

**SITE INSPECTION FORM**

<b>SITE NUMBER AND NAME:</b> <b>GP017 Grande Cache Lake Slide</b>		<b>HIGHWAY &amp; KM:</b> 40:34, 26.680	<b>PREVIOUS INSPECTION DATE:</b> June 12, 2023 Section B June 10, 2024 Construction	<b>INSPECTION DATE:</b> <b>June 2, 2025</b>
<b>LEGAL DESCRIPTION:</b> SW 12-57-08-W6M	<b>NAD 83 COORDINATES:</b> UTM Northing Easting 11 5974943 364960		<b>RISK ASSESSMENT:</b> PF: 1 CF: 3 TOTAL: 3	
<b>AVERAGE ANNUAL DAILY TRAFFIC (AADT):</b> 1,660 (west) & 1,520 (east) (Reference No. 70000983, 2024)			<b>CONTRACT MAINTENANCE AREA (CMA):</b> 504	

<b>SUMMARY OF SITE INSTRUMENTATION:</b>  There is no instrumentation at the GP017 site.  LAST READING DATE: N/A	<b>INSPECTED BY:</b> Chris Gräpel (KCB) Courtney Mulhall (KCB) Babatunde Awokunle (TEC) Rocky Wang (TEC)
<b>PRIMARY SITE ISSUE:</b> Repaired slide in 15-m high highway embankment fill on south side of Hwy 40:34 above Grande Cache Lake and adjacent to (northeast of) a previous slide repair completed in 2002 as described below. Most recent repaired slide area is a sliver fill on a steep slope (approximately 30°) with poor vegetation cover. Slide area was being eroded by surface water flow over edge of pavement. Slide repaired in 2024.	
<b>APPROXIMATE DIMENSIONS:</b> Repaired slide was approximately 15 m wide at edge of pavement and 9 m wide near gabion wall, and 10 m high.	
<b>DATE OF ANY REMEDIAL ACTION:</b> 2002 – Excavation/removal of slide mass, construction of bench/toe berm and low-height gabion basket retaining wall at toe of slide area, installation of three gavel-backfilled finger drains, and reconstruction of slope/slide area with coarse gravelly fill and shot rock (sedimentary rock, conglomerate, and shale) from a nearby quarry. 2024 – Excavation/removal of slide mass, and construction of bench/toe berm and low-height gabion basket retaining wall at toe of slide area with perforated drainpipes at base.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Some pavement distress remains from before and during construction.		X
Slope Movement		X	None observed at time of 2025 inspection, including no visual indications of instability observed on repaired slope.	X	
Erosion		X	None observed at time of 2025 inspection, except some minor rill erosion.	X	
Seepage		X	None observed at time of 2025 inspection. Drainpipe outlet dry.		X
Culvert Distress		X	No culverts observed by KCB.		X

**COMMENTS**

2002 and 2024 repairs appear to have addressed the 1999 and 2020 slide areas, respectively. No visual indications of continuing slope movement or erosion were observed at the time of the 2025 inspection.

Mechanism for initial slide could be a high-water table in the sliver fill due to periods of seasonally high groundwater (possibly discharging into the natural slope and sliver fill from or on top of bedrock).

Approximate 2-m-wide trail at toe of slide area used for the Great Canadian Death Race (Photos 1, 2, 4, and 5).

Maintenance/Repair/Monitoring Recommendations:

- TEC should consider patching the pavement above the recently repaired slope.
- Based on observation made during the 2025 inspection, vegetation is slowly re-establishing and coverage on the repaired slope is poor and minor rill erosion has formed (Photos 3 through 5). Hydro mulching of the slope could be considered to help establish vegetation and reduce erosion potential. Estimated cost: \$10,000 to \$15,000.
- It is our understanding that the initial slide occurred in 1999, and the more recent slide occurred in 2020. The slope to the east of the current slide area could fail in the future. Additional work should be considered to reduce the possibility of the slope to the north of the most recent slide area from failing in the future, including redirecting surface water flow from the highway away from the slope.
- This site should continue to be inspected by the Maintenance Contract Inspector (MCI) and inspected at least once during the next contract cycle as part of the GP South GRMP Section B inspections. If the repairs continue to perform well, TEC could consider removing the site from the list of active GRMP sites and excluding it from the GP South GRMP Section B inspections. If site conditions were to deteriorate, the site could always be returned to the list of active GRMP sites and inspected again as part of a Section B inspection or Section D call-out inspection.

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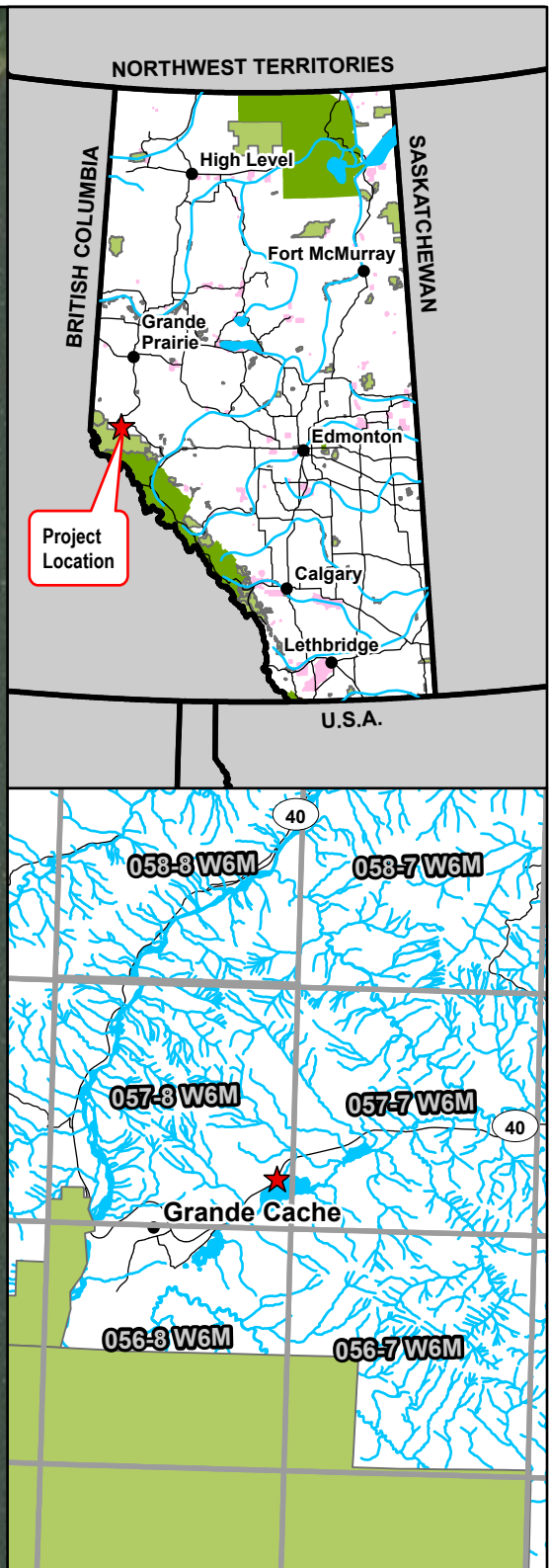
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Courtney Mulhall, M.Sc., P.Eng.  
Geotechnical Engineer





**Legend**

- Slide area repaired in 2002
- - - Slide area repaired in 2024
- Guardrail



NOTES:  
1. HORIZONTAL DATUM: NAD83  
2. GRID ZONE: UTM ZONE 11N  
3. IMAGE SOURCE: 2025  
MICROSOFT CORPORATION,  
2025 MAXAR CNES, DISTRIBUTION AIRBUS DS  
4. AVAILABLE IMAGERY DOES NOT  
SHOW REPAIRS COMPLETED IN 2024.

CLIENT



PROJECT

PEACE REGION (GRANDE PRAIRIE DISTRICT-SOUTH)  
GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE

Site Plan  
GP017 - Grande Cache Lake Slide  
Hwy 40:34, km 26.680

SCALE  
1:1,500

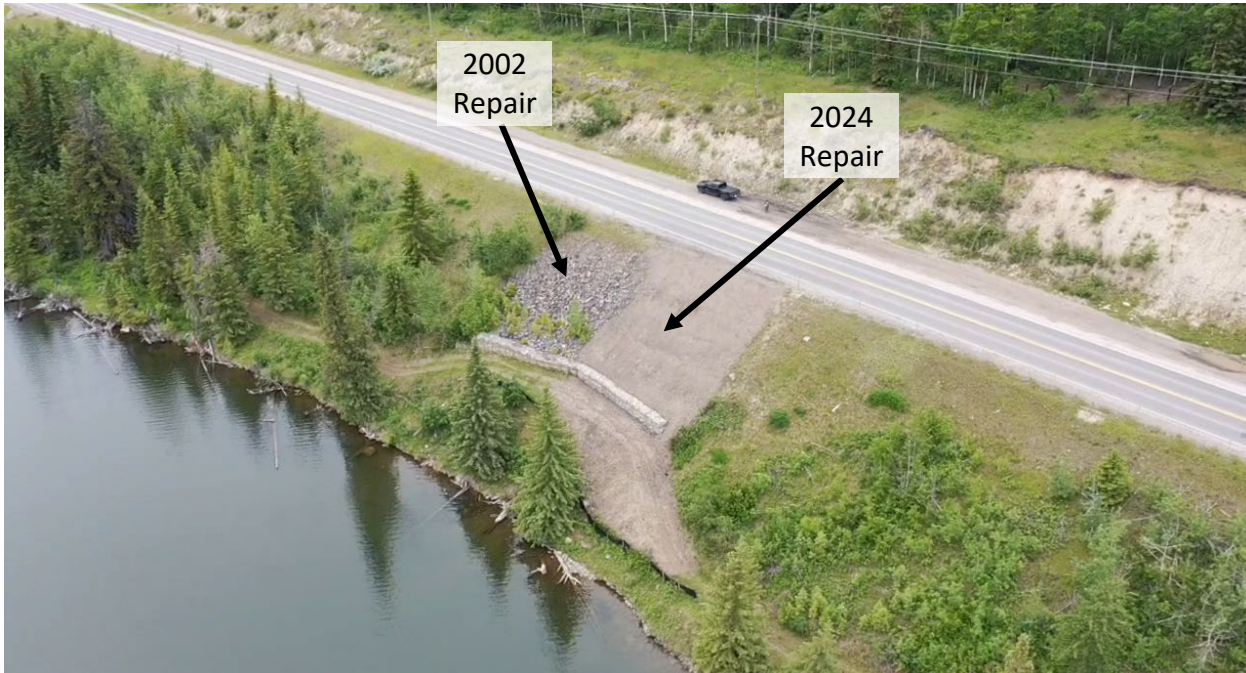
PROJECT No.  
A05116A01

FIG No.  
1



## Inspection Photographs

**Photo 1** Repaired slide and erosion on south side of Hwy 40:34. Note trail at toe of highway embankment and Grande Cache Lake at toe of slope. UAV photo taken June 26, 2024, facing northwest.



**Photo 2** Distress in pavement surface of Hwy 40:34 above repair completed in 2024. Photo taken June 2, 2025, facing northeast.





**Photo 3**      **Repaired slide and erosion on south side of Hwy 40:34. Note repaired slope is poorly vegetated. Photo taken June 2, 2025, facing southwest.**



**Photo 4**      **Repaired slide and erosion on south side of Hwy 40:34. Note extension of existing gabion baskets and toe berm from previously repaired section. Photo taken June 2, 2025, facing northwest.**





**Photo 5** Toe berm and trail at toe of highway embankment on south side of Hwy 40:34.  
Photo taken June 2, 2025, facing northwest.



**Photo 6** Outlet of drainpipes along toe berm crest installed in 2024 to convey flow from within the slide zone. Photo taken June 2, 2025.

