

1.0 Site Visit

The Annual Inspection site visit was conducted on May 28, 2001. At the time of the visit, the weather was clear and calm.

2.0 Significant Observations

The following observations, considered to be relevant to the stability of the slope were made:

- Loss of ground around the pile wall along the downslope edge of the road continues to be evident in the cracked and distressed pavement surface in the slide area.
- The guardrail through the slide area continues to show deformation due to the slope movement.
- No seepage was evident in the cut slope above the road through the slide area.
- No open tension cracks were noted in the slope below the road at the time of the inspection.

3.0 Changes from Previous Visits

The slope movement at this site appears to be ongoing at a relatively slow rate, as evidenced by the continued cracking and subsidence of the road surface (especially downslope of the pile wall). However, there have been relatively few changes since the previous assessment in 2002, and most of the observations reported at that time remain valid.

The slope inclinometer readings taken in May, 2001 indicate that no significant movement has occurred since the spring 2000 readings except for SI #7, which was noted in the fall of 2000 to be sheared off at a depth of 6.4 m – as opposed to 7.6 m previously.

The pumping wells located upslope of the road appear to be functioning better than noted previously, based on the piezometer readings and on the reports from the maintenance contractor.

A number of new instruments were installed by AMEC in February, 2001 as part of a site investigation/design of remedial measures for this site. The new instruments include:

- A slope inclinometer (AMEC BH1) and settlement gauge (AMEC BH 1A) adjacent to SI #10 but downslope of the pile wall.
- A slope inclinometer (AMEC BH2) adjacent to, and replacing, the sheared-off SI #7.
- A series of standpipes in other boreholes across the slope below the road.

These instruments will be added to the semi-annual monitoring program as of the fall of 2001. The results of the site investigation/remedial measures design are being reported to AT under separate cover.

4.0 Discussion

Significant movement has not occurred at this site in the year since the previous assessment. However, the slope stability conditions at this site have not improved during that time and the previously installed remedial measures (namely the pile wall along the downslope edge of the road) continue to only be partially effective in mitigating the slide.

As noted in last year's assessment report, the slide at this site extends approximately 150 m north of the highway and "toes out" in the small stream. The scope of the slide appears to be such that the toe of the road fill is losing support and it is considered likely that such movements will continue over time. Periodic reconstruction of the road shoulder and regular surface patching will be effective in handling the movement in the short term, but at some point it is likely that significant repairs will be required.

In order to adequately mitigate this slide with respect to the road it would be required to improve the support below the toe area of the road fill. AMEC is currently performing a site investigation and design of remedial measures for this site. The results of this work will be reported to AT under separate cover.

5.0 Assessment

The area extending at least 150 m downslope of the highway fill embankment is an active translational/spreading slide area. It is likely that this landslide extends below the road fill and is responsible for a loss of support below the fill, which is, in turn, causing rotational types of failures in the fill.

The Probability Factor with respect to this slide is taken as 11 since the rate of movement is moderate and ongoing.

It is likely that in the short term continuing movements will result in repairs and patching being required to the north shoulder and a portion of the westbound lane. However, larger movements are possible and likely in the longer term, which would effect a significant portion of the highway. On this basis a Consequence Factor of 5 is assigned to this slide.

Based on the above, the Risk Level at this site is calculated as 55.

6.0 Recommendations

The monitoring programs currently in place should be continued.

The surface conditions of the road at this location should be carefully monitored by maintenance personnel. This would be in conjunction with slope indicator and piezometer monitoring to provide as early detection of potential problems below the road as possible.



Significant additional mitigative works be considered for this site. AMEC is currently performing a site investigation and design of remedial measures for this site. The results of this work will be reported to AT under separate cover. There does not appear to be an immediate risk to large portions of the highway, so such repairs could be delayed somewhat. However, in the interim, continued maintenance will be required and the likelihood of more significant failures will increase as time passes.