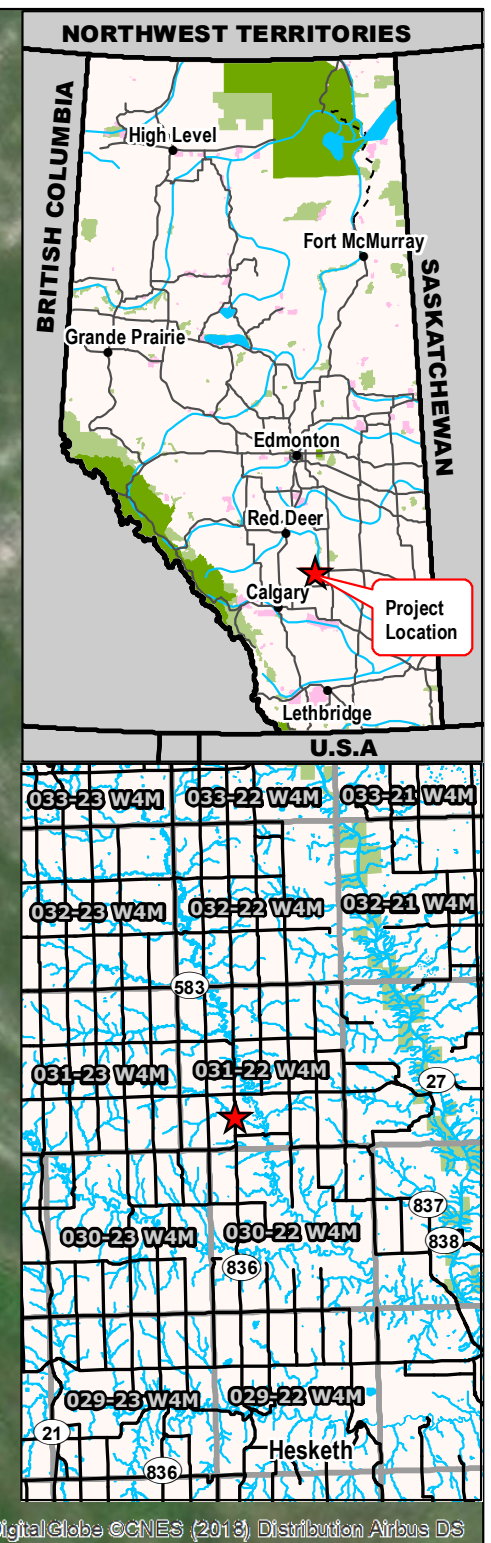
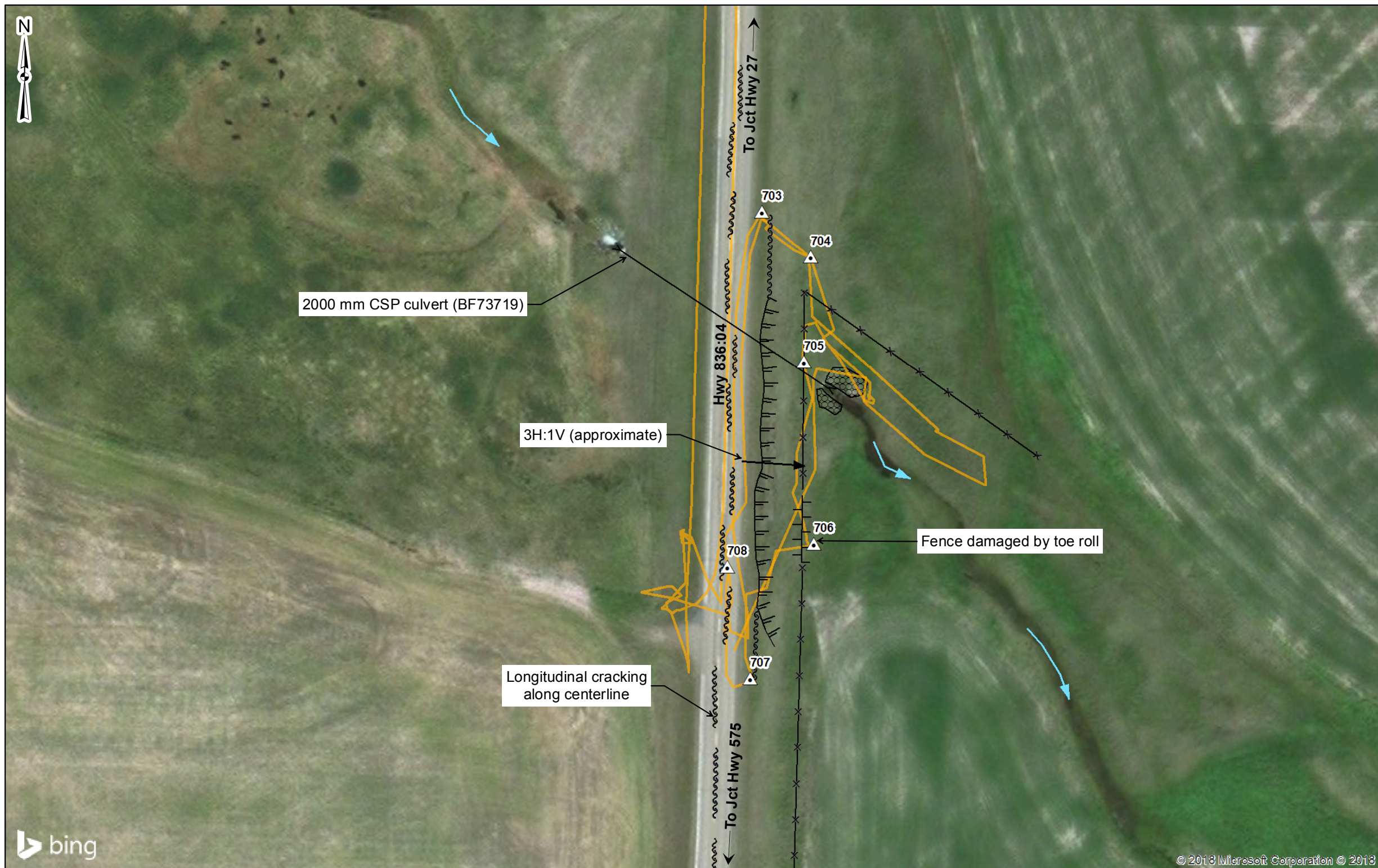


SITE NUMBER AND NAME: <b>C071 Black Snake Slide</b>		HIGHWAY & KM: 836:04, 15.016	PREVIOUS INSPECTION DATE: June 13 & 14, 2017 (callout)	INSPECTION DATE: <b>June 13, 2018</b>
LEGAL DESCRIPTION: 04-09-031-22 W4M	NAD 83 COORDINATES: UTM Northing Easting 12 5722769 356353		RISK ASSESSMENT: PF: 8 CF: 4 TOTAL: 32	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 120 (north) & 190 (south) (Ref No. 105240 & 105250)			CONTRACT MAINTENANCE AREA (CMA): 21	

SUMMARY OF SITE INSTRUMENTATION:  None	INSPECTED BY: Chris Gräpel (KCB) Ryan Gazley (KCB) Rocky Wang (AT) Tony Penney (AT)
LAST READING DATE: n/a	
PRIMARY SITE ISSUE: An embankment slope failure along the east slope (northbound lane) of Hwy 836.	
APPROXIMATE DIMENSIONS: The slide is approximately 100 m long, and the highway embankment is approximately 5 m high sloped at approximately 3H:1V.	
DATE OF ANY REMEDIAL ACTION: None.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Longitudinal cracking near highway centerline in response to highway loading, not in response to embankment slope failure		X
Slope Movement	X		Slope failure occurred in Spring 2017; multiple cracks on slope; fence damaged by toe roll; ground cracking at head of slide near pavement has extended to the north and south (waypoint 703 and 707, respectively)		X
Erosion		X	None observed		X
Seepage		X	None observed		X
Culvert Distress		X	2700 mm diameter CSP culvert (BF73719)		X

<b>COMMENTS</b>
Since the 2017 inspection, the slide has retrogressed to 1 m from the edge of pavement.
The head of the slide has extended to the north (waypoint 703) and to the south (waypoint 707) with ground cracks behind the head scarp. The height of the backscarp is 1-2 m.
The toe of the slide remains above the crown of the CSP culvert (BF73719, waypoint 705) which appears to be in good condition with no deflection at the crown. Toe roll of the slide has extended past the fence line by approximately 3 m (waypoint 707).
Repair of the site is expected to be completed in Fall 2018 as part of the works included in the Alberta Transportation Tender TND0019153. The repair will involve excavating the failed slope and backfilling with geosynthetic reinforced gravel fill with a shear key.



**Legend**

- GPS Waypoint
- GPS Track (June 13, 2018)
- Culvert
- Toe Roll
- Fence
- Crack
- Scarp
- Flow Direction
- Riprap

**NOTES:**  
 1. HORIZONTAL DATUM: NAD83  
 2. GRID ZONE: UTM Zone 12N  
 3. IMAGE SOURCE: Bing Maps 2018, Microsoft Corporation.  
 Image dated August 2013

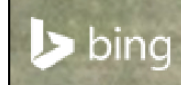
CLIENT

PROJECT  
CENTRAL REGION GEOHAZARD RISK MANAGEMENT PROGRAM

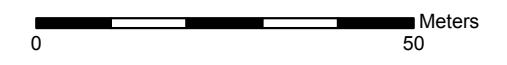
TITLE  
Site Plan  
C071 - Black Snake Slide  
Hwy 836:04, km 15.016

SCALE: 1:1,000    PROJECT No. A05115A02    FIG No. 1

Time: 15:18:20 PM  
 Date: July 11, 2018  
 File: Z:\A\EDM\A05115A02\ABT\_Central Region GRMIP\00 Drawings\2018\2\_Section B12\_2018\_Site Inspections\MXD\C071\_180710.mxd



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**Photo 1** Evidence of ground cracking extending to the south from the original slide area as indicated by the red arrow (waypoint 707). Photo taken June 13, 2018 looking south.



**Photo 2** Photo showing evidence of ground cracking extending to the north as indicated by the red circle (waypoint 703) of the backscarp (1-2m) Photo taken June 13, 2018 looking north.



**Photo 3** Photo showing the height of the backscarp (1-2m) Photo taken June 13, 2018 looking north.



**Photo 4** Culvert (BF73719) at the toe of the slide appears to be in good condition. Toe roll of the slide remains above the crown of the culvert as indicated by the red arrow (waypoint 705). Photo taken June 13, 2018 looking northeast.



**Photo 5** Area where the toe roll has extended beyond the fence line by approximately 3 m as indicated by the red arrow. Photo taken June 13, 2018 looking north.

