FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway

DAMAGE SURVEY REPORT

(Title 23, Federal-Aid System/Federal Domain)

Sheet No: 12 of 15

DSR No: **MORA-Rte. 102-5**

Disaster No: WA2007-1NPS

Applicant: Mount Rainier National Park	County: Pierce	State: WA	Inspection Date: 01/23/2007
Route 102 - Carbon River road MP 4.4 to MP 4.7 (Ipsut road)			ADT:
Bridge Data:	Road Data:	Classification:	Photograph #:
Type:	Traveled Way Width: 18 ft	Surface Type: gravel	Thickness:4"-6"
ID#:	Shoulder Width:	Surface Type:	

Description and Cause of Damage: Flood flows of November 6 and 7, 2006 eroded river banks, resulting in flood flows overtopping riverbanks and flowing down the Carbon River road. Significant portions of the road were severely eroded and damaged.

Scope/Description of Repair: **MP 4.4 - 4.7** Repair 620-ft scoured surfacing and repair 780-ft washed out roadway leading to Ipsut campground & trailhead

COST ESTIMATE for EMERGENCY REPAIRS*

Quantity	Unit	Item Description	Unit Price	Cost
1	LS	MP. 4.4-4.7: Temporary stabilization to prevent further damage in fall/winter 07/08	$ 25,000.00	$25,000
		(cost includes A/E consultant, staffing, equipment, supplies)		
Proposed:	Force Account	Contract	Total Emergency Repairs	$25,000

COST ESTIMATE for PERMANENT REPAIRS*

Quantity	Unit	Item Description	Unit Price	Cost
1	LS	Mobilization, survey, testing, etc.	$14,000.00	$14,000
2500	CY	select borrow	$25.00	$62,500
200	CY	roadway aggregate surfacing (5/8-in minus)	$50.00	$10,000
80	LF	42-inch CMP culvert	$100.00	$8,000
1	LS	Remove downed timber from roadway prism	$10,000.00	$10,000
1	LS	Revegetation (5%)	$7,600.00	$7,600
		MP 4.4 to 4.5: Repair 620-ft section of eroded ditches		
		MP 4.5 to 4.7: Repair 780-ft section of washed out roadway; refer to drawing of		
		typical section for washout repairs. Install 2 ea, 42-in CMP relief culverts for		
		channel of Ipsut creek, re-using any salvagable culverts.		
		Subtotal Permanent Repairs (continuation sheet)		
Proposed:	Force Account	Contract	Total Permanent Repairs	$112,100

Identify Betterment, if any, and provide justification*: Install 4-inch minus angular or Class III riprap as an erosion resistant cap over fill as recommended in the 1996 hydraulic report from WFLHD. With this cap only the 5/8 inch minus aggregate surfacing would need to be replaced following future flooding events.

Preliminary Engineering 15%	$16,815
Construction Engineering 10%	$11,210
Right-of-Way	
Other: Compliance (5%)	$5,605
TOTAL ESTIMATED COST (Emergency and Permanent Repairs)	$170,730

Submitted By: (Name and Title) Eric Walkinshaw, Park Engineer		Signature: /s/ Eric Walkinshaw	2/13/2007
Reviewed By: (Name and Title) David F. Kruse, PWR ERFO Coordinator	Eligible **X** Ineligible	Signature: /s/ David F. Kruse	Date: 2/16/07
Recommended By: (Name and Title)	Eligible Ineligible	Signature:	Date:

*Attach Supplemental Sheets if necessary