroy site integrity. Scientific and cultural value of archeological sites determined eligible for listing on the National Register of Historic Places and that are of importance to the various local Native American Tribes. The fire burned the vegetation on these sites exposing artifacts and increasing the risk of post fire erosion. Treatments are designed to reduce the risk of looting of artifacts and erosion damage to archaeological sites and thus maintain site integrity.

Table 14: T06-Cultural Resource Protection Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
GS-12 ARCHAEOLOGIST	Day	453.67	4	$907
GS-09 ARCHAEOLOGIST	Day	259.88	5	$1,299
10-PERSON FIRE CREW FOR IMPLEMENTATION	Day	3500	5	$17,500
STRAW WATTLES/STAKES	Lump	52	1	$52
OVERHEAD VEHICLES	Miles	0.30	1000	$300
IMPLEMENTATION CREW VEHICLES	Miles	.50	1400	$700

T07 – Storm Inspection and Response

General Description:

The patrols are used to identify those road problems such as plugged culverts and washed out roads and to clear, clean, and/or block those roads that have received damage. The storm patrollers shall have access to at least a backhoe and dump truck that can be used when a drainage culvert is plugged or soon to be plugged, and to repair roads which are exhibiting severe surface erosion. Early detection of damaging events reduces monetary loss and the threat to human life and safety. The cost of the treatment is reasonable considering that an average mile of road construction costs $40,000 (7.7 miles in fire perimeter). In addition, the protection of human life is a critical value and the loss of even one life and/or injury is far more than the cost of the treatment.

Location/Suitable Sites:

NFSR 293 (Alice Creek Road)

Design/Construction Specifications:

FS personnel will direct the work.

Immediately upon receiving heavy rain and during significant spring snowmelt the FS will send out patrols to identify road hazard conditions – obstructions such as rocks, sediment, washouts, and plugged culverts, so the problems can be corrected before they worsen or jeopardize forest road users.

The road patrols shall bring in heavy equipment necessary to mechanically remove any obstructions from the roads and culvert inlets and catch basins where necessary. All excess material and debris removed from the drainage system shall be placed outside of the bank-full stream channel where it cannot re-enter the stream.

Purpose of Treatment:

Human Life and Safety (Public Safety of Forest Visitors and administrative personnel), Property (Forest Roads and Bridges), Emergency ingress/egress. Indirectly, debris that is not removed immediately could cause more substantial loss of infrastructure and associated sediment/debris that in turn causes an impact to Water Quality and Riparian areas.

Roads within the Alice Creek Fire contain drainage structures that cross primarily intermittent streams located in watersheds that have a moderate to high burn severity. These streams now have the potential for increased runoff and debris flows. These increases in flows pose a threat to the existing crossings which may result in plugging culverts or exceeding their maximum flow capacity. If these flows plug drainage structures, the result will likely be additional erosion and debris further down the drainage due to the failures of the fill slopes of the roads.

There is an immediate and future threat to travelers along these roads within the burned area due to the increased potential for rolling and falling rock from burned slopes and increased potential for falling trees, flash floods and mudflows. The post-fire flooding will threaten to interrupt access to visitors, local residents, and Forest Service personnel who are implementing treatments. With the loss of vegetation, normal storm frequencies and magnitudes can more easily initiate rill and gully erosion on the slopes and it is likely that this runoff will cover the roads or cause washouts. These events make for hazardous access along steep slopes and put the safety of Forest visitors and administrative personnel at risk.

The purpose of the monitoring is to evaluate the condition of routes for motorized access and to identify and implement additional work needed to maintain and/or repair damage to road surfaces and flow conveyance structures (culverts, bridges) across roads in order to provide safe access across FS lands. Engineering and District personnel will survey the roads within the fire perimeter after high-intensity summer thunderstorms and spring snow-melt. Survey will inspect road surface condition, ditch erosion, and culverts/inlet basins for capacity to accommodate runoff flows.

Increased runoff resulting from burned slopes and stream channels which are adjacent to roads will likely cause damage to roadway surfaces, drainage structures, or block roads with debris slides. Storm patrol during post fire runoff events provides early discovery of damaging processes and the opportunity to respond with equipment to minimize damage to property and the personnel to secure the scene to protect the public.

Table 15: T07-Storm Inspections and Response Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
GS-11 OVERHEAD	Day	350	6	$2,100
BACKHOE	Day	880	5	$4,400
EXCAVATOR	Day	1200	5	$6,000

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
DUMP TRUCK	Day	920	5	$4,600

BAER Evaluation

T08 – Implementation Coordination

Associated activities obligated under ID-FSM2520-2017-1 need to be considered in the BAER funding request when emergency response actions are authorized. These are accumulated tasks above the normal program of work and generally not accounted for in out-year program planning. Because implementation of approved BAER response actions trigger these required tasks and the unit's allocated budget does not account for these obligations, BAER funding is the appropriate authorization to ensure this coordination and consultation is completed.

Table 16: T08-Coordination and Consultation Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
INTERAGENCY COORDINATION: FOREST BAER COORDINATOR (GS-12)	Days	450	3	$1,350
INTERAGENCY COORDINATION: BAER IMPLEMENTATION SPECIALIST (GS-11)	Days	650	15	$9,750
IMPLEMENTATION TRACKING & REPORTING FOREST BAER COORDINATOR (GS-12)	Days	450	4	$1,800
EMERGENCY CONSULTATION: FOREST FISH BIOLOGIST (GS-12)	Days	450	2	$900

I. Monitoring Narrative:
(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

T01-Early Detection Rapid Response: Treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives and to inventory for new invaders. Weed specialist/technicians will visit chemically treated sites after treatment; this is especially important for weed populations that are sprayed to ensure efficacy of herbicide application. Initiate follow-up treatments if additional non-native species or new infestations are discovered. Control will be considered successful upon determination that all noxious weeds have been controlled have not spread beyond their pre-fire locations.

T02-Road Drainage Maintenance: Road drainage maintenace treatment effectiveness will be monitored during storm patrol activities (T07).

T03-Culvert Replacements: Monitoring will be conducted by district personnel and/or members of the Forest Engineering staff. Monitoring will consist of visiting the site after high intensity thunderstorms and/or after spring run off to ensure the replacements culverts are functioning as designed. In addition, photos will be taken during the site visits and a photo log will be established.

T04-Trail Drainage Reconstruction: The drainage improvements will be inspected throughout the year after implementation to monitor the effectiveness of water run-off and the trail drainage condition.

T05-Warning Signs: District and SO personnel will monitor or check signs after events to ensure that they will be effective for the future.

T06-Cultural Resource Protection: At least two times during the following field season, these sites need to be monitored by an archaeologist to determine treatment effectiveness and document any change in site condition. Monitoring will also be used to determine if additional management action is required to protect these sites.

T07-Storm Inspection and Response: Monitor the storm-patrol response time to ensure objectives are being met. Identify the type of storm event that mobilizes material.

T08-Implementation Coordination: Forest BAER Coordinator will file annual accomplishment report.

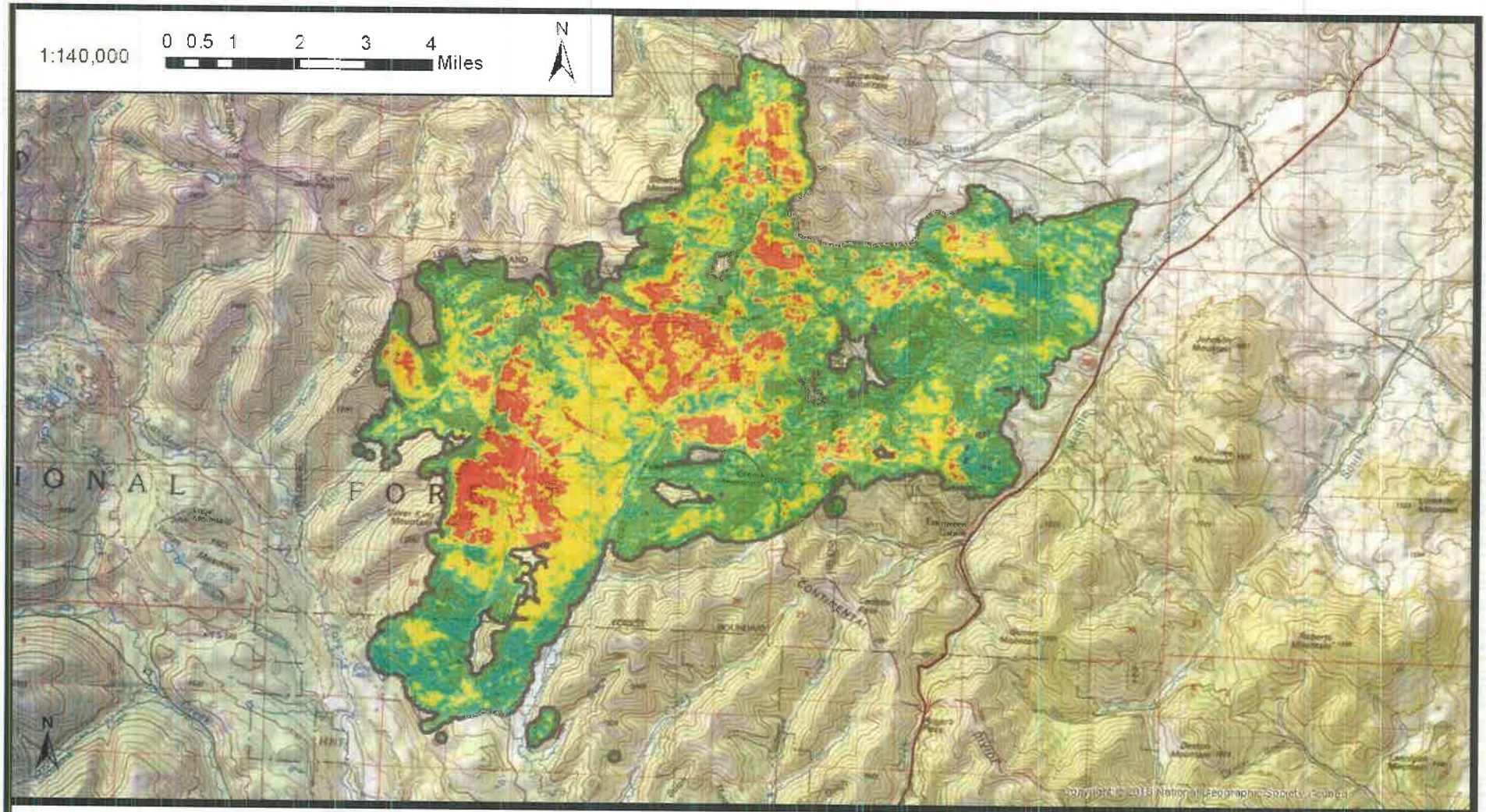
PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

		NFS Lands				Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
T01-EDRR	Acre	78	325	$25,225	$0		$0		$0	$25,225
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$25,225	$0		$0		$0	$25,225
B. Channel Treatments										
None Proposed				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails										
T02-Road Drainage Maintena	Miles	6,814	6	$37,479	$0		$0		$0	$37,479
T03-Culvert Replacement	Each	5,438	5	$27,192	$0		$0		$0	$27,192
T04-Trail Drainage Reconstru	Miles	2,760	9	$26,139	$0		$0		$0	$26,139
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$90,810	$0		$0		$0	$90,810
D. Protection/Safety										
T05-Warning Signs	Each	418	8	$3,345	$0		$0		$0	$3,345
T06-Cultural Resouce Protec	Lump	20,758	1	$20,758	$0		$0		$0	$20,758
T07-Strom Inspection and R	Day	3,420	5	$17,100	$0		$0		$0	$17,100
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$41,203	$0		$0		$0	$41,203
E. BAER Evaluation										
Initial Assessment	Report	$29,272		---	$0		$0		$0	$0
T08-Implementation Coordin	Lump	$13,800	1	$13,800	$0		$0		$0	$13,800
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$13,800	$0		$0		$0	$13,800
F. Monitoring										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$171,038	$0		**$0**		**$0**	**$171,038**
Previously approved										
Total for this request				**$171,038**						

PART VII - APPROVALS

1. _____ Oct 30 /2017
For Forest Supervisor — Date

2. _____ 10/31/2017
Leanne Marten, Region 1 Regional Forester — Date



SOIL BURN SEVERITY

2017 ALICE CREEK FIRE

BURNED AREA EMERGENCY RESPONSE (BAER)

Helena-Lewis and Clark National Forest

SOIL BURN SEVERITY ACRES				
High	Moderate	Low	Unburned-Very Low	Total
3,643	12,623	6,331	10,940	33,537

BAER USDA