Slide Name: (GP 2) Hwy 40:38 Kakwa Slide (20 km S. of Kakwa River)

Inspection Date: June 21, 2006

Inspection by: Alberta Infrastructure & Transportation and KarlEng Staff listed on Page 1

1.0 BACKGROUND

The slide was repaired and slope reconstructed in late 2004 with use of granular fill c/w subsurface drains (tiles) to outfall seepage water. Previous inspection (2005) indicated satisfactory performance of the slope reconstruction.

2.0 OBSERVATIONS

Re-vegetation of slope surface has started with clover growth ahead of grass catch. Subsurface drains (tiles system) are functioning with constant yield of seepage flows observed at the lower tile exit at west (south end) of the toe area; trapped water was also observed at a redundancy 2nd outlet at the east (north end) of the toe area indicative of substantial groundwater seepage from the back of the reconstructed slope. Constant drainage outflow was observed for over 2 years since completion of slope reconstruction.

The reconstructed slope was inspected in good condition and the slide repair successful.

3.0 RISK ASSESSMENT

The following assessment is updated, as appropriate, from previous AIT reports.

PF (3) * CF (2) = 6

Within the recent 3 years, the reconstructed slope has performed satisfactorily and slide repair successful. The slide is considered inactive with low probability of remobilization. Closure of road will be a very remote possibility. I**t is appropriate to downgrade the CF** from a previous **value** of 6 **to a current value of 2**.

Note:

- The risk assessment is provided based on a categorization of Hazard Probability Factor (PF) and Consequence Factor (CF) as provided by AIT's RFP 2000. The details are provided in Table II at front portion of this Report.

4.0 ACTION

The slide has been successfully remediated and the new re-constructed slope was observed performing well for over 3 years. Future inspection assessment of this site is considered no longer required and this site will be classified as inactive

END

KARLENG

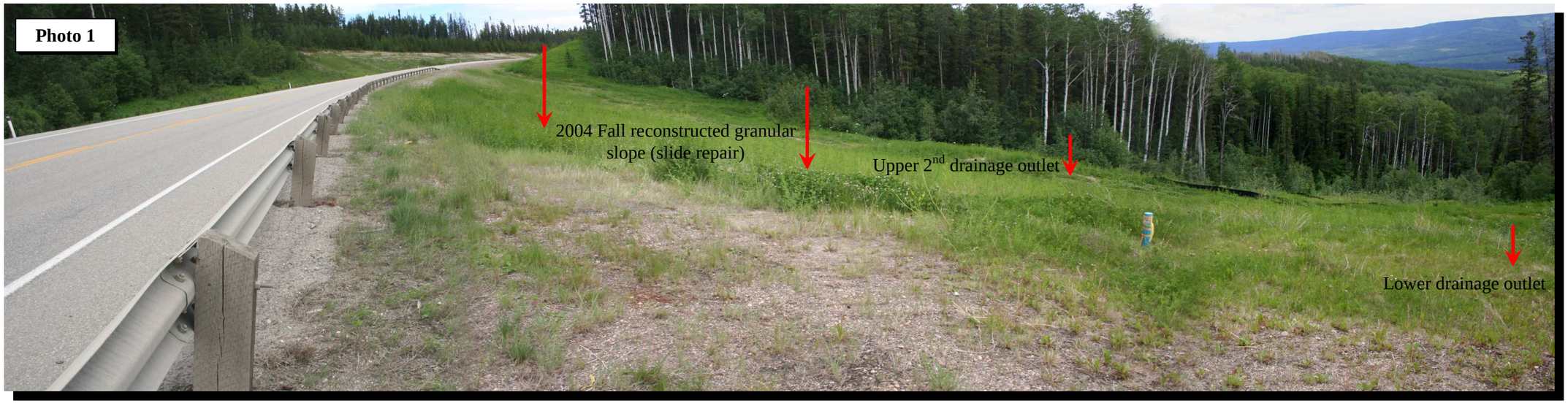
Figure 1

1993 Aerial Photograph

0 400

SCALE (metres)

Photo 1



Looking north (towards Grande Prairie)

- Repaired slope well vegetated
- Slope reconstructed with granular material
- 2 drainage outlets at toe of slope (lower outlet and upper outlet)

Photo 2

Slope re-vegetation over granular fill

- 3 times seeding density (compared with seeding density for normal top soil subgrade)
- Grass growth started to emerge from straw matting coverings;
  however the growth of clover (short life) is ahead of grass growth

Photo taken on June 2006

Steady water outflow from lower drainage normal outlet
- Perforated pipe were incorporated at base of granular slope reconstruction for groundwater drainage
- Steady water outflow observed over 3 years since slope reconstruction (in winter 2004)

Entrapped water at upper (2nd) drainage safety outlet
- Cleanout of debris (sediment) at 2nd outlet yields drainage outflow
- Constant clean out inspection is required at outlet of subsurface drains to ensure its proper function to prevent buildup of pore water pressure to destabilize the slope
- This upper outlet was installed as redundancy outlet for high excessive groundwater condition and in the event of any plugging of the lower outlet

Photo taken on June 2006

Figure 1

1993 Aerial Photograph

0 400

SCALE (metres)

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