

## **Grave Creek Road Project Investigation**

8 August 2008

Project Engineer: Chuck Gondeiro

The increased traffic of Grave Creek in the recent years and lack of serious maintenance is creating a hazard. The road needs to maintenance.

### **General**

This inspection report covers Grave Creek Road from MP 3 to MP 10 with the bottom three miles being maintained by Lincoln County and the road above MP 10.25 being gravel. Grave Creek Road is one of the older roads on the Fortine District. The road from the junction of Highway 93 to approximately MP 8.5 was put in prior to 1930. Then in the 30' the road was extended to Clarence Creek. The road was paved in the 50's when the bulk of the log haul was done up Grave Creek. The road is a 14 foot wide road in infra. There is little or no curve widening.

### **Road Inspection**

The worst part of the road is the first 1.25 miles where several private drives adjoin the Forest Service section of the road. The problem seems to be two fold. First being volume of traffic and second being deterioration of the road edges and surfaces resulting from aggregate being carried onto the road by vehicles entering and exiting private drives and other Forest Road junctions. On average I found 10 potholes per mile that could be patched. The road has been narrowed considerably by edge deterioration. In places the drivable width is only 9 feet. Some of these are bends in the road with no curve widening, making the road hazardous when meeting other traffic, especially vehicles with trailers.

The road has different damage along the 7 mile length. For discussion I have divided the road into three sections numbered with roman numerals.

### **Section I**

The most damage is From MP 3 to MP 4.25 with 1300 feet of edge patching per mile. Two private approaches and road junction with road 756.

### **Section II**

From MP 4.25 to MP 7.25, 600 feet of edge patching per mile. One private drive, two approaches from Birch Creek Campground, and gabion retaining wall.

### **Section III**

From MP 7.25 to 10.25, 175 feet of edge patching per mile. Four approaches from Forest roads and the Dogbone retaining wall which needs work in the near future. The final three miles also has what appears to be more frost heaving. But it seems to be gentle and not damaging the surface, leaving gentle rolling in the road surface. I can only guess that this is from this part of the road being under snow for approximately 7 months a year.

Along the length of the road are old full width overlays that were done in 200-2001. These are holding up very well and a number of our problem areas are between these overlays.

I counted the number of vehicles using Grave Cr Rd while I was there. The short duration I was on site showed a fair amount of traffic. A traffic counter would be helpful to get better data on road volume. The vehicles varied from a tractor/trailer with backhoe, to trucks with horse trailers, RV's and passenger car traffic.

#### Vehicle Count Wednesday 7-30-08

0945-1100	6
1100-1200	5
1200-1300	7
1300-1400	6

#### Vehicle Count Friday 8-1-08

1030-1200	9
1200-1300	9
1300-1400	14
1400-1430	14

I have considered a number of maintenance options for this 7 miles of road. The best of course for a long term fix being a full width overlay with curve widening. The current cost for a full width overlay is approximately \$100,000 per mile. Securing these funds is very unlikely. So other options need to be considered.

The one or more of the options below can be selected to improve the road dependant on funds available.

#### Option Items

- A. Patch potholes with cold mix- current maintenance method
- B. Contractor patching of potholes
- C. Contractor patching Edge deterioration
- D. 2" over lay 8' wide in lieu of edge patching
- E. Full width overlay in selected areas
- F. Concentrate on lower section, with adjoining private land, 1.25 miles Full Width overlay.
- G. Paving of approaches

## Recommendations

I recommend working on the road over the next 3-5 years working on each section separately.

### Section I

Full width overlay	\$125,000
<u>Pave 3 approaches</u>	<u>\$ 7,500</u>
Total	\$131,000

### Section II

One half mile full width overlay	\$50,000
Clean ditch at gabion wall	\$ 1,500
<u>Pave 3 approaches</u>	<u>\$ 7,500</u>
Total	\$59,000

### Section III

One quarter mile full width overlay	\$25,000	
Remove and replace Dog Bones	\$75,500	Changed 2/9/09
<u>Pave 3 approaches</u>	<u>\$ 7,500</u>	
Total	\$107,500	

Total all recommendation **\$297,500**