

SOC
REDWOOD NATIONAL PARK
LIBRARY

Summary of Rehabilitation Work: Unit 84-8 M-7-5-1 Road

Ken Utley
October, 1984

Introduction

Rehabilitation Unit 84-4 M-7-5-1 Road is located on the southern side-slopes of Bridge Creek about a mile upstream from the confluence with Redwood Creek (Fig.1). The unit encompasses the remaining .8 mile of the M-7-5-1 roadway. The rest of the roads traversing the hillslope had been removed and necessary hillslope rehabilitation had been completed during earlier rehabilitation work in 1980 and 1981. For additional information on geologic, geomorphic, erosional history, and landuse history see Summary Reports 80-6 and 81-4.

The M-7-5-1 Road still intact poses little erosion potential although eventual culvert failure would have created some erosion by gullies in the future. The road was rehabilitated in September 1984 when a surplus of available hours on a D-8 crawler tractor being used on Unit 84-3 became apparent. The allocated funds could not be shifted to other rehabilitation units in progress due to budgetary and time constraints. Because of the proximity and simplicity of work involved in the M-7-5-1 Road removal, the decision was made to use the surplus D-8 hours to rehabilitate the remainder of the road.

Rehabilitation work performed on the unit consisted of excavating eight small stream crossings or culverts, outsloping three landings, construction of 32 cross road drains, and directing stream flow across a skid trail (Fig. 2). All work was done with a D-8 crawler tractor in 72.5 hours at a cost of \$6,525.00.

Rehabilitation Work

Because of the simplicity of the unit and the need to implement the work as quickly as possible, no pre-work survey or erosion potentials were done. The detailed geomorphic mapping had been completed in 1980/81 and this was office reviewed for completeness and scope of necessary work. Worksites were evaluated before beginning work with the D-8 and verbal instructions given to D-8 operator. As the excavations were being done, changes were made to achieve a final grade. Cross road drain locations were flagged in the field using the detailed mapping just ahead of the D-8. Landings were outsloped to cover up large bare areas and cutbanks which were inhospitable for vegetation. None of the landings posed any significant erosion potential to stream channels.

Work on the unit was done between September 5 and September 21, although three days were down time for operator illness or equipment problems. An additional 2½ days were spent working on the 84-3 Unit or performing maintenance on other roads. A total of 72.5 hours over eight days were required to complete the work. Table 1. summarizes the hours and costs for the various work performed on the unit. Unit costs per volume are not shown as volume surveys were not made.

The size of haul road crossings and disturbed ground tended to be larger than normal due to use of only a D-8 tractor to complete excavations.

FIGURE 2

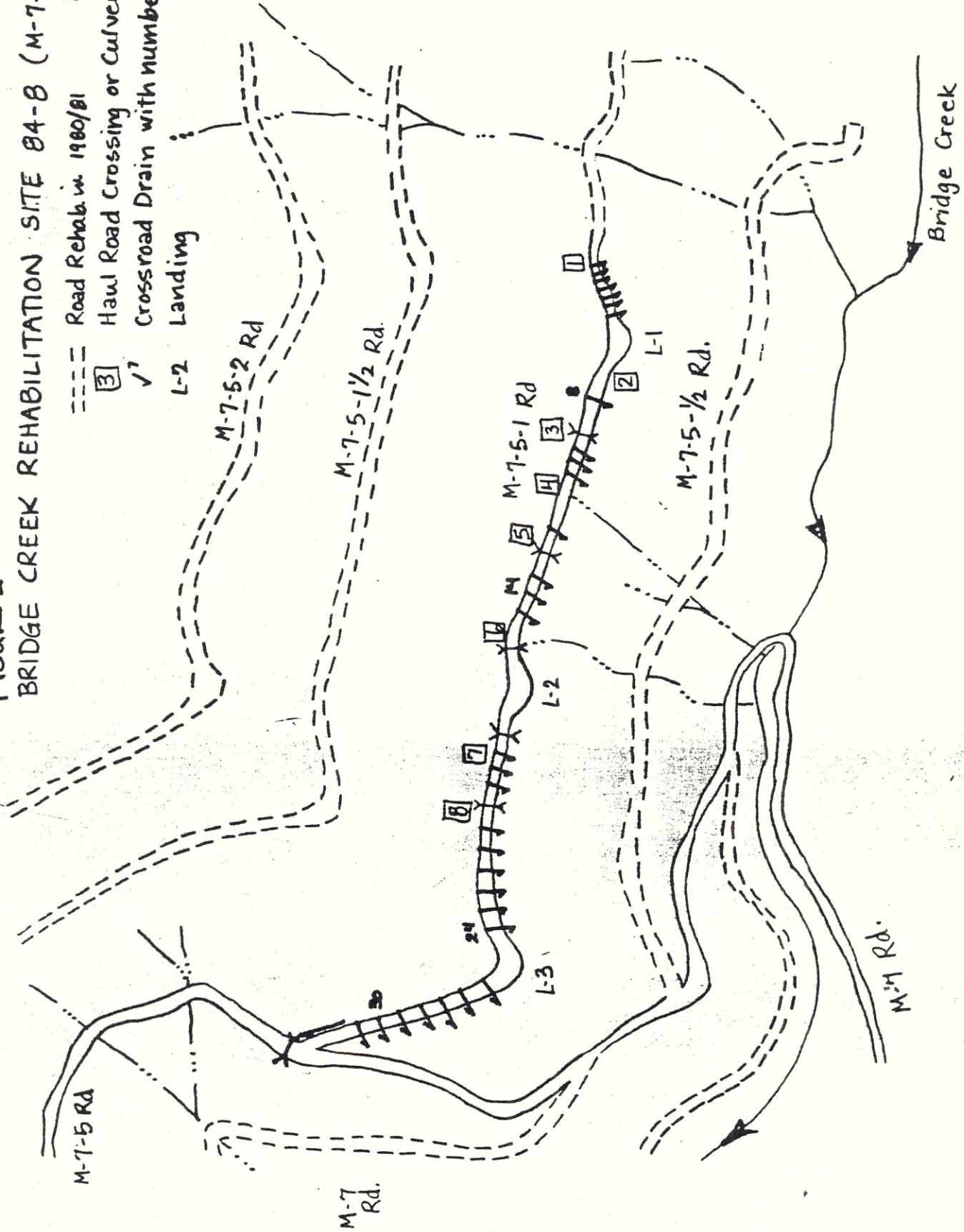
BRIDGE CREEK REHABILITATION SITE 84-8 (M-7-5-1 Rd.)

--- Road Rehab w. 1980/81

[3] Haul Road Crossing or Culvert Removal

✓ Crossroad Drain with number

L-2 Landing



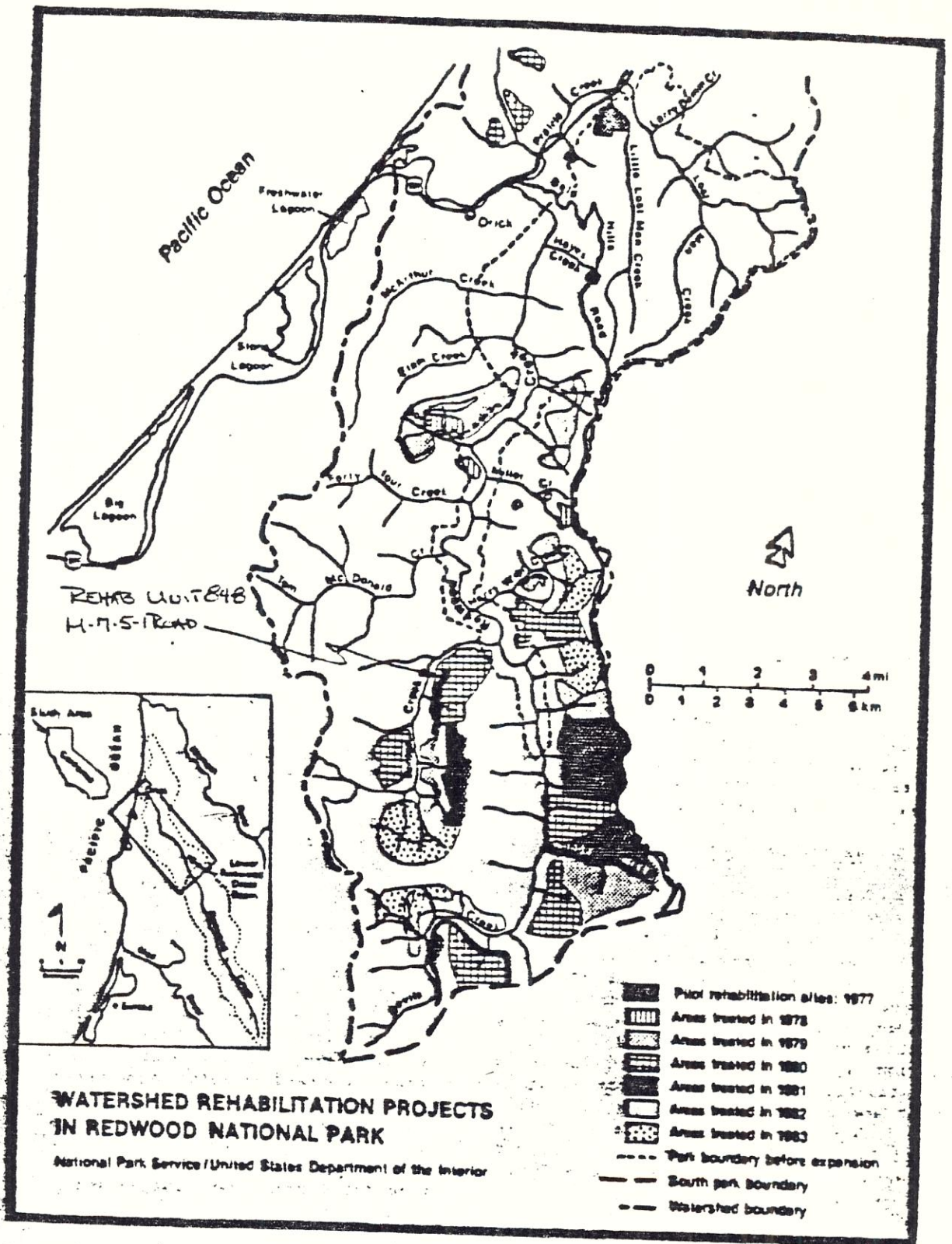


Figure 1. Location of erosion control project sites in Redwood National Park.

A suitably stable channel gradient was considered of greater importance than the amount of ground disturbance caused. In several crossings fill removal was done by pushing material downhill to stable locations outside of flow courses. On one crossing (RX-3) a downslope ditch was constructed to insure flow into a stabilized gully where potential diversion was perceived. The ability to excavate the road crossings solely with a D-8 was successful largely because of the lack of flow and dry fill conditions. Some water was encountered at several crossings at the downstream end and the D-8 got stuck in mud twice. A single skid trail crossings was excavated to redirect flow into a haul road crossing excavation and away from a failing landing (Fig. 2). This flow had been directed by directional flow devices manually constructed in 1980 rehabilitation work onto the following landing. These structures (1 side bank deflector which was undercut and 1 headcut water ladder) were destroyed during the skid trail excavation.

The M-7-5-1 road surface was not ripped as no ripper tractor was available and it was not deemed necessary. Cross road drains (32) were constructed to drain springs, seeps and inboard ditches at a cost of about \$13/each. Landings were outsloped mostly to promote revegetation, improve drainage, or as visible eyesore (L-3). L-2 was actively failing but posed little erosion hazard. Landing outsloping disturbed the largest ground of all the work performed. No straw mulch was spread on the unit as none was available at the time. Some surface and rill erosion is to be expected on the freshly disturbed ground, but should generate little, if any, sediment to flow courses.

The work performed on the unit is of interest because of the sole use of a D-8 to complete the work. The possibility of using a single crawler tractor to remove similar size roads with small crossings and dry ground conditions could be a useful and inexpensive method to remove other roads within the park. However detailed mapping must have been completed beforehand and dry site conditions assured so that the crawler tractor can complete the work. Additionally decompaction (ripping) and straw mulch application may be required or desired in some situations.

Table 1 Summary Hrs. for Work Sites

Unit 84-8 with D-8

Treatment	Worksite No.	D-8 Hours ¹	Cost	Description
Haul Road Crossing Excavation	Rx-1	1.25	\$ 112.50	Small
	Rx-2	2.75	247.50	Small
	Rx-3	2.00	180.00	Small
	Rx-4	1.25	112.50	Small
	Rx-5	3.25	292.50	Small
	Rx-6	21.00	1890.00	Large/Medium
	Rx-7	3.50	315.00	Small
	Rx-8	.50	45.00	Small-Culvert Removal
	Total	35.50	\$3195.00	Average \$399.38/xing
Outsloping-Landings	L-1	7.50	\$ 675.00	
	L-2	8.00	720.00	Outboard edge failing
	L-3	11.75	\$1057.50	Harsh Location & Eyesore
	Total	27.25	\$2452.50	Average \$817.50/landing
Cross Road Drain Construction	32 Total	4.75	\$ 427.50	Average \$13.36/XRD
Skid Trail Crossing	Sx-1	.50	45.00	
Administration Time ²		2.50	225.00	
Access ³		2.00	180.00	
Totals		72.50	\$6525.00	

¹D-8 Crawler Tractor from Twin Parks Lumber, Co., operated by Ernie Larkin @ \$90.00/hr.

²Administration time includes worksite directions to operator & breaks.

³Access time includes travel to unit (2 trips) from Rehab. Unit 84-3 1820.1800 Road & Slope