

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 # 1
 ☒ Updating the initial funding request based on more accurate site data or design analysis
 ☐ Status of accomplishments to date

Updated information shown in blue text for the following sections:

PART VI: Emergency Stabilization Treatments and Source of Funds

- ☐ 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Names: Region 23 Complex

B. Fire Numbers: GPC128508 SD

NOTE: This Complex started out as two separate fires, the West Ash and Douthit fires. This report covers both of the fires and will be referenced as the Region 23 Complex.

C. State: NE D. County: Dawes and Sioux County

E. Region: R02 F. Forest: Nebraska National Forest

G. District: Pine Ridge Ranger District

H. Fire Incident Job Codes: PNG7A5

I. Date Fire Started: West Ash – 8/28/12; Douthit – 9/6/12

J. Date Fire Contained: West Ash -8/28/12; Douthit – 9/6/12

K. Suppression Cost: \$6 million

L. Fire Suppression Damages Repaired with Suppression Funds **

*** Rehabilitation of fire suppression line is currently ongoing at time of this report with final numbers forthcoming.*

1. Fireline waterbarred (miles):
Dozer *** miles
Handline *** miles
2. Fireline seeded (miles): *** miles
3. Other (identify): Road Damage *** miles

M. Watershed Number:

Douthit

HUC 12	Watershed Name	Watershed Acres	Watershed Acres Burned	Watershed Acres Unburned	Percent Burned (Fire)	Percent Unburned
101402010302	Headwaters Big Cottonwood Creek	12,129	97	12,032	0.8%	99%
101201080104	Hat Creek – Boggy Creek	32,007	958	31,049	3%	97%
101402010106	Middle Fork Soldier Creek	9,600	2,744	6,856	29%	71%
101201080106	Jim Creek	23,167	5,389	17,778	23%	77%
101402010204	Little Cottonwood Creek	22,312	7,360	14,952	33%	67%
101402010206	Sand Creek – Cottonwood Creek	18,886	10,535	8,351	56%	44%
101402010301	Dirty Creek	10,591	461	10,130	4%	96%
101201080108	Whitehead Creek	19,550	2,183	17,367	11%	89%
101402010304	Outlet Big Cottonwood Creek	35,084	2	35,082	0.01%	99%

West Ash

HUC 12	Watershed Name	Watershed Acres	Watershed Acres Burned	Watershed Acres Unburned	Percent Burned (Fire)	Percent Unburned
101402010503	Whitney Lake – White River	15,123	2,044	13,079	14%	86%
101402010207	Hooker Creek – White River	17,403	5,288	12,115	30%	70%
101402010202	Squaw Creek	27,473	651	26,822	2%	98%
101402010501	Ash Creek	30,715	18,197	12,518	59%	41%
101500020608	Willow Creek – Niobrara River	32,505	165	32,340	0.01%	99%

101500031004	Cottonwood Creek	35,522	47	35,475	0.01%	99%
101402010502	Indian Creek	14,682	7,146	7,536	49%	51%
101402010504	Trunk Butte	18,886	6,988	11,898	37%	63%
101402010505	Deadhorse Creek	21,877	11,223	10,654	51%	49%
101402010506	Chadron Creek	35,701	6,250	29,451	18%	82%
101500031006	Pepper Creek	34,014	494	33,520	1%	99%
101500031005	Pebble Creek	20,061	374	19,687	2%	98%

N. Total Acres Burned: West Ash Creek: 58,837 acres Douthit: 29,730 acres **Total Acres 88,567**

West Ash Creek: NFS Acres (17,921) – **30%** State (4,937) Private (33,613)

Douthit: NFS Acres (6,764) – **23%** State (0) Private (22,966)

O.VegetationTypes:

West Ash Creek: Ponderosa pine, Cottonwood/Green ash riparian zone, Little Bluestem/Blue Grama/Buffalo grass community

Douthit: Ponderosa pine/Rocky Mountain juniper, Cottonwood/Green ash riparian zone, Little Bluestem/Blue Grama/Buffalo grass community

P. Dominant Soils:

West Ash Creek: Dominant soil map units within the burned area

Soil Map Unit Name	Acres
Alliance Silt Loam	309
Alliance Silt Loam, eroded	640
Bankard loamy fine sand, frequently flooded	374
Bridget silt loam	4,600
Buften – Hisle complex	276
Buften silty clay loam	420
Busher and Tassel loamy very fine sands	566
Busher loamy very fine sand	635
Canyon soils	741
Epping – Badland complex	1,762
Epping silt loam	279
Haverson loam, frequently flooded	449
Jayem and Vetal loamy very fine sands	267
Keith and Ulysses silt loams	1,592
Keith silt loam	1,903
Keota – Epping silt loams	892
Mitchell – Epping complex	354
Mitchell silt loam	2,247
Norrest silty clay loam	202
Oglala – Canyon loams	1,639
Oglala loam	1,059
Orella – Badland Complex	252
Rosebud – Canyon loams	1,051
Rosebud silt loam	441
Sarben and Vetal loamy very fine sands	2,032
Schamber soils	279
Tassel – Ponderosa – Rock outcrop association	27,638
Tassel soils	770
Thirtynine silt loam/eroded	3,191
Ulysses silt loam	583
Vetal and Bayard soils	532

***Dominant soils – did not include individual map units that are mapped as water.*

Douthit: Dominant soil map units within the burned area

Soil Map Unit Name	Acres
Badlands	768
Bridget very fine sandy loam	832
Buften clay loam	433
Busher – Tassel complex	79
Busher loamy very fine sand	309
Craft loam, channeled, frequently flooded	65
Epping – Badland complex	1,679
Epping silt loam	503
Glenberg fine sandy loam	323
Mitchell – Epping complex	652
Mitchell – silt loam	732
Orella – Badland complex	365
Orella - clay	110
Ponderosa – Tassel – Vetat complex	4,778
Ponderosa loamy very fine sand	2,094
Tassel – Ponderosa – Rock outcrop association	9,148
Thirtynine loam	2,263
Vetat very fine sandy loam	1,442

***Dominant soils - did not include individual map units that are mapped as water.*

Q. Geologic Types: (for both fire areas)

Pierre
Ogallala
Arikaree
White River

R. Miles of Stream Channels by Order: *within or immediately downstream of contributing burned areas*

West Ash Creek:

Perennial/Intermittent: 20.2 miles

Ephemeral: numerous ephemeral channels are found throughout the fire area and only respond to storm events.

Douthit:

Perennial/Intermittent: 8.7 miles on USFS

Ephemeral: numerous ephemeral channels are found in the fire area and only respond to storm events.

S. Roads and Trails:

National Forest System Roads -approx. 9 miles of FS roads within the fire boundary.

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

* acreages based on BARC and field reconnaissance and mapping. Note: these are Forest Service acres. The Forest Service ownership is about 28 percent of the acres burned.

West Ash Creek:

Low/Unburned: 9322 Moderate: 6772 High: 1762

Douthit:

Low/Unburned: 4723 Moderate: 1508 High: 181

B. Water-Repellent Soil acres: 1943 acres (in both fires)

A thin water repellent layer (2mm or less) was found at the soil-ash interface in moderate and high burn severity areas. Repellancy was also seen below this area in high burn severity areas, no more than 2 cm below soil surface.

Hydrological Soil Group

Douthit Fire:

Hydrological Soil Group B and D dominate the fire area, Group B 13, 528 acres and Group D 13,819 acres.

Group B are soils that have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group D are soils that have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

West Ash Fire:

Hydrological Soil Group B and D dominate the West Ash Fire as well, Group B 20,906 acres and Group D 26,389 acres.

C. Soil Erosion Hazard Rating (acres):

Soil erosion hazard acreage is based on individual map units that comprised more than 1% (generally more than 90 acres) of the burned area. Erosion Hazard Ratings for this assessment were obtained from accessing <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> for Hazard of Erosion on Roads and Trails. An erosion hazard rating for burned conditions is not currently available on that web site. In recent past assessments in the southern Hills, the "Hazard of Off-Road or Off Trail Erosion" was used, however, in observing erosion occurring before incidents are controlled or soon thereafter within the first year, (fire removing overstory canopy, shrubs and herbaceous material), seemed to more reflect a higher erosion hazard during precipitation events. Using the information rating provided under "Hazard of Erosion on Roads and Trails" for the first season following fire is likely more realistic on what we expect during that first year "emergency". Then after the area begins to drop conifer needles, snags and has some vegetation regrowth, the landscape systems begin to exhibit more of a similarity to the ratings identified in the "Hazard of Off-Road or Off-Trail Erosion" in years 2-4 following the fire. The observations seen in the southern Hills are similar to what can be seen on the Region

23 Complex due to the similar erosive soils, flashy watershed response and the high intensity short duration thunderstorms seen across the areas.

West Ash Creek:

Soil Map Unit Name	Map Unit Acres	Erosion Hazard
Alliance Silt Loam	309	Moderate*
Alliance Silt Loam, eroded	640	Moderate
Bankard loamy fine sand, frequently flooded	374	Slight
Bridget silt loam	4,600	Severe*
Buften – Hisle complex	276	Moderate
Buften silty clay loam	420	Moderate*
Busher and Tassel loamy very fine sands	566	Severe
Busher loamy very fine sand	635	Severe
Canyon soils	741	Severe
Epping – Badland complex	1,762	Severe
Epping silt loam	279	Severe
Haverson loam, frequently flooded	449	Slight
Jayem and Vetal loamy very fine sands	267	Moderate
Keith and Ulysses silt loams	1,592	Moderate
Keith silt loam	1,903	Moderate*
Keota – Epping silt loams	892	Moderate
Mitchell – Epping complex	354	Severe
Mitchell silt loam	2,247	Severe*
Norrest silty clay loam	202	Severe*
Oglala – Canyon loams	1,639	Severe
Oglala loam	1,059	Severe
Orella – Badland Complex	252	Severe
Rosebud – Canyon loams	1,051	Moderate
Rosebud silt loam	441	Slight
Sarben and Vetal loamy very fine sands	2,032	Severe
Schamber soils	279	Severe

Tassel – Ponderosa – Rock outcrop association	27,638	Severe
Tassel soils	770	Severe
Thirtynine silt loam/eroded	3,191	Moderate
Ulysses silt loam	583	Severe
Vetal and Bayard soils	532	Slight

**Depends on the slope percent, higher the slope the more severe.*

Slight = Approximately 1,796 acres

Moderate = Approximately 10,121 acres

Severe to Very Severe = Approximately, 45,638 acres.

Douthit:

Soil Map Unit Name	Map Unit Acres	Erosion Hazard
Badlands	768	Very Severe
Bridget very fine sandy loam	832	Moderate
Buften clay loam	433	Severe
Busher – Tassel complex	79	Moderate
Busher loamy very fine sand	309	Moderate
Craft loam, channeled, frequently flooded	65	Slight
Epping – Badland complex	1,679	Severe
Epping silt loam	503	Severe
Glenberg fine sandy loam	323	Slight
Mitchell – Epping complex	652	Severe
Mitchell – silt loam	732	Severe*
Orella – Badland complex	365	Severe
Orella - clay	110	Severe
Ponderosa – Tassel – Vetal complex	4,778	Severe
Ponderosa loamy very fine sand	2,094	Severe
Tassel – Ponderosa – Rock outcrop association	9,148	Severe
Thirtynine loam	2,263	Moderate*
Vetal very fine sandy loam	1,442	Moderate*

**Depends on the slope percent, higher the slope the more severe.*

Slight = Approximately 388 acres

Moderate = Approximately 4,925 acres

Severe to Very Severe = Approximately 21,262 acres.

D. Erosion Potential:

Erosion potential for areas mapped as low/unburned within both fire areas is not expected to be much higher than the inherent erosion rate prior to the fire. However, areas mapped within the West Ash and Douthit fires as having moderate to high soil burn severity occurred on the extremely steep slopes. These soils are inherently very susceptible to erosion and downslope movement. A relatively small change in the hydrologic characteristics of these hillslopes could result in a large change in watershed response. This will continue until ground cover can be established – either naturally and/or through approved BAER treatments (5 years or more depending upon weather conditions and erosion producing storm events).

Wind-caused erosion is expected throughout both fires, due to inherent characteristics associated with the dominant soil types present (fine sands) and the windy conditions that are typical for the next few months. Wind deposition of soils has already been observed through both fires. Wind-caused erosion will continue to occur due to the lack of effective ground cover (litter, vegetation, etc) caused by the fires.

E. Sediment Potential: N/A cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 1-3 years for the grassland areas longer for the Ponderosa pine and the Cottonwood/Green Ash Riparian Zones, and areas mapped as moderate to high soil burn severity. Numbers are estimated that normal precipitation will be seen throughout the area in the upcoming year. Timing and duration of precipitation will determine the vegetative recovery period, and the ability of slopes and ridges to revegetate. If areas receive proper precipitation this fall and winter an interim 2500-8 may be used for seeding and or mulching to help revegetate certain areas that received high soil burn severity.

B. Design Chance of Success, (percent): 75%

C. Equivalent Design Recurrence Interval, (years): 2-5 year*
** high intensity, short duration thunderstorms*

D. Design Storm Duration, (hours): 30 – 60 minutes

E. Design Storm Magnitude, (inches): 1 inch or greater

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

**Based on models used and watershed acres, expected CFS was in accurate. Models assume uniform moisture across the watershed. It is unlikely that uniform moisture will fall based on the storm systems, high intensity short duration thunderstorms, that are common in the area.*

G. Estimated Reduction in Infiltration, (percent): < 10% *

**due to the absence of soil water repellency; however due to the bedrock outcropping, cap rock, and the nature of the short duration, high- intensity thunderstorms typical seen in the burned area, infiltration of rainfall will be very limited in moderate to high soil burn severity areas.*

H. Adjusted Design Flow, (cfs per square mile): N/A

PART V - SUMMARY OF ANALYSIS*

A. Describe Critical Values/Resources and Threats:

Human Life and Safety

Signs will be placed through the fires on roads and trails, cautioning forest users for flash floods during thunderstorms and to watch out for falling snags and rocks. The locations of the signs are in portions of the USFS land within Region 23 Complex where the highest risk of flooding or falling snags will potential occur. The National Weather Service, will be provided with the final Soil Burn Severity Map. The Weather Service will supply residents within and immediate downstream of the burned areas a flood warning in the event of high intensity thunderstorms located within or near the burned areas. Local county emergency personnel will also be contacted with this information. Personal contacts with private property owners who have homes in or downstream of moderate and high soil burn severity areas with the risk of flooding will also take place.

Property

Roads

RD 945: Treatments recommended by the BAER team is installation of waterbars check dams and rolling dips for the middle ¼ mile of RD 945. Along with removal of sediment and debris from leadout ditches, installation of straw wattles along steep sideslopes, drainage bottoms and headcuts, and closure of this road portion to vehicles over 50' in width or to closure to all traffic.

RD 702: Treatments recommended by the BAER team is repair of failed waterbars and or rolling dips. Removal of sediment and debris from road ditches, leadout ditches and the inlet and outlet of the one culvert in the Turkey Track area. Installation of straw wattles along steep sideslopes, both above and below the roadbed along with the installation of geocell and rock base is suggested where RD 765 crosses the creek.

Natural Resources

Soil and Watershed Treatments

No treatment is being recommended at this time from the BAER team. Reasons for this is due to the steep slopes and the dry conditions seen across the fire areas. Seeding of these areas with the dry conditions seen throughout the area would not be of any benefit in the next few months. Other treatments that are usually used are not feasible due to the high slope percentage in the areas. If conditions improve during late fall and early winter with precipitation, an interim 2500-8 could be used to help with soil and hill slope treatments in the high soil burned severity areas to help establish ground cover and slow runoff.

Critical Habitat for T&E species. There are no federally listed threatened or endangered terrestrial, aquatic or plant species on or in close proximity to the burned NFS lands.

Invasive Species

Noxious Weeds Detection and Treatment

Noxious weed treatment with herbicide will be conducted under IDIQ or service contract with priority given to known noxious weed infestations in the burn areas such as Leafy spurge, Canada Thistle, Dalmatian Toadflax, Field Bindweed, Scotch thistle and Houndstongue. Monitoring will take place in areas with the highest probability of new establishment in such areas as riparian areas with soil erosion and deposition along with areas with high soil burn severity. Primary method of control will be application of herbicide with backpack sprayers and ATV with treatments occurring during the most effective time of year to attain maximum translocation of herbicide to the plant resulting in higher success of control.

Cultural and Heritage Resources

Multiple archeological sites are known across both fires consisting primarily of lithic scatter, dumps and concrete foundations. No treatments are being recommended based on the locations of these sites that primarily are found in low burned areas with minimal slope. Most of these sites are located in very erosive soils, but effects from the fire will not increase erosion beyond what is normal for the area.

Summary of BAER Risk Assessment

Threat Identification	Critical Value	Probability of Loss	Magnitude of Consequences	BAER Risk
Roads	Life and Safety/Property	Likely	Moderate	High
Flood Hazard	Natural Resources	Likely	Moderate	High
Invasive Species	Natural Resources	Very Likely	Moderate	Very High

B. Emergency Treatment Objectives:

Land Treatments

The objective of noxious weed detection surveys and treatments is to provide for recovery of native vegetation by preventing the establishment and spread of noxious weeds in the recently burned area.

Road Treatments

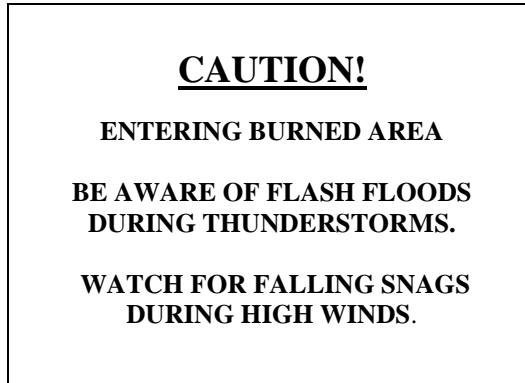
The objective of road stabilization treatments is to lower the risk of damage to property (system roads) by lowering erosion of the road surface in severely burned and steep areas within the burned area and to provide for public safety.

Protection/Safety Treatments

The objective of installing warning signs is to reduce threats to life/safety of people by warning that they are entering a burned area.

Another important objective of the BAER Team is to communicate the findings of this report to the National Weather Service, and County Office of Emergency Services. The purpose of this communication would be to inform these entities of anticipated post wildfire watershed response and associated threats to public safety. Purpose of Treatment Specification: To provide for public health and safety. These signs are necessary to inform forest users of immediate danger posed by storm response to fire effects and hazards within charred forest (floods and snags) along travel routes.

Example of warning sign.



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

Land 80 % Roads/Trails 80 % Protection/Safety 80 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	90	100
Channel			
Roads/Trails	90	90	100
Protection/Safety	90	90	100

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input checked="" type="checkbox"/> Range
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS

Team Leader: Tommy John

Team Leader trainee: Matt Lucas, Hydrologist

Email: tjohn@fs.fed.us Phone: 303/275-5583

Email: mrlucas@fs.fed.us Phone: (308) 432-0327

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.)

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.)

Monitoring for treatment effectiveness will be performed after major storm events for the next three years. A major storm event is considered 1 inch of rain or greater. Depending on annual variability of weather patterns, it is estimate that 4-6 visits per year following storms will be necessary to monitor treatments.

Interim Request #1

This request is for some re-treatment of some of the road work and for adding additional treatment as result of some rain event that has indentify some area of concerns. While these storms are less than our design storm, they have cause some additional area to treat that were not included during initial assessment.

Emergency Stabilization Treatments and Source of Funds

Interim #

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments										
Nox. Weeds Detect. And Treatment	acres	205	548	\$112,340	\$0		\$0		\$0	\$112,340
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$112,340	\$0		\$0		\$0	\$112,340
B. Channel Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Erosion Control on FS system Roads	lump sum	100104	1	\$100,104	\$0		\$0		\$0	\$100,104
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$100,104	\$0		\$0		\$0	\$100,104
D. Protection/Safety										
Warning Signs	each	292	24	\$7,008	\$0		\$0		\$0	\$7,008
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$7,008	\$0		\$0		\$0	\$7,008
E. BAER Evaluation										
Assessment Team Cost				---	\$23,000		\$0		\$0	\$23,000
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$23,000		\$0		\$0	\$23,000
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
G. Totals				\$219,452	\$23,000		\$0		\$0	\$242,452
Previously approved										
Total for this request				\$219,452						

INTERIM REPORT

			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											
Nox. Weeds Detect. And Treatment				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$0	\$0			\$0		\$0	\$0
B. Channel Treatments											
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0			\$0		\$0	\$0
C. Road and Trails											
Erosion Control on FS system Roads				\$0	\$0			\$0		\$0	\$0
FS RD 702	lump sum			\$8,500	\$0			\$0		\$0	\$8,500
FS RD 706	lump sum			\$22,300	\$0			\$0		\$0	\$22,300
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Road & Trails				\$30,800	\$0			\$0		\$0	\$30,800
D. Protection/Safety											
Warning Signs				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Structures				\$0	\$0			\$0		\$0	\$0
E. BAER Evaluation											
Assessment Team Cost				---				\$0		\$0	\$0
Insert new items above this line!				---	\$0			\$0		\$0	\$0
Subtotal Evaluation				---	\$0			\$0		\$0	\$0
F. Monitoring											
				\$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				\$30,800	\$0		\$0		\$0		\$30,800
Previously approved											
Total for this request				\$30,800							

PART VII - APPROVALS

1. _____
Forest Supervisor (signature) _____
Date _____
2. _____
Regional Forester (signature) _____
Date _____

On June 5th, 2013, the following observations were made on East Ash Road #706 concerning additional BAER work needed as a result of soil movement and erosion from the 2012 Region 23 Complex fires.

South Creek crossing:

A heavy silt flow occurred within the last 2 months that resulting in the blockage of the existing 18 inch dia. CMP (corrugated metal pipe), causing the creek to flow over the road at a point about 30 feet north of the CMP. This resulted in the creek channel and the surrounding riparian area to fill with the silt until the silt level was near the top of the buried CMP (estimated depth to be less than 3 feet). The CMP eventually re-opened itself leading to the channel to cut through the silt back to its original elevation, but left the surrounding low area at a higher elevation.

Where the creek flowed over the road, the result was the removal of the aggregate surfacing and soil erosion on the downstream slope. The area affected is approx. 30 feet long by 14 feet wide.

North Creek crossing:

At this location, a similar heavy silt flow occurred (probably during the same time as the south crossing) that blocked the existing 18 inch dia. CMP, caused the creek to flow over the road approx. 30 feet north of the CMP, and caused the creek channel and surrounding riparian area to fill with silt for an approx. distance above the CMP of 150-200 feet. Estimated depth is 3-4 feet. The CMP is still blocked by the silt and the creek continues to cross the road.

Where the creek flowed over the road, the result was the removal of the aggregate surfacing and soil erosion on the downstream slope. The area affected is approx. 30 feet long by 14 feet wide.

Dry Drainage crossings:

At some of the dry drainage crossings where these meet up with the road, there has been some soil erosion out of the drainages onto and across the road. Road surfacing material has been moved off the road and water erosion rivulets are causing additional road damage. These sites were identified last year after the fire event and it was determined we would monitor these sites to see what /how much (if any) soil erosion occurs.

Proposed Treatments and Estimated Costs:

1. South Creek Crossing:

- a. Remove the existing 18 inch dia. CMP and replace with a larger CMP.
- b. Reshape and harden a low water crossing at the location where the creek overflowed the road.
- c. Install >18 inch riprap on both the upstream and downstream slopes of the roadway.
 - i. Estimated Costs:
 1. \$8,400.00
- d. Monitor.

2. North Creek Crossing:

- a. Remove the existing 18 inch dia. CMP and replace with a larger CMP.
- b. Remove the silt overburden in the creek channel upstream from the CMP location for a distance of 100 feet. Place excavated material above the high water line on-site.
- c. Reshape and harden a low water crossing at the location where the creek overflowed the road.
- d. Install >18 inch riprap on both the upstream and downstream slopes of the roadway (75 foot).
 - i. Estimated Costs:
 1. \$13,400.00
- e. Monitor.

3. Dry Drainage Crossings:
 - a. Re-establish and harden a section of roadway.
 - b. Install straw wattle erosion logs in dry drainage to slow soil erosion.
 - i. Estimated Costs:
 1. \$500.00
 - c. Monitor.
4. Total Estimated Costs: \$22,300.00

Road #702

On July 10, 2013, I received photos and information concerning additional damage to the #702 Road on the Pine Ridge Ranger District. The following corrective actions are needed to repair the road and divert the water coming onto the road from a cross drainage.

1. Repair the cross drainage above the road:
 - a. Install straw wattles across the drainage to slow down the velocity of the water.
 - b. Repair the uphill bank by a geotechnical blanket on the re-shaped bank and placing 18 inch minus riprap in the damaged area to match the bank slope.
 - c. Remove the existing CMP.
2. Repair the roadway:
 - a. Construct a drainage dip at the damaged crossing area.
 - b. Place road base aggregate across the entire drainage dip structure.
3. Repair the cross drainage below the road:
 - a. Install 18 inch minus riprap in the outflow ditch off the drainage dip.

Estimated Costs:

1. Straw wattles with 1"x2"x24" wood stakes:
 - a. Straw wattles – 10 @ \$75 each installed = \$750.00
 - b. Wood Stakes – 40 @ \$2 each installed = \$80.00
2. Re-shaping the bank:
 - a. Skid Steer – 2 hrs. @ \$125/hr. = \$250.00
 - b. Geotechnical blanket – cut to fit area = \$50.00
 - c. Riprap – 20 ton @ \$75/ton installed = \$1,500.00
3. Constructing drainage dip:
 - a. Skid steer – 2 hrs. @ \$125/hr. = \$250.00
 - b. Road base aggregate – 25 tons @ \$45/ton installed - \$1,125.00
4. Repair the cross drainage below the drainage dip:
 - a. Riprap – 20 ton @ \$75/ton installed = \$1,500.00
5. Mobilization – Lump sum = \$2,500.00

Total Estimated Cost: \$8,005.00