

<b>SITE NUMBER AND NAME:</b> GP052 Puskwaskau River Slide		<b>HIGHWAY &amp; KM:</b> 736:02, 27.011	<b>PREVIOUS INSPECTION DATE:</b> May 30, 2020	<b>INSPECTION DATE:</b> July 19, 2021
<b>LEGAL DESCRIPTION:</b> NW 26-74-01-W6M	<b>NAD 83 COORDINATES:</b> UTM Northing Easting 11 6144232 434495		<b>RISK ASSESSMENT:</b> 1: PF: 10 CF: 4 TOTAL: 40 2: PF: 11 CF: 6 TOTAL: 66	
<b>AVERAGE ANNUAL DAILY TRAFFIC (AADT):</b> 130 (north) & 140 (south) (Reference No. 70000833)			<b>CONTRACT MAINTENANCE AREA (CMA):</b> 504	

<b>SUMMARY OF SITE INSTRUMENTATION:</b>  There is no instrumentation at the GP052 Site  LAST READING DATE: N/A	<b>INSPECTED BY:</b> Chris Gräpel James Lyons Roger Skirrow (AT) Rocky Wang (AT) Ed Szmata (AT) Max Shannon (AT)
<b>PRIMARY SITE ISSUE:</b> Two sites, embankment slope failure on one side of the embankment and a riverbank erosion into the embankment slope on the other side.	
<b>APPROXIMATE DIMENSIONS:</b> Embankment slide about 10 m high, 40 m wide, with slope about 3H:1V with a 1.5 m to 2.0 m high near-vertical head scarp at the edge of the embankment; and a riverbank erosion of a highway embankment slope approximately 8 m high, with a 1H:1V erosion scarp about 3 m high and about 50 m long.	
<b>DATE OF ANY REMEDIAL ACTION:</b> None, placement of hazard delineators	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Gravel road	X	
Slope Movement	X		Slope failure approx. 3 m high, 40 m long and 20 m wide. Small slope failure south of main slide.		
Erosion	X		Of backscarp of main slides and east side of highway embankment, south of highway.	X	
Seepage			N/A		
Culvert Distress		X	N/A		X

<b>COMMENTS</b>
<u>Embankment Slope Slide</u>
<ul style="list-style-type: none"> <li>- Head scarp of slide has retrogressed onto the shoulder of the gravel-surfaced highway. T-bar mounted hazard markers have been placed. Slide retrogression will occur and is on the verge of undermining one of the hazard markers. Ground cracking parallel to the head scarp located between 1 and 3 m in behind the head scarp. Slide appears to be expanding to the left</li> <li>- Appears to be a rotational or transitional-rotational type failure. Slide mass is disturbed and quite wet due to poor drainage on disturbed slide mass.</li> <li>- Wetland area (oxbow lake) at toe of embankment slide.</li> <li>- Short term actions – continue to monitor site, maintain hazard markers, consider more visible and substantial delineator candles and/or wooden barricades</li> </ul>

- Long-term actions – Start design work for slide repairs and riverbank erosion. could be repaired with either a toe berm or excavate-and-replace repair with geogrid-reinforced gravel. Riverbank erosion could be repaired with a riprap berm or riprap vanes and bio-engineering (e.g., live staking) with embankment slope reconstruction. KCB to submit proposal, should include environmental studies to support permitting. Slide

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Chris Gräpel, M.Eng., P.Eng.  
Senior Civil Engineer, Associate



Time: 13:44:55 PM  
 Date: September 29, 2021  
 File: Z:\AEDM\A05116A01\ABT\_GrandePrairieSouth.GRMP\400\_Drawings\GIS\MXD\2021\Section B\GP052\_210929.mxd

- Legend**
- GPS Waypoint (July 19, 2021)
  - Flow Direction
  - Watercourse
  - GPS Track (July 19, 2021)
  - Crack
  - Erosion

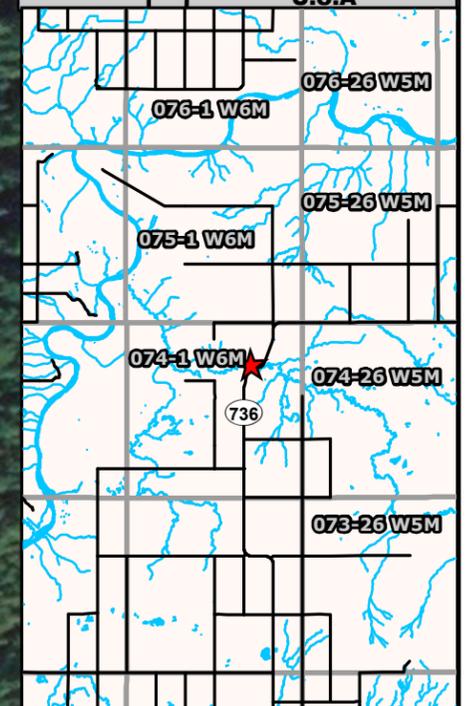


**NOTES:**  
 1. HORIZONTAL DATUM: NAD83  
 2. GRID ZONE: UTM Zone 11N  
 3. IMAGE SOURCE: Microsoft BING Maps

CLIENT




PROJECT GRANDE PRAIRIE SOUTH REGION GEOHAZARD RISK MANAGEMENT PROGRAM		
TITLE Site Plan GP052 Puskwaskau River Slide Hwy 736:02, km 27.011		
SCALE 1:1,750	PROJECT No. A05116A01	FIG No. 1



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**Photo 1** Overview of the GP052 site, showing the slide (40 m long and 10 m in height) and erosion extents (50 m long and 6 m in height). Photo taken July 19, 2021 facing north.



**Photo 2** The slide on the east (southbound) side of Hwy 736 is approximately 40 m long, 10 m tall, and a near vertical backscarp of 1.5 m. Photo taken July 19, 2021 facing east.



**Photo 4** Hazard markers have been installed in the shoulder of the road. Note cracking behind head scarp of embankment slope failure indicating retrogression of slide. Photo taken July 19, 2021 facing south.



**Photo 6** The erosion on the east (northbound) side of Highway 736 is approximately 2.5 m from the edge of the highway and is beginning to impact a power pole. Photo taken July 19, 2021 facing south.

