

Date of Report: 05/09/13

**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 (New text in red font)  
☐ Status of accomplishments to date

☐ 3. Final Report (Following completion of work)

**PART II - BURNED-AREA DESCRIPTION**A. Fire Name: Porcupine FireB. Fire Number: ID-NPF-000604C. State: MTD. County: RavalliE. Region: 01F. Forest: BitterrootG. District: West Fork Ranger DistrictH. Fire Incident Job Code: P1G7VJI. Date Fire Started: 08/10/2012J. Date Fire Contained: 10/19/2012K. Suppression Cost: estimated 10/11/2012 \$1,230,000

## L. Fire Suppression Damages Repaired with Suppression Funds

1. Dozer Fireline repaired (miles): 5 as of 10/22/12  
2. Hand Fireline repaired (miles): 0 as of 10/22/12

## M. Watershed Numbers:

Bitterroot National Forest

170602070401 – Hamilton Cr, 1780 ac.; 170602070402 – Upper Sabe Cr., 989 ac.;  
170603010103 – Hells Half Acre-Selway River, 32 ac.; 170603010201 – Upper Little Clearwater

River, 7,404 ac.; 170603010202 – Lower Little Clearwater River, 2,207 ac., 170603010502 – Eagle Cr., 275 ac.<sup>1</sup>

Non-National Forest Lands- None

N. Total Acres Burned:

NFS: 37,131<sup>1</sup> (both Nez Pearce and Bitterroot NF) acres, 12,707<sup>1</sup> acres on Bitterroot NF  
Other Federal (BLM): -0- State: -0- Private: -0-

<sup>1</sup> Areas from post-fire satellite image Oct. 9, 2012, approximately 10 days prior to containment.

O. Vegetation Types: Common forest types include Grand fir/Beargrass/Lodgepole pine

P. Dominant Soils: The dominant soil Great Groups found in the burn area are andic and entic cryochrepts. Most soils in the burn area have surface layers formed in loess that has been influenced by volcanic ash. These loess deposits range from over 36-inches thick in depressions to very thin deposits that may be mixed with underlying materials on steep southerly aspects at lower elevations to no deposits on the most southerly end of the burn area. Soil surface layers formed in loess are an excellent medium for plant growth. Soils with the thickest loess surface layers tend to be the most productive. Although most soil surface layers are formed in loess that has been influenced by volcanic ash or loess mixed with subsoil material, lower soil layers are formed in materials derived from other sources. This ash influenced surface layer is resistant to erosion when undisturbed, but if disturbed it has a high risk of surface erosion.

Q. Geologic Types: The dominant geologies for the burn area are Idaho batholith granitics, Precambrian schist, and Middle Proterozoic quartzite. Soils formed on the Precambrian micaceous schist are highly susceptible to mass wasting events.

R. Miles of Stream Channels by Order or Class:

National Forest

Perennial – 42 miles, Intermittent 0.25

S. Transportation System

Trails: National Forest 4<sup>1</sup> miles, Field verification suggests 15 miles trail within burn.

Roads: National Forest 1<sup>1</sup> miles, Field verification suggests 4-6 miles within burn

**PART III - WATERSHED CONDITION**

A. Burn Severity (acres)<sup>1</sup>: 4210 (unburned/very low) 3180 (low) 3858 (moderate) 856 (high)

B. Water-Repellent Soil (acres)<sup>1</sup>: 2785 (All of high and half of moderate)

C. Soil Erosion Hazard Rating (acres)<sup>1</sup>: 5800 (low) 3519 (moderate) 2785 (high)

D. Erosion Potential (tons/ac/yr): 1.87 (low) 3.16 (moderate) 6.1 (high)

E. Sediment Potential: exists, not calculated due to no sediment control treatments needed.

#### **PART IV - HYDROLOGIC DESIGN FACTORS**

- A. Estimated Vegetative Recovery Period, (years): 2-4 grass/shrubs 20-50 conifers
- B. Design Chance of Success, (percent): 70
- C. Equivalent Design Recurrence Interval, (years): 10
- D. Design Storm Duration, (hours): 1 hr
- E. Design Storm Magnitude, (inches): 2.2 inches
- F. Design Flow, (cubic feet / second/ square mile): 35-45 cfs/sq.mi.

<sup>1</sup> Areas from post-fire satellite image Oct. 9, 2012, approximately 10 days prior to containment.

- G. Estimated Reduction in Infiltration, (percent): 60
- H. Adjusted Design Flow, (cfs per square mile): 40-90 cfs/sq. mi.

#### **PART V - SUMMARY OF ANALYSIS**

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

The primary values at risk resulting from the Porcupine Fire are transportation infrastructure (trails and native vegetation communities).

1. **Infrastructure:** Due to fire effects, modest rain events could potentially cause extensive erosion and mass movement on steep hillslopes throughout the burned area. Additionally, reduced canopy interception, combined with lack of groundcover and hydrophobicity will cause areas of increased runoff response compared to pre-fire conditions. Drainages below burned areas will generate higher stormflows in the first few years following the fire. Larger flow events in part are a function of increased surface runoff from bare hillslopes. Furthermore, burned and exposed soils are more susceptible to entrainment and transport to stream channels.
  - a. There is a high risk to FR468 (Magruder Crossing Road) due to location of the road on the landscape and the existing culverts within the fire area, which are now undersized. **Three** road/stream crossings with substantial high to moderate burn severity in their contributing area are at risk of overtopping and erosion. FR468 is an important recreational connection between MT and ID, it lies between the Frank Church River of no Return and the Bitterroot – Selway Wilderness Areas and is the only rout providing access. FR468 also allows access to an important whitewater launching point (Paradise on the Wild and Scenic Selway River) from the west. Both the Nez Pearce and Bitterroot National Forests, and the communities on both sides of the fire, need to keep this

road open as a through route for public safety, recreational, and economic concerns. This is the only road access from Idaho to the Bitterroot NF portion of the Selway-Bitterroot Wilderness and also to the Selway River rafting launch point. The site was made inaccessible by snow almost immediately after the fire was controlled, and engineering staff could not assess the site for treatment details.

- b. Trail prisms/infrastructure – post-fire hydrology driven by high burn severity will increase risk of damage on 4 miles of system trails, with loss of trail prism and increased repair costs. These are moderate-use level trails that access unique areas in the Selway-Bitterroot Wilderness Area that the Ranger District would like to keep for the long term. Post-fire hydrology will increase the occurrence of surface runoff from burned slopes onto the trail prism. There is a high risk of intensive trail gullying and rutting, which may cause extensive damage to the trail prism. There is also a risk of falling hazard trees for trail workers implementing prescribed treatments.
2. Public Safety: Post-fire hazard trees, stump holes, eroded trail tread, loose rocks and other situations create natural risks to the public in burned areas. There is a need to inform the public of post-fire risks at trailheads that access burned areas, so they can best make informed choices.

**B. Emergency Treatment Objectives:**

- a) Protect trail infrastructure from surface flows, reduce stream capture and maintain access;
- b) Protect road infrastructure and crossings from flood flows, debris torrents, and other potential events and maintain access;
- c) Protect trail workers from hazard trees.
- d) Inform the public of burned area hazards using trailhead signs.

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

Land NA Channel NA Roads/Trails 80% Protection/Safety 95%

**D. Probability of Treatment Success**

	Years after Treatment		
	1	3	5
<b>Roads/Trails</b>			
Trail Waterbar Installation	80	90	95
Road Culvert Installation	80	90	95
Road Drain Dip Installation	80	90	95

Protection/Safety			
Trailhead Hazard Signs	95	85	80

**E. Cost of No-Action (Including Loss):** See Cost-Risk Analysis and Matrix p. 10

**F. Cost of Selected Alternative (Including Loss):** See Cost-Risk Analysis and Matrix p. 10

**G. Skills Represented on Burned-Area Survey Team:**

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Range	<input checked="" type="checkbox"/> Weeds	Recreation	<input checked="" type="checkbox"/>
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering		
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology		
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Air Quality	<input checked="" type="checkbox"/> GIS		

Team Leader:

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Forest Contact

Email: esnook@fs.fed.us Phone: 406.363.7103 FAX: 406.363.7106

**H. Treatment Narrative:**

Proposed treatments listed below are located in an extremely remote location, approximately 100 driving miles from the Bitterroot NF Supervisor's Office and about 80 miles from the Darby RD (location of heavy equipment). This increased travel, materials and mobilization costs for road work, but had a lesser effect on trail work costs since the trail crew or contractor camps on site.

**Land Treatments:** No Land treatment prescribed at this time.

**Channel Treatments:** No channel treatment prescribed at this time.

**Road and Trail Treatments:**

***Install Culverts***

**Objective:**

The purpose of the treatment is to reduce the risk that stream flows will overtop and wash out the road. This would cut off access and add sediment to Bull Trout and salmon habitat to downstream water bodies. Treatments, when combined with armored dips, also reduce potential for debris flow occurrence. Sites were chosen based on the amount of high and moderate burn intensity in drainages above the roadways.

**Methods:**

Excavate existing pipes and install larger culverts at (3) indicated sites. Locally-sourced riprap will be placed at inlets or outlets to reduce risk of scour. Newly disturbed areas will be seeded, fertilized and mulched. Protect roads and crossings from flood flows, debris torrents, and other

potential events. The upgraded crossings will also get diversion dips to improve probability of passing a debris flow. Hazard trees threatening workers and fallen trees blocking access would also be cut.

### ***Install Diversion Dips on Roads***

#### **Objective:**

FR468 has 4 stream and gully crossings currently identified for culvert replacement that have a high probability of being negatively affected by post-fire hydrology. The objective of diversion dips adjacent to these crossings is a low cost safeguard to prevent flood flows from running down the road if a culvert is plugged or overtopped. This is possible even with culvert upsizing, due to jamming of the culvert with woody debris or rock. One extra dip is proposed due to snow cover on the site hiding potential candidate sites during assessment. Treatments would reduce the risk of large road-origin sediment contributions during post-fire thunderstorms. Treatment aims to maintain access and reduce potential for road prism erosion and sediment to important fish habitat.

#### **Methods:**

At candidate sites, an armored drive-through dip and berm would be built immediately downgrade of the crossing to divert overtopping flows back into the channel. The upper and lower fills would be rip-rapped at the dip location to prevent downcutting and loss of the structure or road prism. The dips will need seeding of any newly disturbed ground.

### **Trail Treatments:**

#### ***Install Trail Waterbars***

##### **Objective:**

Approximately 4 miles of trail are expected to be at risk of deterioration from additional runoff and sediment from post-fire conditions. The threats are from upland slope erosion and flow staying on the trail. The trails drainage system was not designed for the increased flow that may occur from the fire. This may cause soil erosion on the trail surface and fill-slope. Failure of burned water bars may cause stream capture onto trail surface area causing soil erosion, including loss of the trail by rilling and gullyng. Affected trails include: TR61 (Lodgepole Hump Trail, 7 miles), TR27 (Salamander Creek Trail, 6 miles), and TR19 (Elk City Trail, 2 miles).

##### **Methods:**

The method for reducing this risk is limited to installing water bars or outslope sections, which would be used to direct and divert flow off the trail. These treatments would reduce the risk of the trail washing out and transporting sediment to streams. Proactive treatment would be cheaper than remediation after damage.

### **Protection/Safety Treatments:**

#### ***Install Trail Warning Signs***

##### **Objective:**

Inform the public of potential post-fire risks to trail user safety. These include hazard trees, stump holes, eroded trail surfaces and unstable tread.

Methods:

Install warning signs to warn users of increased risks due to the fire.

**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.)**

Other than implementation & effectiveness monitoring included with treatment installation, no additional monitoring is proposed.

## VI – Emergency Stabilization Treatments and Source of Funds

Line Items	Units	Unit Cost	NFS Lands		Other \$		Other Lands				All Total \$
			# of Units	BAER \$			# of units	Fed \$	# of Units	Non Fed \$	
<b>A. Land Treatments</b>											
<i>Subtotal Land Treatments</i>				\$0				\$0		\$0	\$0
<b>B. Channel Treatments</b>											
<b>C. Road and Trails</b>											
Trail Waterbar plus worksite Haz	mile	1,593	4	\$6,372							
Road Culvert Installation	culvert	21,245	3	\$63,735							
Road Diversion Dips	dips	2,701	5	\$13,505							
<i>Subtotal Road Treatments</i>				\$83,612				\$0		\$0	\$0
<b>D. Protection/Safety</b>											
Post Fire Warning Signs	each	250	3	\$750							
<i>Subtotal Protection/Safety</i>				\$750	\$0			\$0		\$0	\$0
<b>E. BAER Evaluation</b>											
Assessment	each	3200	1		\$3,200						
<i>Subtotal Evaluation</i>					\$3,200			\$0		\$0	\$0
<b>F. Monitoring</b>											
<i>Subtotal Monitoring</i>				\$0	\$0			\$0		\$0	\$0
<b>G. Totals</b>				\$84,362	\$3,200						
Previously approved				\$53,731							
Total for this request				\$30,631				\$0		\$0	\$0

Road and Trail work would take place in an extremely remote location, which tends to raise costs. Funding requested was the minimum necessary to accomplish the emergency treatments. Further ground review in spring, 2013 may indicate more candidate sites due to BARC image acquisition 10 days prior to fire containment/control which occurred as a result of snowfall.

FR468 is the only road access from Idaho to the Bitterroot NF portion of the Selway-Bitterroot Wilderness and also to the Selway River rafting launch point. The culvert replacement site was made inaccessible by snow almost immediately after the fire was controlled and engineering staff could not assess the site for treatment details. The cost estimate was revised during preparation for field work on the site.

Engineer's review and cost estimation (pages 14-16) for the combined contract and Forest road crew support for culvert replacement indicates a total cost of \$63,736, compared to the original estimate of \$33,104. This leaves a funding shortfall of \$30,632,



which is the amount requested in this Interim #1 2500-8. Bidding response to this contract may be under or over the engineer's estimate.

**PART VII - APPROVALS**

1. \_\_\_\_\_ 05/08/2013  
Bitterroot NF Forest Supervisor Date

2. \_\_\_\_\_  
Region 1 Regional Forester Date

**Porcupine Complex MT 2012  
Cost/Risk Assessment**

**Part 1. Treatment Cost**

Treatment	cost
1. Trail Waterbars	\$6,372
2. Road Culvert Replacements	<b>\$63,736</b>
3. Road Drain Dips	\$13,506
4. Trailhead Burned Area Hazard Signs	\$750
<b>TOTAL COST</b>	<b>\$84,364</b>

**Part 2. Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives**

Treatment	%
1. Trail Waterbars	85
2. Road Culvert Replacements	80
3. Road Drain Dips	80
4. Trailhead Burned Area Hazard Signs	85

**Cost-Risk Matrix**

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Very Likely	Very High – Public Safety	Very High - Roads, Trails effects	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

**Risk of Resource Value Loss or Damage**

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

**No Action- Treatments Not Implemented (check one)**

Resource Value	None	Low	Mid	High
Human health and safety				X
Trail structure and investments				X
Plant communities at-risk from weed infestation		X		
Native Plant community structure, function and composition		X		
Aquatic community structure, function and composition		X		
Watershed integrity		X		
Heritage resources		X		
Threatened and Endangered Species (terrestrial)		X		
Threatened and Endangered Species (fish)			X	

**Proposed Action - Treatments Successfully Implemented (check one)**

Resource Value	None	Low	Mid	High
Human health and safety		X		
Trail structure and investments		X		
Plant communities at-risk from weed infestation		X		
Native Plant community structure, function and composition		X		
Aquatic community structure, function and composition		X		
Watershed integrity		X		
Heritage resources		X		
Threatened and Endangered Species (terrestrial)		X		
Threatened and Endangered Species (fish)			X	

### Part 3. SUMMARY

#### 1. Are the risks to natural resources and private property acceptable as a result of the fire if the following actions are taken?

**Proposed Action** Yes ☒ No ☐ Rationale for answer:

The culvert replacement treatments proposed for FR468 (Magruder Crossing Road) have been effective on other sites in reducing road closures due to washout of undersized pipes. The proposed treatment is less expensive than repairing a washout due to the extra fill needed to repair such an event in this remote site.

The trail drainage treatments (trail waterbars) proposed are effective in stabilizing trails against post-fire hydrology. Many native log waterbars have been burned to the point of failure. The treatments will be effective in draining surface flows off of trail prisms, reducing trail incision and potential for stream capture. Incised trails have proven to be almost impossible to recover or restore, and trail waterbars have proven effective in reducing trail erosion, stream capture, and incision.

**No Action** Yes ☐ No ☒ Rationale for answer:

Trails within the fire perimeter are a valued recreational resource (and economic resource for permitted outfitters) and would be subject to post-fire hydrology and erosion without treatment. Incised trails often require either extensive work or relocation to be functional and meet USFS standards, so proactive trail drainage work would save funding in the long run. Relocating trails in Wilderness settings is also problematic. Not treating road/stream crossings within high and moderate severity burns has often resulted in losing the crossings altogether when post-fire flooding occurs. FR468 is the sole access between Idaho and the Selway River rafting put in at Paradise, and an important recreational connector between central Idaho and Western Montana. Not treating the selected crossings would put this connector at a higher risk of damage than the Proposed Action.

The areas selected for treatment have a high risk of negative impacts to trail and road resources.

**Alternative(s)** Yes ☐ No ☐ Rationale for answer:

N/A

#### 2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

**Proposed Action** Yes ☒ No ☐ Rationale for answer:

The potential for surface flow and stream capture on trails will be greatly reduced with the repair of burned waterbars within fire-affected slopes. With trail erosion reduced, more expensive repairs can be avoided in the long term. Upgrading culverts and road drainage at the proposed site on FR468 improves the probability that the Forest can keep this important recreational access open, at a moderate cost, and reduce the potential of having to fund fixing a blow-out associated with changed hydrology. Burned area hazard signs effectively provide information to travelers unfamiliar with the risks associated with burned areas.

The beneficial results of treatment implementation are worth the monetary costs of installation.

**No Action** Yes ☐ No ☒ Rationale for answer:

Although the monetary cost of no action is low, not repairing waterbars on trails or improving the selected road/stream crossings will drastically increase the chances for post-fire damage, which can be difficult to repair given their remote locations and Wilderness restrictions on mechanized equipment.

**Alternative(s)** Yes ☐ No ☐ Rationale for answer:

N/A

#### 3. Which approach will most cost-effectively and successfully attain the EFR objectives

**and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?**

Proposed Action ☒, Alternative(s) ☐, or No Action ☐

Comments: None

# Engineer's Estimate for Contracted Culvert Replacement

SHOVEL CREEK INDEPENDENT GOVERNMENT ESTIMATE PROPOSED CULVERT							4/30/2013
SUMMARY OF QUANTITIES							
Pay Item	Description	Method of Measurement	Unit	Quantity	Cost Per Unit	Item Cost	
15101	Mobilization	LSQ	LS	1	\$9,500.00	\$9,500	
15713	Soil and Erosion Control (to include stream diversion)	LSQ	LS	1	\$1,500.00	\$1,500	
20304	Removal of Culvert, Disposal Method (a)	LSQ	LS	1	\$1,500.00	\$1,500	
20407	Select Borrow, Government Source	CQ	CY	180	\$16.00	\$2,880	
20478	Roadway Embankment	CQ	CY	225	\$12.00	\$2,700	
20806	Structure Excavation	LSQ	LS	1	\$14,000.00	\$14,000	
25101	Placed Riprap, Class 3, Commercial source	CQ	CY	34	\$70.00	\$2,380	
30801	Crushed Aggregate (Roadway and Bedding), Compaction Method 1, Government Source	CQ	CY	80	\$25.00	\$2,000	
60201	18-inch Corrugated Metal Pipe Culvert	AQ	LF	40	\$45.00	\$1,800	
60211	42-Inch Span by 29-Inch Rise Corrugated Steel Pipe-Arch w/ bevel-cut open inlets; 16 Gauge Thickness for Steel	AQ	LF	80	\$70.00	\$5,600	
60501	5' wide x 15' long x 3' deep french underdrain to include perforated pipes, Type 1 geotextile, and coarse angular rock (Class 2), Commercial Source	LSQ	LS	1	\$4,000.00	\$4,000	
62201a	Equipment Rental, Hydraulic Excavator with Thumb	AQ	HR	24	\$135.00	\$3,240	
62201b	Equipment Rental, Large Dump Truck	AQ	HR	24	\$100.00	\$2,400	
62528	Seeding, Fertilizing, and Mulching Dry Method	LSQ	LS	1	\$1,500.00	\$1,500	
Total						\$55,000.00	

**PORCUPINE COMPLEX FIRE  
BURNED AREA EMERGENCY STABILIZATION & REHABILITATION**

**PART F - SPECIFICATION**

<b>SPECIFICATION TITLE:</b>	<b>Area Culvert Installation</b>	<b>JURISDICTIONS:</b>	<b>FS – BNF</b>
<b>2500-8 PART #:</b>	<b>6.C Roads and Trails</b>	<b>FISCAL YEAR:</b>	<b>2013</b>
<b>ESR REFERENCE #:</b>	<b>6.3.9.2 Watershed and Property Protection</b>	<b>SPECIFICATION TYPE:</b>	<b>ES</b>

**I. WORK TO BE DONE**

<u><b>RT2 Install Culverts</b></u>
<p><b>General Description: 3 total sites:</b>  <b>3 Sites:</b> FR 468 in the Shovel Creek Drainage has a high percentage of high severity burn above two drainages that cross the road near a switchback (1 stream crosses road twice, 1 stream crosses road once and then joins larger stream = 3 crossings total). The current 18" and 24" culverts at these locations are threatened by post fire flooding and a large supply of floatable woody debris.</p> <p>Upsizing these culverts would retain access and reduce the probability of overtopping and road washout. FR468 (Magruder Crossing provides important recreational access from Idaho through to Montana during the summer months.</p> <p>Armored drive-through dips shall also be installed (Treatment RT-2) at downgrade side of these culvert locations to prevent water from running down the road, should the culvert plug.</p> <p><b>Design/Construction Specification(s):</b> Excavate and replace culverts at indicated sites. Riprap/rock armor will be placed at inlets and outlets to reduce risk of scour. Newly disturbed areas that do not receive rock armor will be seeded.</p> <p><b>Purpose of Treatment Specification:</b> The purpose of the treatment is to reduce the risk that stream flows will overtop the road. Sites were chosen based on high burn intensity of drainages above the roadways involved. Because of the probability of increased stream flows culverts in these locations are at greater risk of being inadequate in size and could trigger or add to debris torrents.</p>

**II. LABOR, MATERIALS AND OTHER COST**

<b>PERSONNEL SERVICES (Grade @ cost/hour X # hours X fiscal year = cost/item) Do not include contract personnel costs here - see contract services below</b>	<b>COST/ITEM</b>
WG-10 @ \$340 / day x 5 days x 2	\$3,400
GS-11 COR @ \$320 / day x 5 days	\$1,600
<b>TOTAL PERSONNEL SERVICE COST</b>	<b>\$5,000</b>
<b>EQUIPMENT PURCHASE, LEASE OR RENTAL (item @ cost/hour or day X #hours or days X fiscal year = cost) Do not include contract personnel costs here -see contract services below</b>	<b>COST/ITEM</b>
10 Yard Dump Truck @ \$221 / day x 5 days	\$1,105
Forest Backhoe @ \$300/day x 5 days	\$1,500
<b>TOTAL EQUIPMENT PURCHASE, LEASE, OR RENTAL COST</b>	<b>\$2,605</b>
<b>MATERIALS AND SUPPLIES (item @ cost/each X quantity x fiscal year = cost</b>	<b>COST/ITEM</b>
Weed Free Seed, Mulch (Straw), and Organic Fertilizer @ 544/ac x 2ac	\$0
<b>TOTAL MATERIALS AND SUPPLY COST</b>	<b>\$0</b>
<b>TRAVEL COST (Personnel @ rate X round trips X fiscal year = cost</b>	<b>COST/ITEM</b>

Pickup 4x4, 3/4 Ton Ext Cab, \$0.76/mile x 170 miles (round trip) x 5 trips	\$646
Ford F550 Utility Truck, Diesel, \$0.57/mile x 170 miles (round trip) x 5 trips	\$485
<b>TOTAL TRAVEL COST</b>	<b>\$1,131</b>

<b>CONTRACT COST (Labor, equipment, and travel @ cost/hr. X hrs. X fiscal year = cost</b>	<b>COST/ITEM</b>
Contract cost (Remove old culverts, Provide, transport and place new 36" squash pipes with mitered inlets). Armor, seed, mulch, fertilize disturbed area.	\$55,000
<b>TOTAL CONTRACT COST</b>	<b>NA</b>

### III. SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY-12 BNF	Culverts installed	\$21,245	3	\$63,736	ESR	P,C
<b>TOTAL</b>				<b>\$63,736</b>		

#### FUNDING SOURCES:

**F** = Fire Suppression Account

**ESR** = Emergency Stabilization & Rehabilitation

**OP/O** = Agency Operating or Other Account

**EWP** = Emergency Watershed Protection (NRCS)

#### SPECIFICATION TYPE

**ES** = Emergency Stabilization

**R** = Rehabilitation

**FS** = Fire Suppression

#### METHODS FOR COMPLETION:

**P** = Agency Personnel Services

**C** = Contract

**EFC** = Emergency Fire Contract

**FC** = Crew Labor Assigned to Fire

### IV. SOURCE OF COST ESTIMATE

1. Estimate obtained from 2 - 3 independent contractual sources	
2. Documented cost figures from similar project work obtained from local agency resources	M, C
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimate based upon government wage rates and materials cost.	P, M, T
5. No cost estimate required - cost charged to Fire Suppression Account	

**P** = Personnel Services

**M** = Materials/Supplies

**T** = Travel  
Suppression

**C** = Contract

**F** = Fire

### V. RELEVANT DETAILS, MAPS, AND DOCUMENTATION INCLUDED IN REPORT

List relevant documentation and cross-references within ESR Plan:

### VI. UNITS AND COSTS BY JURISDICTION

JURISDICTION	UNITS TREATED	COST
NF - BNF	3	\$63,736
<b>TOTAL COST</b>		<b>\$63,736</b>