

SITE NUMBER AND NAME: <b>S059 Siddons Slide</b>		HIGHWAY & KM: 22:10, 27.530	PREVIOUS INSPECTION DATE: July 5, 2021	INSPECTION DATE: <b>May 9, 2023</b>
LEGAL DESCRIPTION: 01-20-017-02 W5M	NAD 83 COORDINATES: UTM Northing Easting 11 5591352 696456		RISK ASSESMENT: PF: 7 CF: 2 TOTAL: 14	
AVERAGE ANNUAL DAILY TRAFFIC: 1400 (north), 1720 (south), (Ref. No. 71130)			CONTRACTOR MAINTENANCE AREA (CMA): 27	

SUMMARY OF SITE INSTRUMENTATION:  None	INSPECTED BY: Peter Roy (KCB) Chris Grapel (KCB) Roger Skirrow (AT) Alex Frotten (AT)
LAST READING DATE: N/A	

PRIMARY SITE ISSUE: Back slope failure of earth slope, with toe zone blocking the highway drainage ditch. Pavement cracking was noted on the east side of the highway. The failure has undermined a length of fence line approximately 36 m long (along the highway) and is retrogressing onto adjacent private property.

APPROXIMATE DIMENSIONS: Slope failure zone approximately 170 m long. Embankment slope approximately 12 to 14 m high.

DATE OF ANY REMEDIAL ACTION: Highway was repaved in June 2021 and the work included installation of a CSP culvert in the east ditch at the south end of the slide area where the toe roll had previously blocked ditch flow.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	None visible. Highway was repaved in June 2021.		X
Slope Movement	X		There is an active slope failure east of the highway. The failure has retrogressed to undermine the fence line and is impacting adjacent land.		X
Erosion		X	None observed.		X
Seepage		X	Not visible at the time of inspection.		X
Culvert Distress		X			X

<b>COMMENTS</b>
No obvious or significant changes to the back slope failure when compared to 2021 observations. The ditch topography and lower slope geometry has changed when compared to 2020 observations due to culvert installation and localized backslope regrading to approximately 3H:1V.
The failure has undermined the fence near the back scarp over a length of approximately 36 m. Back scarp is up to 1.3 m high. The failure extends approximately 7.5 m onto private land from the undermined fence line. The landowner installed a new fence around the failure zone, sometime after 2019.
The toe rolls observed in the ditch in 2020 were removed during culvert installation in June 2021. Prior to culvert installation, two areas of toe roll were noted, one 21 m long and one 19 m long (two adjacent toe rolls had coalesced together) with a gap of 19 m measured between them.

Candidate repair options include:

- Backslope reprofiling to flatten the overall slope to approximately 10H:1V or a composite slope of 5H:1V at the base and 10H:1V for the upper portion of the slope (land purchase would be required). The flatter slope would assist in maintaining land use by the private landowner and possibly help avoid land acquisition; or
- Slope reconstruction in panels, replacing failed material with geogrid reinforced free draining gravel and with perforated pipe drains.

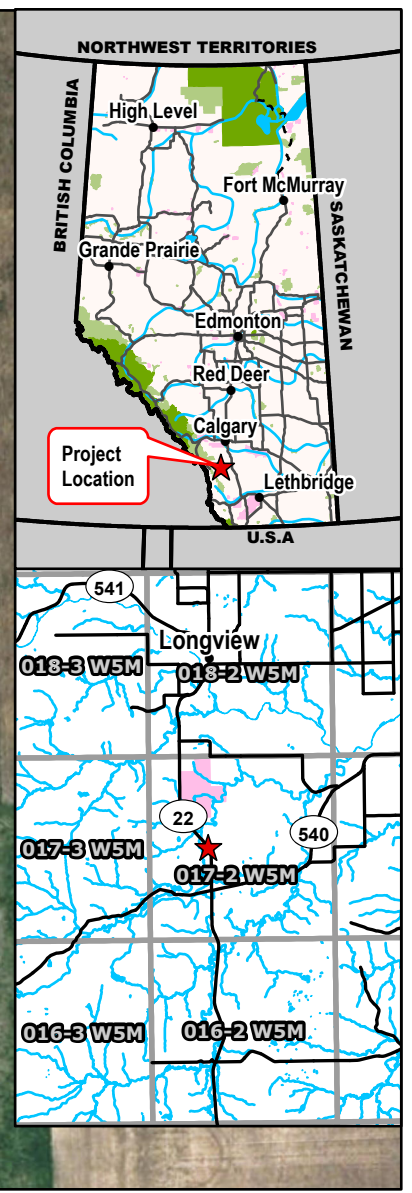
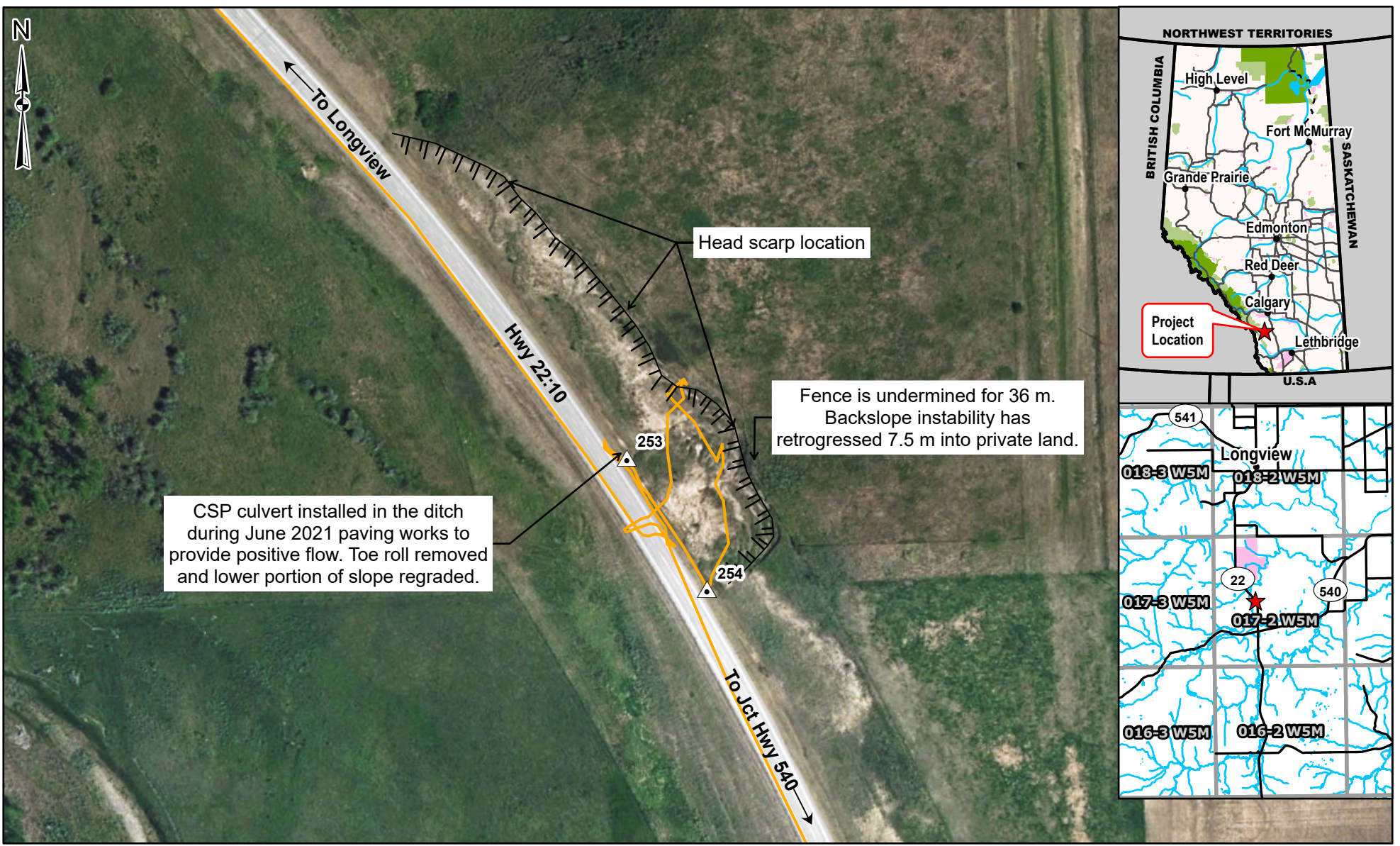
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
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- (i) The report is to be read in full, with sections or parts of the report relied upon in the context of the whole report.
- (ii) The observations, findings and conclusions in this report are based on observed factual data and conditions that existed at the time of the work and should not be relied upon to precisely represent conditions at any other time.
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Peter Roy, P.Eng.  
Civil Engineer



**Legend**

-  GPS Waypoint (May 9, 2023)
-  GPS Track (May 9, 2023)
-  Scarp

NOTES:  
 1. HORIZONTAL DATUM: NAD83  
 2. GRID ZONE: UTM ZONE 11N  
 3. IMAGE SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS AND THE GIS USER COMMUNITY.

CLIENT




PROJECT SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM		
TITLE Site Plan S059 - Siddons Slide Hwy 22:10, km 27.50		
SCALE 1:2,000	PROJECT No. A05116A03	FIG No. 1



**Photo 1** Slide zone and back scarp looking towards left flank. Photo taken facing south on May 9, 2023.



**Photo 2** Approximately 36 m length of undermined fence line at crest of slope. Photo taken facing north on May 9, 2023.





**Photo 3** Ditch regrading and culvert installation carried out in June 2021 to remove the toe roll blocking the ditch. Culvert installation included localized regrading at the toe of the slide zone. Photo taken facing southeast on May 9, 2023.



**Photo 4** Slide zone and back scarp at south end of failure. Photo taken facing east on May 9, 2023.

