USDA-FOREST SERVICE FS-2500-8 (6/06)

J.Bruggink Edit August 28 2012 Date of Report: 8-26-12

**BURNED-AREA REPORT**
(Reference FSH 2509.13)

## PART I - TYPE OF REQUEST

A. Type of Report

[**X**] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[**X**] 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

[ ] 3. Final Report (Following completion of work)

## PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Cave Canyon**

B. Fire Number: **ID-STF-000441**

C. State: **Idaho**

D. County: **Cassia**

E. Region: **04 - Intermountain**

F. Forest: **14 - Sawtooth**

G. District: **01 Minidoka – Cassia Division**

H. Fire Incident Job Code: **P4G5DR**

I. Date Fire Started: **August 5, 2012**

J. Date Fire Contained: **August 18, 2012**

K. Suppression Cost: **$4,859,462 (est.)**

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): **48.63 miles total and 48.6 miles**
2. Fireline seeded (miles): **48.63 miles total and 0 miles**
3. Other (identify):

M. Watershed Number(s): ($6^{th}$ level hydrologic units, percent of watershed acres within fire perimeter):

| Subwatershed Name | Total Acres | HUC6 Acres in Fire Perimeter |
|---|---|---|
| **Goose Creek Oakley Valley** | 129,140 | 4,574 |
| **Headwaters Rock Creek** | 22,843 | 37 |
| **Little Cottonwood Creek** | 11,312 | 6,735 |
| **Lower Big Cottonwood Creek** | 19,303 | 3,315 |
| **Lower Dry Creek** | 20,272 | 2,702 |

N. Total Acres Burned: **88,909**

NFS Acres (**61,863**) Other Federal (**29,920**) State (**2,687**) Private (**3,146**)

O. Vegetation Types: **The dominant vegetation include mid to late seral mountian big (*Artemisia tridentata* var. *vaseyana),* big basin (*Artemisia tridentata* var. *tridentata)*, and low sagebrush (*Artemisia arbuscula)* communities with deep rooted bunch grass species such as Great Basin wildrye (*Leymus cinereus*), bluebunch wheatgrass *(Pseudoroegneria spicata),* Thurber needlegrass *(Achnatherum thurberianum),* needle-and-thread grass *(Hesperostipa comata),* Idaho fescue *(Festuca idahoensis),* and Sandberg bluegrass *(Poa secunda).* Aspen (*Populus tremuloides*) stands below ridgelines and in side canyons, lower elevation slopes and benches are Utah juniper (*Juniperus osteosperma)*, and higher elevations have pockets of lodgepole pine (*Pinus contorta*) and Douglas fir (*Pseudotsuga menziesii)* stands.**

P. Dominant Soils: **Soils within the burned area are derived primarily from the volcanic Snake River basalts and underlying sedimentary limestones. These two parent materials result in fine textured soils which generally have distinct horizonation and loamy or silt loam textures. The dominant soils consist of Fulventic Haploxerolls, Typic Argiborolls, and Typic Argixerolls.**

Q. Geologic Types: **The Cassia mountains consist chiefly of late Paleozoic rocks, primarily silicified limestones and orthoquartzites that have been overlain by lava flows of the Snake River Formation. Drainage patterns are to the west and north from the weakly to moderately dissected plateau. The drainages are canyon-like formations with steep headwalls and escarpments, smooth side slopes, and narrow valley bottoms.**

R. Miles of Stream Channels by Order or Class: **Perennial: 69.6 miles Intermittent: 185.2 miles**

S. Transportation System: **Trails: 23.2 miles Roads: 117.3 miles**

## PART III - WATERSHED CONDITION

A. Burn Severity on National Forest Lands (acres): **36,878** (low) **5,645** (moderate) **497** (high)

Burn severity for streams with potential BAER concerns

| Streams | Severity (acres and percent within Hydrologic Unit) | | | | |
|---|---|---|---|---|---|
| | High | Moderate | Low | Unburned | Total |
| Big Cottonwood Creek | 406.7 (1.8%) | 3,272.2 (14.5%) | 15,255.8 (67.5%) | 3,656.7 (16.2%) | 22,591.4 |

B. Water-Repellent Soil (acres): **4,751**

C. Soil Erosion Hazard Rating (acres):

**Pre-fire Soil Erosion Hazard (acres)**
**Moderately Low = 3,368 Moderate = 40,973 Moderately High = 12,005**

**Post-fire Soil Erosion Hazard (acres)**
**Moderately Low = 3,367 Moderate = 40,511 Moderately High = 12,426 High = 42**

D. Erosion Potential: **1.5 tons/acre**

E. Sediment Potential: **Averages 1,588 cubic yards per square mile for NFS lands within the fire perimeter. Sediment potential ranges from 800 $yd^3/mi^2$ for "low" SBS in sagebrush-grass , 1,424 $yd^3/mi^2$ for "low" SBS in juniper, and 4,168 $yd^3/mi^2$ from "high" SBS in conifers.**

## PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): **2-5**

B. Design Chance of Success, (percent): **75-100**

C. Equivalent Design Recurrence Interval, (years): **10**

D. Design Storm Duration, (hours): **1**

E. Design Storm Magnitude, (inches): **0.84**

F. Design Flow, (cubic feet): **see table below**

G. Estimated Reduction in Infiltration, (percent): **1 - 3**

H. Adjusted Design Flow, (cfs): **see table below**

| Recurrence Interval (yrs) | 2 | | | 5 | | | 10 | | | 25 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Design Storm (in) | 0.50 | | | 0.73 | | | 0.84 | | | 0.95 | | |
| Drainage | $Q_{pre}$ cfs | $Q_{post}$ cfs | % change | $Q_{pre}$ cfs | $Q_{post}$ cfs | % change | $Q_{pre}$ cfs | $Q_{post}$ cfs | % change | $Q_{pre}$ cfs | $Q_{post}$ cfs | % change |
| Big Cedar Trib | 0 | 0.66 | N/A | 0 | 3.24 | N/A | 0 | 4.77 | N/A | 0.13 | 9.07 | 6977 |
| Big Cottonwood Trib 1 | 0 | 0.68 | N/A | 0 | 3.89 | N/A | 0 | 6.49 | N/A | 1.19 | 10.1 | 849 |
| Big Cottonwood Trib 2 | 0 | 0.24 | N/A | 0 | 3.10 | N/A | 0 | 6.89 | N/A | 1.82 | 11.5 | 632 |
| Big Cottonwood Trib 3 | 0 | 0.22 | N/A | 0 | 5.26 | N/A | 0 | 12.6 | N/A | 2.63 | 21.3 | 810 |
| Big Cottonwood Trib 4 | 0 | 0.18 | N/A | 0 | 3.89 | N/A | 0 | 11.1 | N/A | 2.23 | 21.5 | 964 |
| Pickett Hollow | 0 | 0.00 | N/A | 0 | 0.96 | N/A | 0 | 4.65 | N/A | 0.53 | 21.8 | 4113 |
| Sawmill Lower | 0 | 0.04 | N/A | 0 | 0.27 | N/A | 0 | 0.96 | N/A | 0 | 1.89 | N/A |
| Sawmill Upper | 0 | 0.04 | N/A | 0 | 0.42 | N/A | 0 | 1.91 | N/A | 0 | 4.14 | N/A |

## PART V - SUMMARY OF ANALYSIS

**Background:** The Cave Canyon (88,909 acres) fire started as a lightning strike on the Minidoka Ranger District August 5, 2012. The Cave Canyon fire over took the Little Cedar Canyon fire that was burning at the same time. The fire grew rapidly due to erratic winds, and steep and inaccessible terrain. A type 1 incident management team, under the guidance of Incident Commander Beth Lund, arrived on August 9. At the peak of the incident 517 staff consisting of engines, crews, dozers, water tenders, aircraft, and operation overhead worked on the fire. The fire was declared 100% contained on August 18, 2012.

### A. Describe Critical Values/Resources and Threats:

### Summary of Issues:

### Human Life and Safety

Post-fire watershed conditions threaten the life and safety of visitors using the Forest Service Roads within the fire perimeter. Portions of these roads lie in narrow, canyon bottoms that can easily trap storm runoff in portions of the road profile. These roads are downslope of high/moderate severity burned slopes. Normal storm frequencies and magnitudes can now more easily initiate rill and gully erosion on the severely burned, over-

steepened slopes. These "minor" events can activate floods in the smaller tributary drainages that intersect these roads, putting the safety of users at risk.

**Possible Probability of Damage or Loss/Major Consequences – Risk High**

**Property**

Predicted peak flows in Big Cedar and Buckhorn Canyons are expected to see large increases based on the ten year recurrence interval. The roads in Big Cedar, Buckhorn Canyon, and other minor roads and trails within canyons burned during the fire are now susceptible to intense summer thunderstorms due to the severity of burned acres and the lack of drainage features (e.g. rolling dips, waterbars, etc.) to accommodate increased runoff. Failure of these facilities can increase the liklihood of loss or damage to the system roads and trails contained within the burned perimiter.

**Possible Probability of Damage or Loss/Major Consequences – Risk High**

**Critical Natural Resources**

**Native or Naturalized Plant Communities -** Field reviews indicate that there is a substantial risk of noxious weed invasion along roads and dozer and handlines used during fire suppression activities, and high intensity burn areas. This threat is due to the existance of noxious weed in and adjacent to the burn area, and a high liklihood that noxious weed seeds were brought into the area by fire equipment that has been used on other wildfires and suppression activity within known noxious weed locations within the burn.

Known noxious and non-native invasive weed populations Canada thistle (Cirsium arvense), Musk thistle (Carduus nutans), Scotch thistle (Onopordum acanthium), Plumeless thistle (Carduus acanthoides), Russian Knapweed (Centaurea repens), Spotted knapweed (Centaurea stoebe), Diffuse Knapweed (Centaurea diffusa), White Top (Cardaria draba), Black Henbane (Hyoscyamus niger), Houndstongue (Cynoglossum officinale), Saltcedar (Tamarix ramosissima), Field Bindweed (Convolvulus arvensis), Leafy Spurge (Euphorbia esula), Bull thistle (Cirsium vulgare), Burdock (Arctium minus), Cheatgrass (Bromus tectorum), Russian Thistle (Salsola tragus), Gumweed (Grindelia squarrosa), Kochia (Kochia scoparia), and Russian Olive (Elaeagnus angustifolia) exist within and immediately adjacent to the burned area. At the time of the initial attack activities and 3 days of extended activities, no measures were taken to prevent the introduction and spread of any invasive species within the fire area.

The burned area, now lacking desired native perennial vegetation that can normally out-compete noxious weeds, supports favorable conditions for initial expansion of nearby populations of noxious weeds and other invasive species. The spread of existing or new invasive species would lead to a reduction of desirable native vegetation. Once invasives establish, the long-term impacts would be the loss of soil productivity due to increased solar radiation and runoff, increased fire frequency, loss of suitable wildlife habitat and decreased forage production. Prevention and treatment of invasive species prior to populations becoming established and expanding is a key point in restoring desired native vegetation within the burn area and reducing long-term cost of containment, control and eradication.

**Possible Probability of Damage or Loss/Major Consequences – Risk Very High**

**B. Emergency Treatment Objectives:**

The goal of the burned area emergency rehabilitation is to:

- Reduce threats to personal injury and/or human life of visitors using select system roads.

- Control expected invasion of noxious weeds within the area, especially along and adjacent to Forest roads and dozer lines used by fire equipment and in existing populations within the fire boundary.
- Minimize damage to key system roads within the fire boundary.
- Identify appropriate monitoring activities that estimate the effectiveness of emergency stabilization treatments and identify necessary maintenance and continuation of other approved BAER activities.

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

Land **75** % Channel **NA** % Roads/Trails **85** % Protection/Safety **100** %

D. Probability of Treatment Success – Refer to Values at Risk (VAR) Spreadsheet

E. Cost of No-Action (Including Loss): – Refer to Values at Risk (VAR) Spreadsheet

F. Cost of Selected Alternative (Including Loss): – Refer to Values at Risk (VAR) Spreadsheet

G. Skills Represented on Burned-Area Survey Team:

| | | | |
|---|---|---|---|
| [**X**] Hydrology | [**X**] Soils | [ ] Geology | [**X**] Range |
| [ ] Forestry | [X] Wildlife | [X] Fire Mgmt. | [**X**] Engineering |
| [ ] Contracting | [ ] Ecology | [X] Botany | [ ] Archaeology |
| [X] Fisheries | [ ] Research | [ ] Landscape Arch | [X] GIS |

Team Leader: **John Chatel, Forest Fisheries Biologist**

Email:**jchatel@fs.fed.us** Phone:**208-737-3218** FAX: **208-737-3236**

**Team Members:**
John Chatel, Team Leader, Sawtooth National Forest
Gilbert Jackson, Range Mangement Specialist, Minidoka Ranger District
David Ashby, Recreation, Minidoka Ranger District
Dena Santini, Wildlife Biologist, Minidoka Ranger District
Deb Taylor, Botanist (North Zone), Sawtooth National Forest
Terry Hardy, Soil Scientist, Boise/Sawtooth National Forest
Dave Gilman, Soil Scientist (Retired), Sawtooth National Forest
Mark Dallon, Hydrologist, Minidoka Ranger District
Karl Fuelling, Forest Silviculturalist, Sawtooth National Forest
Shawn Robnett, Assistant Forest Engineer, Sawtooth National Forest
Brady Richins, Civil Engineer, Sawtooth National Forest
Jill Kuenzi, GIS, Sawtooth National Forest
Brian Van Winkle, Fire, Minidoka Ranger District

H. **Treatment Narrative:**

**Protection/Safety Treatments:**

**Hazard Warning and Closure Signs for Roads**
Purpose of Treatment: Inform users of the dangers associated with entering/recreating within a burned area as well as inform them of objects within the roadway and identification of road closures which will help motorists safely navigate the existing road system and stay on the legal routes preventing further soil erosion and compaction.
General Description: Install already purchased "BURNED AREA" warning signs at designated intersections. Signs will warn users of the increased hazards associated with entering a burnedareas.

Work includes furnishing and installing new posts, mounting hardware, and all other incidentals necessary to mount already purchased signs, at locations designated by authorized Forest Service personnel.

Furnish and install "Carsonite" posts for the purpose of denoting hazardous objects including culverts and cattle guards, and for marking non-system routes that are closed to motorized vehicles within the burned area. Warning Casonite signs that burned during the fire will be replaced to protect users of system roads. These include identification of physical road hazards of cattle guards and culvert crossings. Area closed to motor vehicle Carsonite signs that burned during the fire and new Carsonite signs (new locations) will be replaced/installed to reduce risk to the public in the burned area and to protect soil and water resources during the emergency recovery period. These two sign types will be differentiated by color, for denoting objects like culverts and cattle guards the Carsonite posts shall be white and for denoting non-system routes the Carsonite posts shall be brown. The posts will be furnished with standard decals matching the appropriate use (lettering, numbering, and/or warning symbols as applicable).

Location (Suitable) Sites:
Locations of "BURNED AREA" warning signs:

1. Junction of FS Road #70500 and FS Road #70218
2. FS Road #70676 at Forest Service Boundary
3. FS Road #70528 prior to Big Cottonwood Trailhead
4. FS Road #72089 at Forest Service Boundary
5. FS Road #72079 at Forest Service Boundary
6. Junction of FS Road #70529 and FS Road #72077
7. FS Road #70527 at Forest Service Boundary
8. Junction of FS Road #70500, FS Road 70526, and FS Road 70532

Locations for the signs delineating hazards and closed roads shall vary and will be field verified prior to placing the signage.

Design/Construction Specifications: Sign and Poster Guidelines for the Forest Service EM7100-15

**Hazard Warning Signs for Trails**

Purpose of Treatment: Warn public of post fire hazards.
General Description: Purchase and Install 5 trail signs warning the public of post fire hazards.
Location (Suitable) Sites: Install signs at both ends of the Big Cottonwood and Cave Canyon Trails and at the beginning of Sawmill Trail.
Design/Construction Specifications: Sign and Poster Guidelines for the Forest Service EM7100-15

**Land Treatments:**

**Noxious Weeds Treatment**

Purpose of Treatment: Known noxious and invasive weed populations (cheatgrass, scotch, Canada, musk and bull thistles, spotted and Russian knapweed, white top black henbane and burdock) exist within and immediately adjacent to the burned area. Populations are isolated areas along roadways, and drainage bottoms within or adjacent to the burned area. Prevent establishment of new infestations, prevent spread of existing infestations, and prevent increase in weed density in existing infestations.
General Description: When actions are initiated, Forest or CWMA personnel will be equipped to immediately treat infestations of noxious weeds. This allows for the immediate treatment and eradication (i.e. hand pulling, herbicide application). BAER funding authorization will be used for the first year (FY 2013) to meet the above objectives. Existing infestations will also be treated as prescribed by CWMA plans at the same time. As appropriate, these actions may be carried out under a combination of BAER and other management authorities. Treatment and monitoring activities occurring after the first year

following the fire will be carried out under non-BAER authorizations. The CWMA will be utilized to survey for noxious weeds and/or provide treatments on private lands adjacent to the Forest under the Wyden Authority. A participating agreement with the CWMA and private landowners will be prepared prior to work completed on private lands.
Location (Suitable) Sites: Existing known weed infestations within and directly adjacent to the Cave Canyon Fire burned areas on Forest, BLM and private land.
Design/Construction Specifications: Select herbicide, application rate, and application timing based on specific weed being treated, and access to the location of the infestation. An estimated 24 days of a 2-3 person crew will be required to provide EDRR treatments in the first year. This includes 3-4 different time periods of visits to the fire to ensure sprouting times through the year of various species are optimized for treatment.

**Noxious/Invasive Weed Prevention Seeding Treatment**

Purpose of Treatment: The seeding treatment is to prevent the expansion of existing noxious/invasive species and establishment of new non-native species in the Cave Canyon fire perimeter on the Minidoka Ranger District. Natural recovery by native species is preferred in fire recovery situations. Chemical treatment was considered for these areas. However, due to the sensitivity of the areas to loss of native forbs by chemical treatment, the use of competitive native species was found to more efficiently meet emergency objectives while allowing natural recovery to also occur within and immediately adjacent to the areas to be seeded.

Seeding in moderate and high severity burn areas will minimize the spread of adjacent noxious weeds and to ensure native plant diversity is not lost to invasive species. Additionally, seeding with native grasses will aid in preventing soil productivity loss and erosion. The areas that were identified for seeding were fire suppression access areas that traveled through known population of noxious weeds . Seeding the access areas of moderate to high intensity were native communities pre-fire will increase the ground cover with native grasses and there will be less areas for the invasion of noxious weeds.

General Description: Identify moderate to high intensity burned areas and suppression disturbed areas within known noxious weed populations and then broadcast certified weed free shrub and grass seed mix consisting of mountain big sagebrush, Bluebunch wheatgrass, Idaho fescue and Great Basin wildrye to accelerate re-establishment rate of native shrub and grasses to prevent the expansion of existing noxious/invasive species and establishment of new species. BAER funding authorization will be used to purchase seed mix and procure a contract seeding crew to meet the above objectives. The actions may be carried out under a combination of BAER and Minidoka Ranger District program management. Seeding treatment would occur fall of 2012 when adequate soil moisture is present. Monitoring would be carried out during the growing season of 2013. A similar treatment on the Blackpine 2 fire of 2007 showed that seeding was 80% successful in establishing ground cover and assisted in competing out invasive species in the burn area.

Location (Suitable) Sites: Existing known weed infestations within and directly adjacent to the Cave Canyon Fire burned areas on the Minidoka Ranger District in Little Cedar Canyon and Forest road # 72089, Lower Big Cottonwood Canyon, Buckhorn Canyon from Forest boundary along road #70529, Cold Spring Creek from Forest boundary along road #70529A, Upper Coal Pit Creek, Cold Spring Creek from Forest boundary along road #70529A, Medley Creek and Forest Road # 72077A, Lower Dry Creek from Forest boundary, along Forest road # 70527 and in Dry Creek riparian area, and the Bostetter Guard Station. The total acres for treatment is 218 acres.

Design/Construction Specifications: A contract seeding crew would be used to broadcast seed certified weed free, Bluebunch wheatgrass, Idaho fescue and Great Basin wildrye seed mix at a rate of 9.75 lbs./acre in identified areas. Seed would be purchased and broadcast seeding would be done with hand seeders or ATV mounted seeders. Minidoka Ranger District program management would oversee contract

administration, implementation monitoring and effectiveness monitoring during 2013 growing season. The seeding treatment areas will be protected from grazing use. All allotments within the fire perimeter will be rested at least two years. Seeded areas within the allotments will be monitored for adequate ground cover and effectiveness of the seeding treatment.

**Drainage Control on Non System Routes**

Purpose of Treatment: To ensure drainage processes are adequate following fire on unauthorized routes to prevent erosion and runoff initiation. The treatment is to protect existing system roads for receiving additional runoff and erosion due to existing eroded conditions leading to system roads. .

General Description: This treatment would remove runoff potential on specific non system routes that due to the fire are expected to flow excessive water onto existing system roads. The treatments will also protect natural recovery of the burned area during by limiting off road vehicle access into unauthorized areas.

Location (Suitable) Sites: Sixteen sites have been identified within the fire perimeter where an unauthorized route climbs from a system route and has the strong potential for subsequent delivery of flow and/or sediment to a system route due to increased runoff and use following the fire.

Design/Construction Specifications: FHWA Standard Specifications for Roads and Bridges on Federal Highway Projects (FP-03) with Forest Service supplemental specifications.

**Channel Treatments:** None

**Roads and Trail Treatments:**

Road Treatments

Road Drainage Maintenance

Purpose of Treatment: The purpose is to protect road infrastructure by minimizing erosion of the road surface and reducing excessive sediment delivery into the watersheds.

General Description: Clean and enhance existing rolling drainage dips and run-off ditches, install new rolling drainage dips and run-off ditches, and remove and upsize culvert.

Location (Suitable) Sites:

Big Cedar Road (Forest Service Road #70528)

- Construct Rolling Drain Dip: 5 Each
- Construct Leadoff Ditch: 5 Each
- Construct Roadside Ditch: 1,200 Linear Feet
- Remove/Replace Culvert: 25 Linear Feet
- Recondition Existing Drainage Feature: 7 Each

Buckhorn Road (Forest Service Road #70529)

- Recondition Existing Drainage Feature: 6 Each

Corral Creek Road (Forest Service Road #72071)

- [1]Recondition Existing Drainage Feature: 2 Each

Robber Gulch Road (Forest Service Road #72079)

- [1]Recondition Existing Drainage Feature: 3

Design/Construction Specifications: FHWA Standard Specifications for Roads and Bridges on Federal Highway Projects (FP-03) with Forest Service supplemental specifications.
Road Storm Patrols: The purpose of the monitoring is to evaluate effectiveness of the emergency stabilization treatments completed on the roads listed above and all other roads within the fire perimeter. Other work includes identifying needed maintenance and/or treatment repair after storms. District staff will survey these roads three times and report any finds to the district hydrologists and forest's engineering group. Three trips will be during or after high intensity storm events.

**Trail Treatments:**

**Purpose of Treatment:**

To ensure drainage structure is sufficient to divert water effectively given increased runoff and increased sediment movement. If treatment is not performed damage will likely (90% chance) occur to the trail tread resulting in increased cost for reconstruction of damaged trail sections? The cost to reconstruct damaged or destroyed trail sections could be as high as $20,000 per mile for new trail. If constructed correctly in appropriate locations rolling dips/water bars are very effective (90% probability of success) at protecting the trail way and removing water from the trail.

**General Description:**

Construct 75 rolling dips/water bars on trails within high and moderate burn areas to ensure water is diverted to prevent erosion and failure of the trail tread. Rolling dips/water bars along ATV trails will be constructed using a dozer (~25) and all other rolling dips/water bars will be constructed by hand (~50).

**Location (Suitable) Sites:**

Trail sections within or directly down slope from high / moderate severity burned areas. Trails within the burn area intersect approximately 1.9 miles of high and 12.2 miles of moderate intensity burn. Treatments will be focused in areas with the greatest potential for flow onto the trail surface, such as drainage bottoms and areas of past flows.

**Design/Construction Specifications:**

1. According to USFS Trails Handbook 2309.18, 5, exhibit 15.

I. **Monitoring Narrative:** None

Part VI – Emergency Stabilization Treatments and Source of Funds Interim #

| | | | 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** | | | | | | | | | | | |
| Noxious Weed Treatment | Days | 1,002 | 24 | $24,036 | $0 | | | $0 | | $0 | $24,036 |
| Weed Seeding Treatment | Ac | 136 | 218 | $29,648 | $0 | | | $0 | | $0 | $29,648 |
| Hillslope Drainage Non-System | Ea | 635 | 16 | $10,160 | $0 | | | | | | |
| *Subtotal Land Treatments* | | | | $63,844 | $0 | | | $0 | | $0 | $53,684 |
| **B. Channel Treatments** | | | | | | | | | | | |
| | | | | $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** | | | | | | | | | | | |
| Road Drainage Improvement | Miles | 398 | 29.3 | $11,672 | $0 | | | $0 | | $0 | $11,672 |
| Trail Maint. & Drain. Improv. | Wtr Bar | 75 | 161.49 | $12,112 | $0 | | | $0 | | $0 | $12,112 |
| | | | | $0 | $0 | | | $0 | | $0 | $0 |
| *Insert new items above this line!* | | | | $0 | $0 | | | $0 | | $0 | $0 |
| *Subtotal Road & Trails* | | | | $23,784 | $0 | | | $0 | | $0 | $23,784 |
| **D. Protection/Safety** | | | | | | | | | | | |
| Haz. Warning Signs - Roads | LS | 1 | 14,831 | $14,831 | $0 | | | $0 | | $0 | $14,831 |
| Haz. Warning Signs-Trails | LS | 1 | 1,665 | $1,665 | $0 | | | $0 | | $0 | $1,665 |
| *Insert new items above this line!* | | | | $0 | $0 | | | $0 | | $0 | $0 |
| *Subtotal Structures* | | | | $16,496 | $0 | | | $0 | | $0 | $16,496 |
| **E. BAER Evaluation** | | | | | | | | | | | |
| Assessment Team | Report | 48,340 | 1 | --- | $48,340 | | | $0 | | $0 | $48,340 |
| *Insert new items above this line!* | | | | --- | $0 | | | $0 | | $0 | $0 |
| *Subtotal Evaluation* | | | | --- | $48,340 | | | $0 | | $0 | $48,340 |
| **F. Monitoring** | | | | | | | | | | | |
| Noxious Weeds | | | | | $0 | | | | | | |
| Road Storm Patrols | | | | | $0 | | | | | | |
| *Subtotal Monitoring* | | | | $0 | $0 | | | $0 | | $0 | $0 |
| | | | | | | | | | | | |
| **G. Totals** | | | | $104,124 | $48,340 | | | **$0** | | **$0** | **$142,304** |
| Previously approved | | | | $0 | | | | | | | |
| Total for this request | | | | **$104,124** | | | | | | | |

## PART VII - APPROVALS

1. /s/Rebecca S Nourse 08/28/2012
   Forest Supervisor (signature) Date

2. /s/ _____
   Regional Forester (signature) Date