United States Department of Agriculture
Forest Service
Region 1
200 East Broadway
P. O. Box 7669
Missoula, MT 59807

File Code: 6520/2520-3 **Date:** November 6, 2000
Route To:

Subject: Interim Funding Request, Flat Creek Portion of the Thompson Flat Complex Fire, Burned Area Emergency Rehabilitation Request

To: Chief

Enclosed is the Interim Burned Area Rehabilitation (BAER) request for the Flat Creek Portion of the Thompson Flat Complex Fire on the Lolo National Forest. This request is for an additional $294,470 over our initial request.

Contact Bruce Sims (406-329-3447) if you have any questions.

/s/ KATHLEEN A. McALLISTER (for)

DALE N. BOSWORTH
Regional Forester

Enclosure

cc: Max Copenhagen, WO

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated WFSU-SULT funds
[X] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[] 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation measures)

[X] 2. Interim Report
[X] Updating initial request based on more accurate site data or design analysis
[X] Status of accomplishments to date

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

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Flat Creek Portion of Thompson Flat Complex**

B. Fire Number: MT-LNF-092

C. State: Montana

D. County: Mineral

E. Region: 1

F. Forest: Lolo

G. District: Superior

H. Date Fire Started: 8/04/00

I. Date Fire Contained: 09/08/2000

J. Suppression Cost: N/A

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): N/A
2. Fireline seeded (miles): N/A
3. Other (identify): N/A

L. Watershed Number: 17 01 02 04 07 01 and 17 01 02 04 06 12

M. Total Acres Burned: NFS Acres (2693) Other Federal ( ) State (280) Private (628)

N. Vegetation Types:

1. High severity burns, 100% tree mortality = approximately 447 acres, DF and LP on Potential Natural Veg Groups (PNV) 2,3, and 9 (R1 Biophysical Classification) .
2. Moderate to High severity burns, 100% tree mortality = approximately 644 acres, 549 acres DF/WL, 33 acres SAF, 35 acres LPP and 27 acres PP. 534 acres PNV 2, 110 acres PNV 9.

O. Dominant Soils: Deep, medium textured, Inceptisols and Alfisols on moderately steep to steep mountain slopes.

P. Geologic Types: Pre-cambrium meta-sedimentary argillites, siltites and limestones.

Q. Miles of Stream Channels by Order or Class: 1ST: 44, 2ND: 18, 3RD: 10

R. Transportation System

Trails: 3.3 miles Roads: 49.5 miles FDR system, 17.3 miles non-system roads (8.5 miles of which are Plum Creek) Jammer terraces: 10 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 1383 (low) 1845 (moderate) 373 (high)

B. Water-Repellent Soil (acres): 66

C. Soil Erosion Hazard Rating (acres): 622 (low) 1913 (moderate) 1066 (high)

D. Erosion Potential: 15.30 tons/acre per 24 months

E. Sediment Potential: 583 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 6 years for erosion, 60 years for runoff

B. Design Chance of Success, (percent): 80

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.4

F. Design Flow, (cubic feet / second/ square mile): 9

G. Estimated Reduction in Infiltration, (percent): 20

H. Adjusted Design Flow, (cfs per square mile): 12

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PART V

File Code: 2500 **Date:** October 27, 2000
Route To: Bruce Sims

Subject: Supplemental Burned Area Report

To: Regional Forester

I have attached a supplemental Burned Area Report (2500-8) for the Thompson-Flat Fire Complex. Our initial report was submitted on September 16, and approved on September 20, 2000. Additional field work and more detailed cost estimating since that time have revealed additional needs in the Land Treatment and Road and Trail Treatment categories. Land Treatments were approved in the amount of $155,300 and Road and trail Treatments at $311,200. Revised evaluations indicate $189,419 for Land treatments and $572,400 for Road and Trail Treatments. Included in the attachment is a spreadsheet detailing how individual elements within treatment categories have changed and how rehabilitation has progressed to date.

Land Treatments: Intensive field work and recent aerial photography disclosed a more complex network of overgrown "jammer roads" (jammer terraces) on steep sensitive soils in severely burned areas with in the fire. These old features typically have no drainage provided at draw crossings where fills are 10 to 30 feet deep. The fills had begun to erode over time and there has been accelerated gullying during this Fall's rains. The steepness of both the draw bottoms and the "road" gradients in the severely burned areas results in an extreme risk of "cascading failures" of these fills if they are not removed. The number of fills recommended to be removed is increased from 10 to 16. While the number of miles of jammer road surface treatment is reduced, the number of miles requiring full-to-partial recontouring is increased. Jammer surface treatment consists of deep ripping the jammer road surface and spot seeding on particularly steep pitches and at draw fill removals.

Upon closer site evaluation, the installation of log erosion barriers on moderate slopes in the headwaters of severely burned draws is recommended. Aerial erosion control seeding has been completed and has a high likelihood of protecting the surface, improving infiltration and reducing erosion in the next runoff season. The area recommended for seeding increased from 456 acres to 1,003 acres.

Only a minor amount of planned shrub planting (associated with channel treatment) has been accomplished. Deteriorating weather conditions and low availability of stock will result in postponement of most shrub planting until next Spring.

Channel Treatments: The recommended channel treatment in Johnson Creek to restore capacity to handle anticipated post-fire runoff increases was completed. The cost was less than estimated. Monitoring photo points and channel cross-sections were established to evaluate treatment

effectiveness. Valley bottom sub-soils were finer than anticipated and maintenance efforts may be needed after runoff season next year.

Road and Trail Treatments: The primary reasons for increased costs for road treatments are the expense of providing surface drainage to un-surfaced roads in sensitive soils and the expense of removing deep, wide fills to replace undersized culverts.

System roads passed through all areas that were severely burned. Numerous jammer roads branched off these system roads contributing delivering large volumes of captured overland flow. The inplace drainage system is already showing signs of inadequacy to handle increased post-fire runoff. Up-grading the road surface drainage is nearly complete and will be finished before the season ends.

Four culverts on the lower end of Johnson Creek will have emergency overflow spillways constructed with the anticipation of replacing the structures next year. Removal of the single undersized culvert over Flat Creek on NFS Land is on hold until laboratory analysis of in channel mine tailings is available. Results are hoped for by October 27. Because of the "cost-share" nature of the crossing and the need to provide access to the cooperator, a temporary bridge will be installed at the time the culvert is removed.

Eight drainage structures on ephemeral draws will be removed along with their fills to accommodate expected increased post-fire spring runoff. Adequately sized CMP's will be installed next year.

Fewer than estimated trail waterbars (70 versus 106) actually required replacing on the Idaho Gulch Trail. The work has been completed on about 7 miles of trail at a cost of about $2,000 less than calculated.

/s/ DEBORAH L.R. AUSTIN
Forest Supervisor

Enclosures: Burned Area Report (2500-8) Parts I through IV
Spreadsheet Revising Cost Estimates
WO Letter 2520-3/6520 dated 9/20/2000, Approval of BAER Funding

USDA-FOREST SERVICE

FS-2500-8 (7/00)
Date of Report: 10/27/2000

PART VI

Lolo National Forest Supplemental Burned Area Report Funding Request, October 27, 2000

Flat Creek (Thompson-Flat)	Initial Estimate		Revised Estimate		Percent Accomplished
Line Items	**Amount**	**Cost**	**Amount**	**Cost**	
A. Land Treatments					
Jammer Fill Removal	10 ea	$20,000	16 ea	$32,000	70%
Jammer Surface Treatment	10 miles	$20,000	3 miles	$6,000	100%
Jammer Recontouring	2 miles	$10,000	5.25 miles	$26,250	40%
Install Log Erosion Barriers	0 acres	$0	115 acres	$16,500	90%
Weed Spray Roads	14 miles	$1,809	14 miles	$1,809	0%
Weed Spray Aerial	752 acres	$26,320	752 acres	$26,320	0%
Shrub Planting	5,000 ea	$8,500	5,000 ea	$8,500	0%
Erosion Control Seeding	456 acres	$13,680	1003 acres	$31,000	100%
Native Grass Seed	456 acres	$41,040	456 acres	$41,040	0%
Subtotal Land Treatments		$141,349		$189,419	
B. Channel Treatments					
Restore Capacity	4,000 feet	$28,000	4,000 feet	$13,200	100%
Subtotal Channel Treatment		$28,000		$13,200	
B. Roads and Trails					
Rd Fill Removal	12 ea	$24,000	20 ea	$40,000	60%
Rd Surface Drainage	36 miles	$72,000	36 miles	$72,000	95%
Rd Recontouring	3 miles	$15,000	4 miles	$20,000	20%
Rd Culvert Replace	23 ea	$186,000	23 ea	$428,000	0%
Trail Water Bars	106 ea	$5,300	70 ea	$3,500	100%
Trailbed Drainage	5,000 feet	$6,250	5,000 feet	$6,250	25%
Trail Hazard Signs	10 ea	$1,000	10 ea	$1,000	0%
Tr Hazard Removal	3.3 miles	$1,650	3.3 miles	$1,650	100%
Subtotal Roads and Trails		$311,200		$572,400	
TOTAL REQUEST		$480,549		$775,019	

ADDITIONAL REQUESTED (INITIAL MINUS REVISED) = $294,470