

SITE INSPECTION FORM

SITE NUMBER AND NAME: GP020-II Backslope Slump North of Grande Cache		HIGHWAY & KM: 40:34, 35.998	PREVIOUS INSPECTION DATE: June 13, 2022	INSPECTION DATE: June 10, 2024
LEGAL DESCRIPTION: NE 32-56-08-W6M	NAD 83 COORDINATES: UTM Northing Easting 11 5973303 358690		RISK ASSESSMENT: PF: 10 CF: 3 TOTAL: 30	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 1,480 (north) 1,720 (south) (Reference No. 70000103, 2023) 1,450 (north) 1,480 (south) (Reference No. 70000104, 2023)			CONTRACT MAINTENANCE AREA (CMA): 504	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the GP020 site. LAST READING DATE: N/A	INSPECTED BY: Chris Gräpel (KCB) Courtney Mulhall (KCB) Robert Senior (TEC) Rishi Adhikari (TEC) Babatunde Awokunle (TEC)
PRIMARY SITE ISSUE: Series of earthflows and eroded material from backslope along east side of Hwy 40:34 depositing in east highway ditch. Backslope high and steep with areas of poor vegetation and exposed gravelly material and other areas with good vegetation (mainly tree) coverage. Earthflows appear to be shallow. The site is located along the east valley slope of the Smoky River, approximately 550 m upslope of the river.	
APPROXIMATE DIMENSIONS: An approximate 150 m length of highway being impacted. Backslope up to approximately 90 m high.	
DATE OF ANY REMEDIAL ACTION: Ongoing ditch cleaning and maintenance.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	None observed at time of 2024 inspection (Photo 1).		X
Slope Movement	X		Some ongoing surface slumping on east backslope. Some material being deposited into east highway ditch.		X
Erosion	X		Ongoing rill and gully erosion on east backslope (Photo 1). Seepage, surface water runoff, precipitation, weathering, and freeze thaw eroding backslope materials, which are gravelly. Material being deposited into east highway ditch (Photo 2).	X	
Seepage	X		Seepage along east backslope.		X
Culvert Distress		X	No culverts observed by KCB.		X

COMMENTS

Earthflows, erosion, and gravity movement of particles likely occurring in response to seepage, surface water runoff flowing over crest of slope onto backslope, precipitation infiltrating into slope softening slope materials, weathering, and freeze thaw. Rate of occurrence and volume of earthflows and erosion likely to increase in response to freshet and/or periods of prolonged and/or heavy rainfall.

Maintenance/Repair/Monitoring Recommendations:

- A diversion ditch could be constructed at the crest of the east backslope to divert surface water runoff away from crest of the mudflow area. However, review of 2022 unmanned-aerial-vehicle (UAV) flight imagery indicates construction of a diversion ditch may not be practical due to lack of access and topography.
- Most material being deposited in east highway ditch appears to slow ditch flows and not block them completely (ditch is wide and shallow). Icing problems in ditch reported in winter of 2021/2022. Water currently flowing in ditch to southwest. Continue to clean ditch to maintain earthflow storage volume (i.e., keep ditch as wide and deep as possible to retain material within the ditch) and reduce the potential for material reaching the highway.

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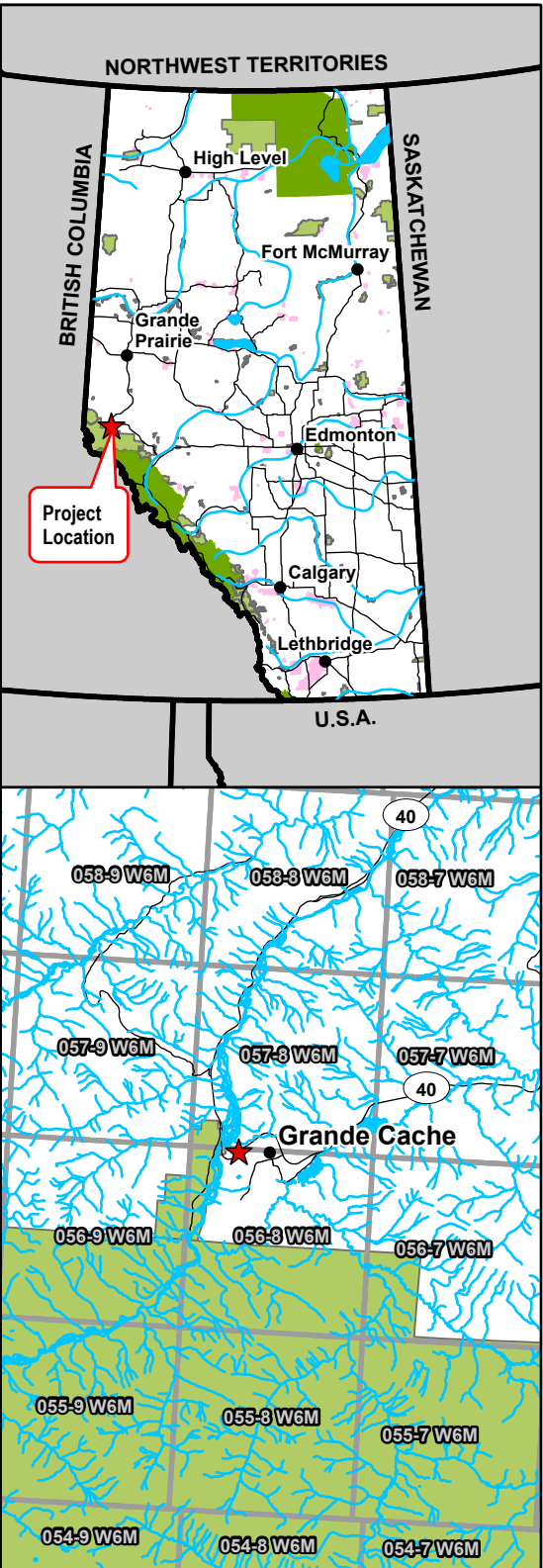
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Courtney Mulhall, M.Sc., P.Eng.
Geotechnical Engineer

File: Z:\A\EDM\A05116A01\ABT Grande Prairie South GRMP\400 Drawings\GIS\MXD\2024\Section BIGP044\AT_GP\South_GP044_20240524\AT_GP\South_GP044_20240524.aprx Date: Time: Creator: : AHarrison



Legend

Scarp



NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM ZONE 11N
3. IMAGE SOURCE: 2022 MICROSOFT CORPORATION,
2022 MAXAR CNES, DISTRIBUTION AIRBUS DS

CLIENT
Alberta

Klohn Crippen Berger

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

TITLE
Site Plan
GP020-II - Backslope Slump North of Grande Cache
Hwy 40:34, km 35.998

SCALE 1:2,000 PROJECT No. A05116A01 FIG No. 1

Inspection Photographs

Photo 1 Pavement surface and backslope on east side of Hwy 40:34. Note areas of poor vegetation, exposed gravelly material, and gully and rill erosion on backslope. Photo taken June 10, 2024, facing northeast and southeast, respectively.



Photo 2 **Water flowing in ditch at toe of backslope on east side of Hwy 40:34. Photo taken June 10, 2024, facing northeast and southeast, respectively.**

