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

Date of Report: July 7, 2007

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 #____
[ ] 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: **Rancho**

B. Fire Number: **CA-LPF-00980**

C. State: **CA**

D. County: **Santa Barbara**

E. Region: **Pacific Southwest (R-5)**

F. Forest: **Los Padres**

G. District: **Santa Barbara**

H. Fire Incident Job Code: **P5DLV9**

I. Date Fire Started: **6/30/2007**

J. Date Fire Contained: **7/3/2007**

K. Suppression Cost: **$1,200,000**

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

M. Watershed Number: **180600100201 (HUC6)**

N. Total Acres Burned: **382** (482 ac.- see following note*****)
NFS Acre (**382**) Other Federal ( ) State ( ) Private ( )

***The 7/3/2007 ICS-209 lists the burned acres as 482. However, the shape file used to generate this value and accompanying maps when used with the Forest GIS yielded 382 acres with the same map perimeter. Because the Forest GIS was used to generate most of the other acreages in this report, 382 acres will be used as the burned acres for this report.**

O. Vegetation Types: Chaparral (6 ft) with grasses, purple sage, black sage, white sage and chaparral yucca

P. Dominant Soils: Livermore-Agua-Dulce-Hambright Familes association, 30-80% slopes (about 85% of the burned area) and Lodo-Livermore-Chualar families association, 30-60% (about 15% of the burned area)

Q. Geologic Types: Monterey Shale and Quaternary terrace remnants

R. Miles of Stream Channels by Order or Class: 1.9 miles of 1st Order streams

S. Transportation System

Trails: 0 miles Roads: 1.25 mile

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 53 (14%) (low or unburned), 195 (51%) (moderate), 134 (35%) (high)

B. Water-Repellent Soil (acres): 134

C. Soil Erosion Hazard Rating (acres):
___ (low) ___ (moderate) 382 (high)

D. Erosion Potential: 30 tons/acre [normal level is 2.5 tons/acre]

E. Sediment Potential: 274 cubic yards / square mile one year following burn from confluence of Santa Ynez River and Redrock Canyon (average annual sediment yield) [normal level is 200 cu.yd./sq.mi.)

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

C. Equivalent Design Recurrence Interval, (years): 5

D. Design Storm Duration, (hours): 0.5

E. Design Storm Magnitude, (inches): 2.0

F. Design Flow, (cubic feet / second/ square mile): Using Rowe et al. Method

For Santa Ynez River/Oso Canyon HUC6 Watershed

equal or exceeded peak discharge	normal peak discharge (cfs/sq mi)
Q 2	5.5
Q 10	8.9
Q 25	11.7

G. Estimated Reduction in Infiltration, (percent): 35

H. Adjusted Design Flow, (cfs per square mile): Using Rowe et al. Method

For Santa Ynez River/Oso Canyon HUC6 Watershed

equal or exceeded peak discharge	1 year post burn peak discharge	Percent of pre-fire
Q 2	5.6	102%
Q 10	9.0	102%
Q 25	11.9	102%

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Rancho Fire burned within the Santa Ynez Recreation area on the Santa Barbara RD. This is one of the premier developed recreation areas on the Los Padres NF with multiple day use and camping sites. It heavily used not only for its amenities but also its proximity to the Santa Barbara area. Access to the day use area is only via Forest road 5N18 which is a County Road through to the recreation area. The road is also administratively important for fire protection of a large area, for administration by the recreation concessionaire and for operation and maintenance of the Gibraltar Reservoir. Gibraltar Reservoir is part of the municipal water supply for the City of Santa Barbara.

Public Safety - The fire occurred above 1.25 mile of Forest road 5N18.2. Until the Rancho Fire, only a 0.25 mile segment had a known rockfall problem area. Above the affected 1.25 mile road segment, slopes are generally greater than 60%, underlain by the same bedrock, and have many individual rocks present at the ground surface. Due to the wildfire, vegetation that helped anchor these rocks in place and buttress the soil cover was largely removed. So now there is a high likelihood that rainfall events will easily dislodge rocks and cause them to roll down onto the road. These rocks would pose a serous hazard to vehicles and people struck by them (see geology and hydro reports for details). Individual large rocks have impacted cars causing both death and serious injury in a number of instances in the Sierra Nevada and other mountain ranges.

Also, these small watersheds denuded of vegetation by the Rancho Fire and containing abundant rocks and coarse soil material are likely sources for debris flows under the right rainfall conditions. The presence of old, dissected debris flow deposits at the mouths of some drainages at the road level demonstrate this is not a new phenomenon for this area. What is not known are the circumstances associated with their original occurrence. Debris flow research has identified that small drainages are particularly prone to debris flow occurrence. This is especially true where these drainages are steep, have accumulated rock debris and shed water rapidly during storm events. These conditions are now all present in the small watersheds above the road due, in part, to the Rancho Fire. Even if these drainages do not yield a debris flow during a storm event, they are also capable of producing high water flows across the road. This flood hazard poses a similar concern for the driving public.

Road – The potential for higher than normal flows or debris flows will impair the function of the road following storm events. Deposition of rocks and rocky debris on the road will similarly impair its function and potentially degrade the road prism and/or surfacing. This is a potential of loss of investment because it would 1) degrade the re-pavement completed last year, 2) impact the concessionaires business, 3) prevent visitors from reaching two of the most popular recreation sites that account for half the recreation use and 4) complicate the management of Gibraltar Reservoir. Consequently, there is a need to ensure that the road drainage operates at maximum efficiency to avoid serious damage to the road. It is equally important for debris clearing to occur to restore road function and limit impacts to users.

While threatened and sensitive species were identified in the aquatic environment adjacent to the road, it was concluded that the increased seidment delivered to the stream environment from the Rancho Fire is within the natural variability of sediment loading to the Santa Ynez river through this reach. However, timely removal of debris on the road and its disposal in designated sites will ensure this short-term impact to these aquatic species will avoid the extremes of natural variability.

Only one known heritage resource site coincided with the burned area. It was withing a low burn severity area and initial evaluation indicates it is not threated by greater exposure or erosion damage. The proposed actions for addressing the rockfall hazard and protecting the investiment in the road are either not expected to impact heritage resources or are planned for oversight should something be detected.

B. Emergency Treatment Objectives:

1. Protect the public recreating in this established recreation area and others such as Forest Service personnel, concessionaire employees and city employees using the road for work-related travel.

2. Protect the investment in this road which provides access to parts of the Santa Ynez Recreation area (including developed sites) and to Gibraltar Reservoir, a part of the water supply system for the city of Santa Barbara.

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

Land __ % Channel __ % Roads/Trails **95** % Protection/Safety **99** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads/Trails	90	99	
Protection/Safety	99	100	

E. Cost of No-Action (Including Loss): Possible death or injury ot forest visitors or employees, damage to vehicles, replacement cost for flood or debris flow damaged sections of the orad with accompanying loss of use of parts of the recreation area due to imparied road function.

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

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

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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.)

Land Treatments: None proposed

Channel Treatments: None proposed

Roads and Trail Treatments: Protect the road infrastructure by pre-storm season clearance of culverts and related preparations to ensure the highest function of the road drainage system. The physical conditions present at these drainage points does not readily permit for increasing their capacity or similar efficiencies. Pre-storm season designation of disposal sites will facilitate the ability to clear the road before subsequent storms and limit sediment loading to the river from this source. The pre-season effort should be followed during the rainy season by storm patrols to avoid diversion of drainage and accumulations of debris that would lead to erosion and degradation of the road prism. It is difficult to forecast the number of storms events triggering clearing operations. Based on past experience and assuming a normal rainfall, this work is budgeted for seven storm patrol events.

Protection/Safety Treatments: Mitigation to protect the public would be accomplished by signing the road segment to alert the public to this potential threat at both ends. These signs would idnciate the potential danger at points where the public could turn around. Along the 1.25 mile segment, signs indicating a rock fall hazard would be placed. All sign language would conform to engineering standard and approved on by the road sign coordinator. Signs would be combined with administrative closure. Once, the road is re-opened following placement of the signs it use will continue until the first rains of 2007-08. Then closure would occur beginning with the first rain storms. The gate blocking the road should be locked when such a storm is expected (within hours) as is done at a number of other roads on the Los Padres National Forest. The road should only be re-opened when clearance of any debris on the road is completed and no new storm is imminent. This practice should be continued until such time as the debris amounts and frequency is similar to the pre-fire experience of the engineering staff.

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.)

No monitoring outslide of the operational monitoring described for storm patrols and closure are anticipated.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim # 1**

			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										
				$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										
Pre-season cleaning	miles		1.25	$9,646	$0		$0		$0	$9,646
Storm Patrol	events	$16,265	7	$113,855	$0		$0		$0	$113,855
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$123,501	$0		$0		$0	$123,501
D. Protection/Safety										
Purchase/install warning signs			4	$1,496.48	$0		$0		$0	$1,496
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$1,496	$0		$0		$0	$1,496
E. BAER Evaluation										
Team costs				$7,216			$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				$124,997	$0		**$0**		**$0**	**$124,997**
Previously approved										
Total for this request				**$124,997**						

PART VII - APPROVALS

1. *Kenneth E. Heffner* July 16, 2007
   Acting Forest Supervisor (signature) Date

2. */s/ Vicki A. Jackson (for)* *July 25, 2007*
   Regional Forester (signature) Date