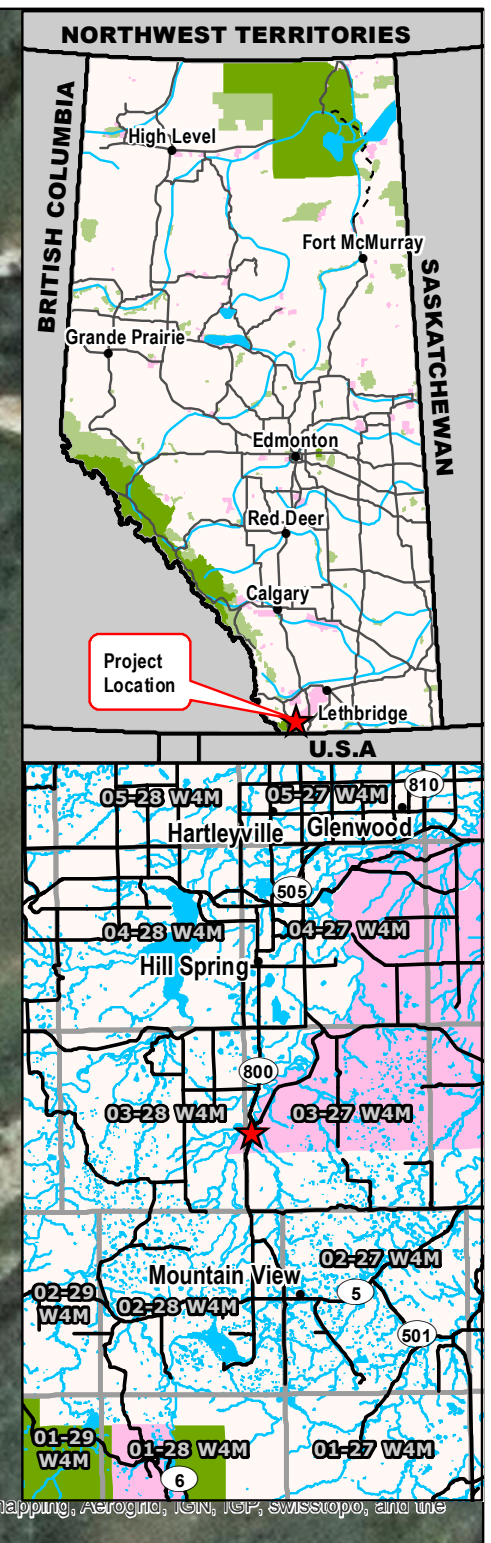


SITE NUMBER AND NAME: S036 Belly River		HIGHWAY & KM: 800:02, 9.050	PREVIOUS INSPECTION DATE: May 31, 2017	INSPECTION DATE: May 3, 2018
LEGAL DESCRIPTION: 12-18-003-27 W4M	NAD 83 COORDINATES: UTM Northing Easting 12 5454363 308507		RISK ASSESSMENT: PF: 3 CF: 1 TOTAL: 3	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 400 (north), 620 (south), (Ref No. 87010, 87030)			CONTRACTOR MAINTENANCE AREA (CMA): 25	

SUMMARY OF SITE INSTRUMENTATION: 6 vibrating-wire piezometers and 2 slope inclinometers. LAST READING DATE: April 2018	INSPECTED BY: Chris Gräpel (KCB) Peter Roy (KCB) Alex Frotten (AT) Roger Skirrow (AT)
PRIMARY SITE ISSUE: Monitoring landslide repairs on outside of bend of Belly River.	
APPROXIMATE DIMENSIONS: Approximately 200 m at river bank, repaired slope is approximately 15 to 20 m high, and approximately 4H:1V from crest to toe.	
DATE OF ANY REMEDIAL ACTION: Slide repair in 2012 consisted of toe berm, subsurface drainage, regraded slopes with slope benches and improved surface drainage, rip rap longitudinal peaked stone toe protection (LPSTP) armouring with re-directive vanes and bio-engineering (including live staking).	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X			X
Slope Movement		X			X
Erosion	X		Riprap has been displaced at some re-directive vanes. Erosion of the bank directly upstream of the riprap. Erosion at the toe of the slope due to high water event since the 2017 inspection towards the south end of the site.	X	
Seepage	X		Wet zones at outlet of drains above riprap near toe of slope.		X
Culvert Distress		X			

COMMENTS
Repaired slope in good condition with generally well-established vegetation.
Erosion noted on the bank upstream of riprap. The erosion feature has the potential to erode out behind the riprap. No change noted in since the 2017 inspection.
Lower bench wet where drain outlets are present. Logs and stumps/roots have been deposited on the lower bench by previous high-water events. High water event since the previous inspection in 2017 caused some erosion at the toe of the slope toward the south end of the site.
LPSTP riprap armouring in good condition, some minor displacement of particles at re-directive riprap vanes. Belly River was high at time of 2018 inspection, and most of the re-directive riprap vanes were underwater. Live staking near rip rap has not been very successful. Only a few live stake "branches" are alive.
Site will be visited every second year as part of the southern region GRMP tour.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- ▣ Slope Inclinerometer
- ⊗ Vibrating Wire Piezometer
- > Culvert
- ×—× Fence



NOTES: 1. HORIZONTAL DATUM: NAD83 2. GRID ZONE: UTM Zone 12N 3. IMAGE SOURCE: World Imagery, ESRI Arc GIS Online Southern Alberta 2015 Imagery 4. LPST = Longitudinal Peaked Stone Toe Protection	CLIENT 	PROJECT SOUTHERN REGION GEOHAZARD RISK MANAGEMENT PROGRAM
		TITLE Site Plan S036 - Belly River Hwy 800:02, km 9.050
	SCALE 1:1,250	PROJECT No. A05115A03
		FIG No. 1

Time: 17:10:03 PM
 Date: November 14, 2018
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Photo 1 North half of repaired slide area. Photo was taken facing north on May 3, 2018.



Photo 2 South portion of repaired slide area. Photo was taken facing west on May 3, 2018.



Photo 3 Erosion at upstream limit of riprap. Minimal change noted from previous inspection. Photo was taken facing southwest on May 3, 2018.



Photo 4 North toe area of repaired slide area. Some rip rap has been displaced from the re-directive vanes at river edge. Photo was taken facing north on May 3, 2018.



Photo 5 High water since the previous inspection in 2017 has deposited tree debris and caused some erosion at the toe of the slope. Photo was taken facing southwest on May 3, 2018.

