



United States  
Department of  
Agriculture

Forest  
Service

Intermountain  
Region

324 25<sup>th</sup> Street  
Ogden, UT 84401-2310

File Code: 2520-3

Date:

Route To:

Subject: Burgdorf Junction Fire Interim BAER Request

To: Chief

After consultation with our Regional BAER Coordinator, I have recommended the attached interim request for the Burgdorf Junction Fire. This Interim requests replaces and adds treatments required for the Grouse Creek road to alleviate the emergency situations that exist regarding the road itself and the downstream water quality and fisheries habitat. The table below shows this Interim request and the funding already authorized by the WO for the specific treatment type of the Grouse Creek Road.

#### Grouse Creek Road

Treatment funded Initial	Treatment requested Interim	\$\$ Funded Initial	\$\$ Requested Interim	\$\$Change from Initial (additional interim request)
96" culvert 1	Arch pipe 1	8500	40000	31500
96" culvert 2	Arch Pipe 2	7200	35000	27800
6 CMP's		20000	0	0
8 dips		3700	0	0
9 reconstruct dips		3600	0	0
Under drain		3500	0	0
Safety markers		600	0	0
Riprap		500	0	0
Grout		1800	0	0
Armored ditch		1100	0	0
Mobilization	Mobilization	5600	21600	16000
Amor ditch		500		
Administration	Administration	5200	20000	14800
	Aggregate MP 0-2.1 (1450 cy)	0	26700	26700
	Aggregate MP 2.1-4.1 (1950 cy)	0	35900	35900
	Road Realign MP 4.0-4.1	0	4600	4600
	Blading of road	0	2300	2300
Totals		61800	186100	<b>159600</b>

The total recommended additional authorization for the Interim Burgdorf Junction Fire 2500-8 is \$159,600. We are submitting the request for your review and approval. Please contact BAER Coordinator Jeff Bruggink (801-625-5357) if you have any questions.

JACK A. BLACKWELL  
Regional Forester

Enclosure

Cc  
BPR (Jeff Bruggink, Ken Heffner, Bill Burbridge)  
WO (Max Copenhagen, Margaree Williams)



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**File Code:** 2520

**Date:** October 5, 2000

**Route To:**

**Subject:** Burgdorf Fire BAER Treatments

**To:** Jeff Bruggink

This letter is in response to the partial funding of the Burgdorf Fire BAER Treatments, specifically the proposed Grouse Creek Road treatments. Three areas of concern will be addressed including; culvert recommendations, aggregate surfacing, and road realignment.

It is critical to identify that this road is located primarily within the RHCAs of Grouse Creek and its tributaries. The Grouse Creek Road is of particular concern as a sediment source to Grouse Creek due to its close proximity to the creek and the presence of threatened fishes. The lower reaches of Grouse Creek contain chinook salmon spawning areas where redds currently exist. Grouse Creek and its three principal tributaries support known resident bull trout populations and, presumably, migratory individuals from the Secesh River. The lower reaches of Grouse Creek support steelhead and redband trout as well. The proposed Grouse Creek Road treatments should minimize fire-related risks to native fish, particularly threatened or endangered species, while not causing any short-term harm during implementation.

In regards to the two culvert installations, given the sensitivity of the fisheries issue and the need to minimize sediment delivery and stream channel disturbance, the open bottom arch pipe is needed for these two locations. The presence of chinook salmon redds in Grouse Creek and the Secesh River was unusually high in 2000, and we must do our best to protect this irreplaceable resource; the bull trout population in Grouse Creek and its tributaries is very small. The open bottom arch pipe installations would result in minimal stream channel disturbance and associated sediment delivery. Minimal stream channel disturbance is critical because any short-term loss to incubating chinook salmon and bull trout in Grouse Creek downstream of the construction is intolerable. The funded alternative, which is installation of 96 inch diameter CMP, would require excavating the channels 1.5 feet to bury the pipe resulting in channel disturbance and sediment delivery, thereby not meeting the intent of PACFISH and not adequately protecting the fisheries resource.

The Grouse Creek Road impinges on the RHCAs of Grouse Creek and its tributaries in numerous locations, and there are many long stretches where it parallels Grouse Creek within the RHCA. Sediment delivery to these streams is a widespread problem. The Burgdorf Junction Fire was stand replacing within 90 percent of the Grouse Creek Drainage. Post-fire effects include increases in water yield and peak flows as a result of reduced evapotranspiration, lower infiltration, and increased runoff. The post-fire effects are expected to result in increased overland flows. Interception of subsurface flow by the road is expected to increase, particularly within the RHCAs. The combination of increased overland flow and interception of subsurface flow is expected to result in increased surface flow on the Grouse Creek Road. The aggregate surfacing is needed to armor the road surface where sediment is expected to be delivered to Grouse Creek and its tributaries, thereby reducing the severity of these fire related problems.

The road realignment is necessary to avoid any additional road problems. Water is currently being directly channeled down the road, and active erosion cannot be avoided with any conceivable treatments other than realignment. The highest densities of bull trout found within the Grouse Creek watershed occur within Sand Creek, which is the recipient of the sediment eroded from this section of the road.

The BAER process includes evaluation of threatened and endangered species in the burned area, and potential losses to them are part of the projected loss, in dollars, from lack of proposed treatments. In this case, the potential loss of threatened chinook salmon, steelhead, and bull trout in the area potentially affected by the Burgdorf Junction Fire was *conservatively* estimated as approximately 2 million dollars, nearly two-thirds of the projected total potential loss. For this fire, the fisheries resource is clearly the most valuable resource needing emergency protection.

/s/ David F. Alexander

DAVID F. ALEXANDER  
Forest Supervisor

cc:

P.Grinde

B.Giles

R.Swick

R.Zuniga

J.Jimenez

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

**PART I - TYPE OF REQUEST**

A. Type of Report

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

B. Type of Action

- ☐ 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation 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: Burgdorf Junction
- B. Fire Number: P45525
- C. State: Idaho
- D. County: Idaho
- E. Region: Intermountain
- F. Forest: Payette
- G. District: McCall
- H. Date Fire Started: July 14, 2000
- I. Date Fire Contained: September 13, 2000
- J. Suppression Cost: 23 Million
- K. Fire Suppression Damages Repaired with Suppression Funds
  - 1. Fireline waterbarred (miles): 25
  - 2. Fireline seeded (miles): 0
  - 3. Other (identify): 10 acres (fire camps)
- L. Watershed Number: 17060207 (17060208)
- M. Total Acres Burned: 64347  
NFS Acres(59796 )    Other Federal (4411 )    State (0 )    Private (140 )

N. Vegetation Types: subalpine fir-grouse whortleberry; subalpine fir-beargrass; Douglas fir-pinegrass; Douglas fir-bunchgrass; ponderosa pine-bunchgrass.

O. Dominant Soils: Fluvial Lands; Periglacial Uplands/Mtn. Slopes; Canyonlands; Glacial Trough Lands.

P. Geologic Types: (Idaho batholith) granitics-dominant; metavolcanic and metasedimentary rock.

Q. Miles of Stream Channels by Order or Class: 107 perennial; 77 intermittent.

R. Transportation System

Trails: 13 miles      Roads: 47 miles

### **PART III - WATERSHED CONDITION**

A. Burn Severity (acres): 53500 (low) 10900\_\_ (moderate) 0 (high)

B. Water-Repellent Soil (acres): 5500

C. Soil Erosion Hazard Rating (acres):  
48792 (low) 10361 (moderate) 5194 (high)

D. Erosion Potential: 0.21 tons/acre

E. Sediment Potential: 5.1 cubic yards / square mile

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

A. Estimated Vegetative Recovery Period, (years): 3-5

B. Design Chance of Success, (percent): 90

C. Equivalent Design Recurrence Interval, (years): 100

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 2.0 w/snowmelt

F. Design Flow, (cubic feet / second/ square mile): 67

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

H. Adjusted Design Flow, (cfs per square mile): 107

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

A. Describe Watershed Emergency:

## Threats to Property:

1. FDR 50325 (Grouse Creek Road): This road crosses several perennial tributaries, a wetlands, and contains populations listed under the Endangered Species Act of 1973, as amended; Columbia River bull trout, spring/summer Chinook salmon, and Snake River steelhead. The drainage may also contain westslope cutthroat trout, a sensitive species. Grouse Creek drainage was one that suffered high tree mortality with an estimated reduction from 90 percent pre-fire to 10 percent post-fire forest cover. Ground effects were light with much large debris remaining and forbs, grasses and shrubs beginning to sprout. However the high tree mortality is expected to increase runoff such that existing culverts would be at risk for 10 year return period flows and larger. The Payette NF Land Management Plan requires that stream crossings be capable of passing the 100 year return period flow plus debris. Much of the Grouse Creek road lacked adequate drainage before the fire; now the situation may become critical as the road drainage system will be asked to carry considerably more water. The loss of culverts and fill plus potentially large segments of the road could adversely affect critical fish habitat for the species listed above as well as the road investment. A concrete box culvert on Sand Creek (tributary to Grouse Creek) has begun to have the footings undermined. With increased flows scour is expected to become more severe and shorten the life of the structure. One segment of the road parallels and is adjacent to a riparian area, has a 14 percent grade, crosses a failed log culvert on a sharp turn, and has a seep coming out of the road surface. Water control on this segment is nearly impossible now, and the increased flow of both the creek and seep would possibly cause road failure or make the road impassable. Among minor items, object markers were lost in the fire and would make certain features safety hazards to the road user. The road is almost all a native surface road with soft spots at times, and is prone to rutting and rilling. Increased water yield in general within the drainage will increase the roads saturated time, water depth in ditchlines, and increased residence time of water in the wet meadow that a segment of the road crosses, all leading towards a risk of the running surface eroding.

## B. Emergency Treatment Objectives:

- Minimize fire induced effects on the transportation and trail system by improving drainage characteristics, sizing stream crossings to meet 100 year runoff events, graveling the running surface where susceptible to rutting and rilling, and adjust road alignment where necessary for stability.
- Minimize potential effects to spawning and rearing habitat for listed fishes in the Grouse Creek and Secesh River area by improving the roads as described above.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land 50 % Channel n/a % Roads 100 % Other     %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	60	60	60
Channel	N/A		
Roads	90	90	90
Other			

E. Cost of No-Action (Including Loss): 3,652,441

F. Cost of Selected Alternative (Including Loss): 362,448

G. Skills Represented on Burned-Area Survey Team:

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

Additional support was provided by non-team members in geology, GIS, range and research.

Team Leader: Randall J. Zuniga

Email: [rzuniga@fs.fed.us](mailto:rzuniga@fs.fed.us)  
634-0433

Phone: 208-634-0444

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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.)



## Roads and Trail Treatments:

### Update to initial funding

1. FDR 50325 (Grouse Creek Road): Install 2 open bottom arch structures designed to pass the 100 year flow, allow fish passage, and be of sufficient size to span the bankfull width. Additional information and consultation has been collected since the initial request for treatments and the options provided in the initial 2500-8. The previously funded 96" steel culverts are no longer an option to protect the sensitive fisheries resources that are affected by Grouse Creek Rd. and the impacts due to the fire. The funded alternative under the initial request would require excavating the channels to 1.5 feet to bury the pipe resulting in channel disturbance and sediment delivery, thereby not meeting the intent of PACFISH and not adequately protecting the fisheries resource. This would limit the potential impacts to the road and minimize effects on listed fishes and their habitat.
2. Aggregate surfacing (Grouse Ck Road): The aggregate surfacing was not funded in the initial request. The aggregate surfacing is needed to armor the road surface where sediment is expected to be delivered to Grouse Creek and its tributaries, thereby reducing the severity of these fire related problems. The aggregate will effectively reduce the impacts of additional runoff to the road that is expected from the burn area. It will protect the road system from further damage and reduce the additional downstream sediment transport that is expected to occur for many years in the burn area. Place 3400 yd<sup>3</sup> of aggregate on soft spots, all stream crossings and the last 2.1 miles of road. The slope above this road segment lost nearly all the vegetation with water control and surface stability becoming very difficult on due to increased water yield.
3. Road realignment (Grouse Ck Rd): The realignment of approximately 1000 feet of road. The existing road is on a steep gradient (14%) and parallels a riparian area. The road has cut down lower than the adjacent stream channel in many places. The additional flow of water on the road is expected to significantly increase due to the fire. Maintenance options have been considered but are not feasible given the location and steepness of the road. The most efficient and cost effective solution for protecting this section of road and protecting downstream water values from the additional runoff expected from the fire is to realign the road. The realignment would be about 1000 feet long over gentle terrain and would replace about 600 feet of 14% grade road along a riparian area.

## **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.)

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

Line Items	Units	Unit Cost	# of Units	WFSU SULT \$	Other \$	Other Lands		# of units	Fed \$	# of Units	Non Fed \$	All Total \$
<b>A. Land Treatments</b>												
<b>B. Channel Treatments</b>												
n/a				\$0				\$0			\$0	\$0
				\$0				\$0			\$0	\$0
				\$0				\$0			\$0	\$0
				\$0				\$0			\$0	\$0
<i>Subtotal Channel Treat.</i>				<i>\$0</i>				<i>\$0</i>			<i>\$0</i>	<i>\$0</i>
<b>C. Road and Trails</b>												
<b>FDR 50325 <sup>1</sup></b>	each	159600	1	\$159,600				\$0			\$0	\$159,600
<i>Subtotal Road &amp; Trails</i>				<i>\$159,600</i>				<i>\$0</i>			<i>\$0</i>	<i>\$159,600</i>
<b>D. Structures</b>												
n/a				\$0				\$0			\$0	\$0
<i>Subtotal Structures</i>				<i>\$0</i>				<i>\$0</i>			<i>\$0</i>	<i>\$0</i>
<b>E. BAER Evaluation</b>												
<b>H. Totals</b>				<b>\$159,600</b>				<b>#REF!</b>			<b>#REF!</b>	<b>#REF!</b>

<sup>1</sup>This represents the amount in addition to the approved initial request for Grouse Ck road that is required to meet the treatment needs

## **PART VII - APPROVALS**

1. /s/David Alexander  
Forest Supervisor (signature) Date 10/06/00
2. \_\_\_\_\_  
Regional Forester (signature) \_\_\_\_\_  
Date