

**PEACE REGION – GRANDE PRAIRIE
GEOHAZARD RISK ASSESSMENT
SITE INSPECTION FORM**

SITE NUMBER GP-18	SITE NAME Sturgeon Creek	HIGHWAY & KM Hwy 49:12	PREVIOUS INSPECTION DATE May 18, 2010	INSPECTION DATE May 31, 2011
LEGAL DESCRIPTION LSD 13-35-70-22-W5M	NAD 83 COORDINATES N 6,107,120 E 483,726	PREVIOUS RISK ASSESSMENT PF: 2 CF: 1 TOTAL: 2 (after repair 2010) PF: 10 CF: 4 TOTAL: 40 (prior to 2010 repair)		
		CURRENT 2011 RISK ASSESSMENT PF: 2 CF: 1 TOTAL: 2		

SUMMARY OF SITE INSTRUMENTATION: No Instrumentation at this site.	INSPECTED BY: (i)KarlEng: Karl Li, John Heilman (ii) AT: Ed Szmata, Ted Prue, Rocky Wang
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<p>PRIMARY SITE ISSUE:</p> <p>Performance Review of Repairs to Slide Final review during 2011 Slide Tour</p> <p>I) **Repairs to the slide were constructed and completed in July 2010 under AT Contract 7568/09 by In-Line Contractors. With completion of the repairs, no major issue remains for this site.</p> <p>Prior to the construction of repairs, the issues were</p> <p>II) Sliding of sliver fills (i.e. previous highway widenings) occurred at 6-8 locations of approach fills on both (upstream and downstream) sides of Sturgeon Creek (concrete arch culvert). Two slides have their headscarp encroached close to pavement edge (rendering overhang of guardrail) to require urgent repairs.</p> <p>III) High groundwater seepage conditions rendered adverse effect on stability of fills. Possible deleterious fills from previous construction malpractices maybe contributory issues for historic upgrades from local roads.</p> <p>Note: Refer to previous 2008 Slide Tour and earlier reports for details.</p>

<p>APPROXIMATE DIMENSIONS: (Reiterated from previous reports)</p> <p>Prior to the construction of repairs, there were a total of 7 slides at this site located at SE, SW and SW of culvert location:</p> <p>Slides (area in sq.m.) -- SE-1(@723), SE-2(@612 sq.m.), SE-3(@295) SW-1(@243), SW-2(@383), SW-3(@401) NE-1(@1354) (Note☺ (Slides SE-3 and SW-3 are at backslope cuts, the rest are at sideslope fills)</p>
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<p>DATE OF ANY REMEDIAL ACTION: Repairs to the slide were constructed and completed in July 2010 under AT Contract 7568/09 (by In-Line</p>
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Contractors). KarlEng provided the design and construction management of the repair construction.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
PAVEMENT DISTRESS		x	Previous sliding of sideslopes have not affected roadway pavement yet		x
SLOPE MOVEMENT		x	i)Movement of fills constructed over river flood plain and some fills (sliver fills) comprised of deleterious material for roadway widening construction ii)Groundwater seepage is adverse influence to fill stability iii)** Repair to slides was completed in July 2010. New slope were reconstructed.		**
EROSION		x	n/a		x
SEEPAGE	x		(i)Seepage exits along SE ditch (ii)Seepage obvious exiting from weepholes of walls concrete culvert (iii)Strong groundwater regime in the area (iii)** weeping drain tiles installed at base of new fill repairs s	**	x
CULVERT DISTRESS		x	(i)There was up-thrust scour hole along basal slab of concrete arch culvert (this was repaired around 2002) (ii) No basal up-thrust distress observed since last 2002 repair		x

COMMENTS:

In current 2011 site visit, it was reviewed that

- 2) Over previous year 2009/2011, the repair the several slides was observed as satisfactory after a 2 year performance duration. Performance of new slopes is assessed satisfactory and accepted.
- 3) Future site inspection should be discontinued. This site can be deleted off the list of geohazard sites.

Important Note:

This form assessment is an update for current year only. Please refer to the detailed assessment provided as in the 2008 Annual Assessment (letter report) and other earlier Reports for background

understanding of this site.

END



Photo 1

Looking south along east sideslope (downstream side of roadway)

- Repaired Slides NE-1 with sturgeon creek separating, SE-1 and SE-2 along east ditch – General view

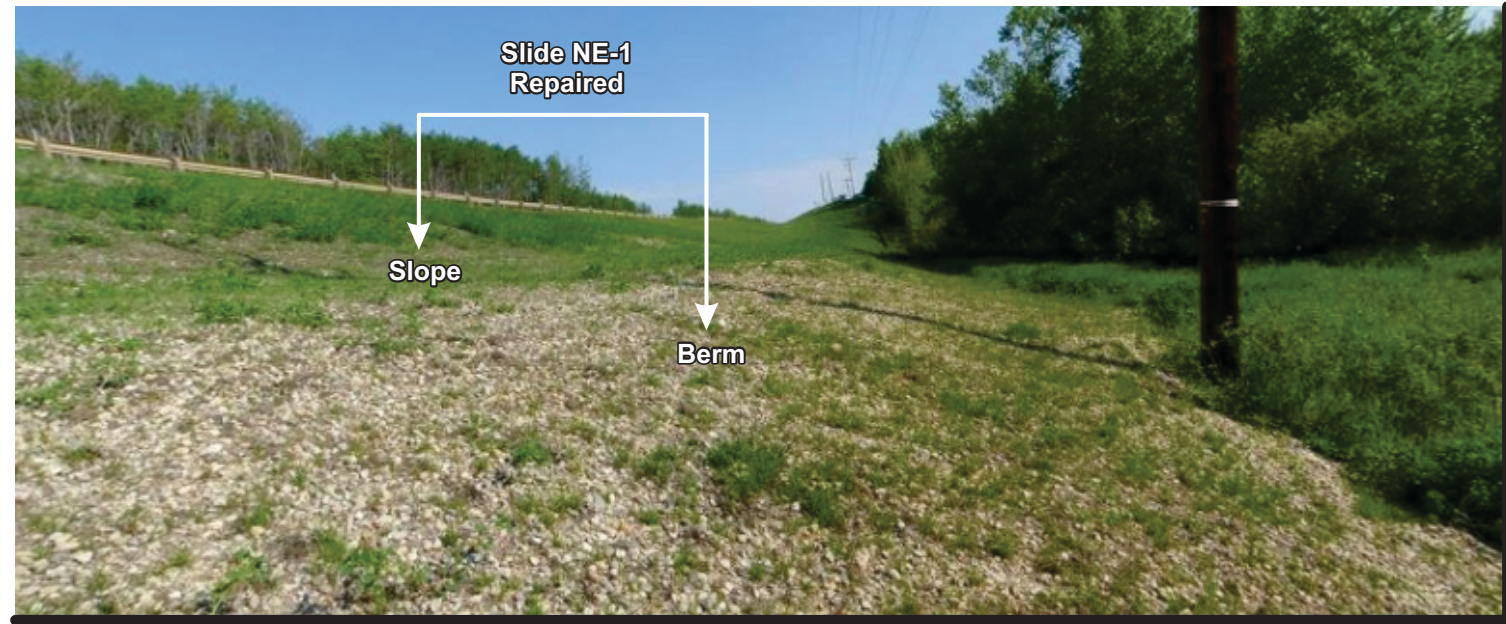


Photo 1a

Repaired slope NE-1 - Looking North from Sturgeon Creek Culvert

- Closed up view



Photo 2

D/S of Sturgeon Creek - Looking South along East Ditch

- Repaired Slopes NE-1, SE-1 and SE-2 on both sides of d/s outlet

Note: Photos taken on May 2011

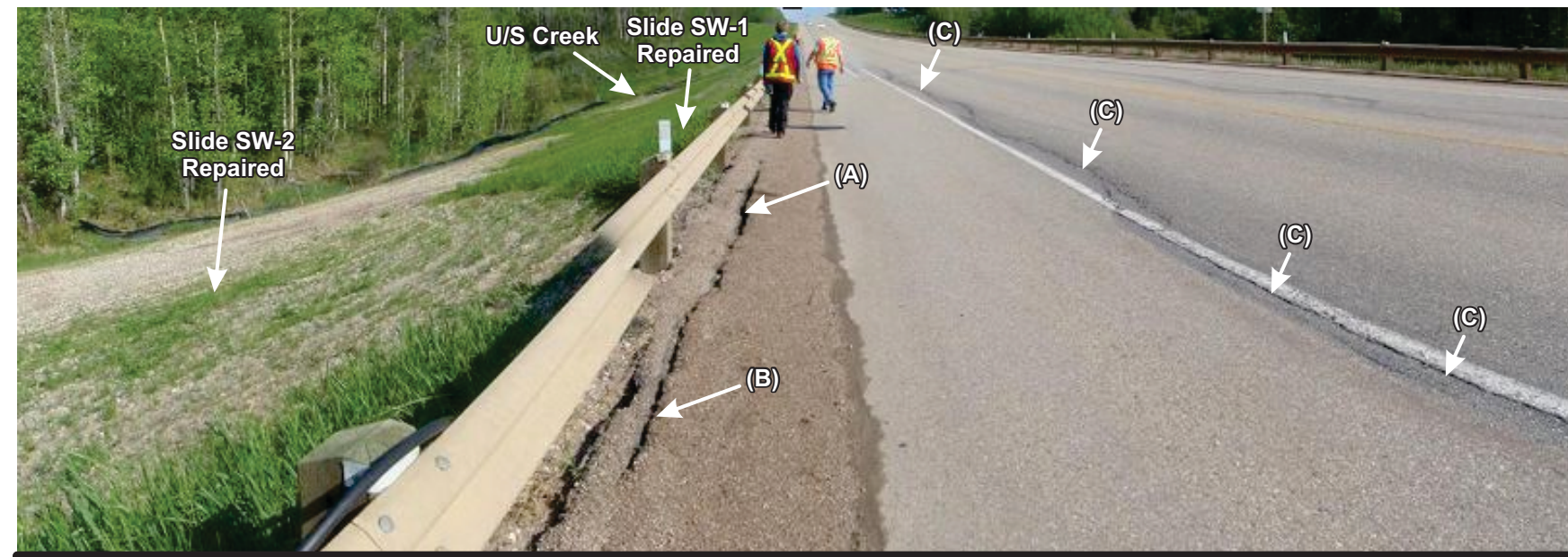


Photo 3

Looking north along west sideslope (upstream side) of approach fill embankment across Sturgeon Creek

- A series of 2 Repaired Slides (SW-1, SW-2) along west side
- At top of fill slope repair, a gap (A-B) has generated along guardrail edge at top of repaired fill slope. This gap can be caused from the loosening of new fills at head of new fill repair which was expeditiously constructed (in winter) without disturbance to roadway proper. This gap should be sealed off by crack sealant.
- Crackings (C) along pavement wheel paths can be due to pavement rutting cracks

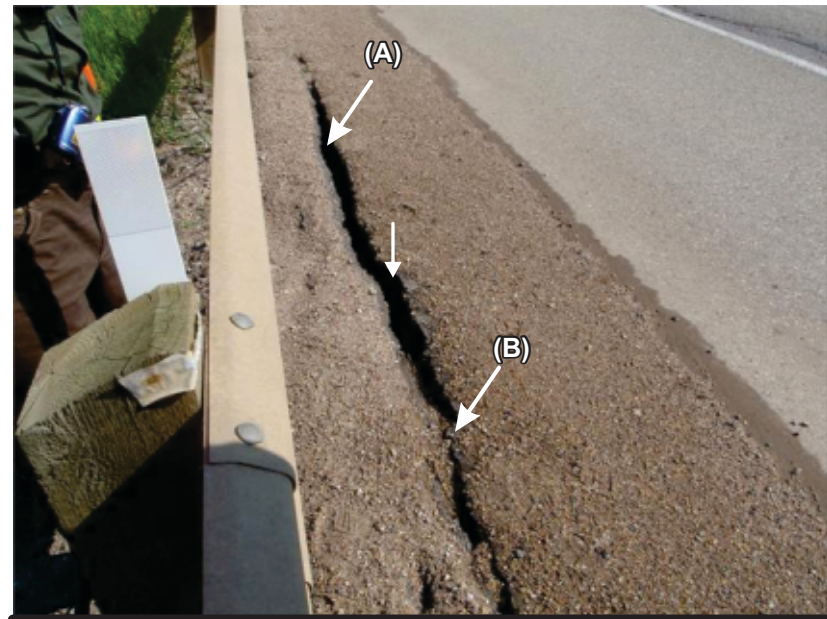


Photo 3a

Looking north along top of west sideslope (upstream side)

- Gap (A-B) at pavement shoulder at head of fill
- Closed up



Photo 3b

Looking south (along toe of new fill) along west ditch

- Repaired (SW-1 and SW-2) Slopes

Note: Photos taken on May 2011



Photo 4

- Looking south along west ditch (upstream side of culvert) culvert inlet**
- Repaired (SW-3) Slide at backslope at upland verge at west ditch
 - Repaired (SE-3) Slide at backslope at upland verge at east (opposite) ditch

Note: Photos taken on May 2011

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