## S10 – SECONDARY HIGHWAY 762 MISCELLANEOUS SITES

### Site Background

Site C is located on Secondary Highway 762, approximately 22 km south of the junction with Highway 22X (as measured along the highway) and approximately 550 m north of the junction with Secondary Highway 549.

There is limited background information available regarding this site. Annual assessments have been performed at this site by AT and AMEC personnel since the spring of 2000. Settlement and cracking of the road surface has been noted at this site during previous assessments and weak foundation materials below the road embankment have been postulated as the cause. Previous assessments have also noted that the west ditch would pond water during wetter times of the year and therefore should be regraded. An overlay was placed at this site in July 2003.

### Site Assessment

The site assessment was performed on May 25, 2004. The weather at the time of the site assessments was clear and calm.

The site assessment covered the road surface through the Site C area as well as the west ditch to the north of the creek crossing.

### Observations

The following points summarize the observations made during the site assessment. Please also refer to Appendix S10 for annotated photographs of the site.

- No new cracking was noted in the portion of the road surface covered by the July 2003 overlay (Photos S10C-1 and S10C-2).

- The west ditch has not been regraded and continues to pond water in an area north of the creek crossing culvert, as shown in Photos S10C-3 and S10C-4.

- It appeared that the source of the water ponded in the west ditch was at least partially groundwater seepage discharging from the toe of the slope to the west of the road.

### Discussion

Based on the lack of renewed cracking in the July 2003 overlay, it appears that the previously- noted settlement has not been active in the past year.

The ponding of water in the west ditch is unfavorable from a geotechnical perspective because it provides a source of water that could contribute to instability of the road fill embankment and/or the road foundation.

**Assessment and Risk Level**

The previously-noted settlement and cracking of the road surface has been treated as a maintenance issue to date. Given that the settlement and cracking has not been very active in recent years this appears to be a reasonable strategy for the foreseeable future.

The ponded water and west ditch gradient issues should be

addressed. AMEC recommends the following Risk Level factors for

this site:

- The Probability Factor should be reduced from 5 to 4 on the basis of the relative inactivity since the July 2003 overlay was placed.

- The Consequence Factor should be kept at 4, which reflects the potential for a portion of the road to be closed if the previously-noted settlement and cracking were to reactivate.

Therefore, the recommended Risk Level for this site is 16, which is a reduction from the value of 20 recommended after the 2002 and 2003 assessments.

**Recommendations**

AMEC recommends the following future work for this site:

**Drainage improvements should be made in the west ditch, north of the culvert crossing.** As discussed on site, the most practical option appears to be the installation of a weeping tile drain in a trench along the base of the existing ditch. The drain should flow to the south. A site survey will be required in order to design the trench excavation and specify the drain details. AMEC will submit a proposal and cost estimate for this work.

**AT and/or maintenance contractor personnel should check the settlement and cracking conditions at this site regularly.** This would provide a level of due diligence in case the settlement and cracking reactivates and damages the road surface.

**The annual assessments should be continued.** If the recommended west ditch regrading and drain installation is successful and no additional cracking is noted in the road surface in future years, then it may be possible to discontinue the annual assessments in the future.