

SITE NUMBER AND NAME S051 Pekisko Creek Erosion		HIGHWAY & KM 540:02, 4.591	PREVIOUS INSPECTION DATE June 8, 2020	INSPECTION DATE July 9, 2021
LEGAL DESCRIPTION 08-14-017-02 W5M	NAD 83 COORDINATES UTM Northing Easting 11 5590158 701158		RISK ASSESSMENT PF: 11 CF: 10 TOTAL: 27	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 720 (east), (Ref. No. 71130)			CONTRACTOR MAINTENANCE AREA (CMA): 27	

SUMMARY OF SITE INSTRUMENTATION: None	INSPECTED BY: Chris Morgan (KCB) Chris Grapel (KCB) Alex Frotten (AT) Roger Skirrow (AT)
LAST READING DATE: N/A	
PRIMARY SITE ISSUE: Bank erosion on the outside of a sharp (110° attack angle) meander bend. The head scarp has encroached onto highway right-of-way and undermined the highway ditch re-directing ditch flows onto the failed slopes.	
APPROXIMATE DIMENSIONS: Bank erosion is approximately 100 m long with fence undermined for a length of approximately 25 m, head scarp located 5.2 m away from edge of pavement.	
DATE OF ANY REMEDIAL ACTION: N/A	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	Pavement not affected at the time of the site visit.		X
Slope Movement	X		Tension cracking in highway ditch noted to the west of the existing ditch erosion feature.	X	
Erosion	X		Large scour hole due to surface runoff erosion along the outside bend of the creek. Ongoing gully erosion occurring where the ditch discharges water onto the slide surface		X
Seepage		X	Seepage previously reported on the lower slope but not visible during 2021 inspection. No seepage erosion noted.	X	
Culvert Distress		X			X

COMMENTS
No distress in road pavement; the erosion is impacting the ditch but has not reached the pavement. The creek attack angle is 110°.
The erosion feature appears to have enlarged when compared to 2020 observations. The failure scarp has extended past the highway fence line and into the highway ditch, redirecting ditch flows into the failure zone. Eight fence posts are undermined (compared to six fence posts in 2020).
Erosion is retrogressing into the ditch and is within 5.2 m of the HTCB. A 10 to 15 m wide slide block is forming on the west flank of the existing 7-m wide erosion feature.

One black utility cable is exposed in the erosion gully. KCB to determine owner of utility cable.

Recommendations:

Short-Term

- Monitor location during and after high flows and significant antecedent rain or snow melt.

Long-Term

- Ditch reconstruction will require slope reconstruction.
- Slope reconstruction using geogrid reinforced gravel. Longitudinal Peaked Stone Toe Protection or traditional riprap armoring to protect the toe from additional erosion.
- The highway ditch should be re-established with a swale, with armoring near the landowner's gate.

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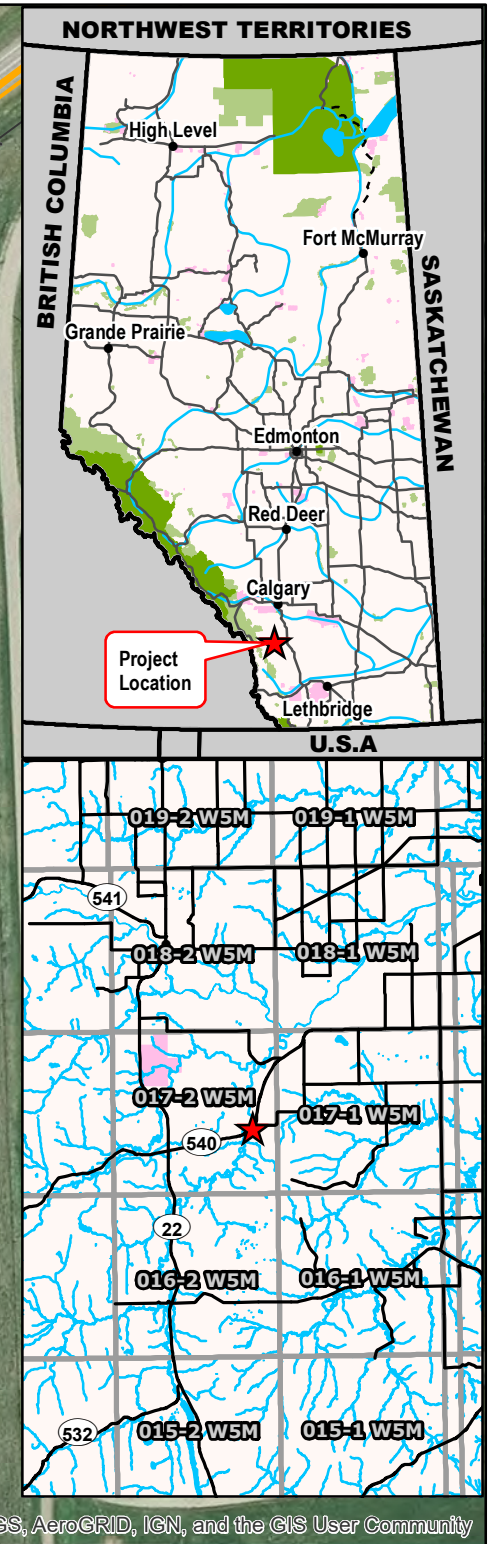
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- (iii) KCB should be consulted regarding the interpretation or application of the findings and recommendations in the report.



2021-11-24

Chris Morgan, M.Sc., P.Eng.
Senior Geotechnical Engineer



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- Legend**
- Borehole
 - Slope Inclinometer
 - Vibrating Wire Piezometer
 - GPS Track (2021)
 - Fence
 - Flow Direction



NOTES: 1. HORIZONTAL DATUM: NAD83 2. GRID ZONE: UTM Zone 11N 3. IMAGE SOURCE: World Imagery from ESRI ArcGIS Online. Source date September 14, 2016	CLIENT 	PROJECT SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM
		TITLE Site Plan S051 Pekisko Creek Hwy 540:02, km 4.591
	SCALE 1:2,531	PROJECT No. A05116A03
		FIG No. 1

Time: 15:18:51 PM
 Date: October 12, 2021
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Photo 1 Creek erosion extending into highway ditch. Utility cable hanging across failure (red circle). Photo was taken facing southwest on July 9, 2021.



Photo 2 Bank erosion on the outside of a sharp meander bend. Fence line undermined. Photo was taken facing southwest on July 9, 2021.



Photo 3 Erosion has extended into the highway drainage and surface runoff is discharging onto the slide zone. Photo was taken facing northeast on July 9, 2021.



Photo 4 Tension cracking (red line) in highway right-of-way on the west flank of the erosion feature. Photo was taken facing northeast on July 9, 2021.

