


<b>SITE NUMBER</b> SH 28	<b>SITE NAME</b> Little Smoky Valley	<b>HIGHWAY &amp; KM</b> HWY 744:02	<b>PREVIOUS INSPECTION DATE</b> 03 July 2014	<b>INSPECTION DATE</b> 25 June 2015
<b>LEGAL DESCRIPTION</b> LSD 13-18-76-22 W5M	<b>NAD 83 UTM COORDINATES</b> N6160721 E474084	<b>PREVIOUS RISK ASSESSMENT</b>		
		PF: 8*	CF: 3	<b>TOTAL: 24</b>
		<b>CURRENT RISK ASSESSMENT</b>		
		PF: 8*	CF: 3	<b>TOTAL: 24</b>
*There are currently no slope movement instruments installed at this site and it is difficult to estimate rates of movement.				

<p><b>SUMMARY OF SITE INSTRUMENTATION:</b></p> <p>No Instruments</p> <p><b>LAST READING DATE: N/A</b></p>	<p><b>INSPECTED BY:</b></p> <p><b>Amec Foster Wheeler:</b> Curtis Treen, Dustin McLachlan, Vincent Huang <b>Alberta Transportation:</b> Ed Szmata, Rishi Adhikari</p> <p>Vincent Huang, E.I.T. Geotechnical Engineer</p>  <p>Dustin J. McLachlan, P.Eng. Senior Geological Engineer</p> <p><b>Reviewed by:</b> Curtis R. Treen, M.Eng., P.Eng. Senior Associate Geotechnical Engineer</p> <p><b>Amec Foster Wheeler Environment &amp; Infrastructure</b> <b>Permit Number: P 04546</b></p>
---	---

<p><b>PRIMARY SITE ISSUES:</b></p> <p>The primary issue at this site is a failure on the embankment (4 to 5 m high) and natural slope that has historically been encroaching on the highway. The oval-shaped failure occurred in Fall 2004. Currently, the failure headscarp is 3.0 m from the highway (asphalt) and there appears to have been no change between the 2014 and 2015 inspections.</p> <p>Based on a discussion with AT staff and local Amec Foster Wheeler experience, it is possible that the feature is failed uncontrolled fill material that has been saturated and subsequently failed on the natural grade. The backslope ditch is wet and it is possible there is seepage from the backslope side, under the highway and into the failure area.</p> <p><u>Note:</u> Refer to previous inspection reports for further details</p>
<p><b>APPROXIMATE DIMENSIONS:</b></p> <p>Oval shaped failure approximately 45 m wide (along highway) and about 35m in length (perpendicular to highway). The headscarp is up to 3 m in height, and currently 3 m from the road (5.1 m from the white line). The failure mass is estimated to be approximately 3 m deep at its deepest. The overall embankment slope is at ~19 degrees from horizontal in the area.</p>

**DATE OF ANY REMEDIAL ACTION:**

None.

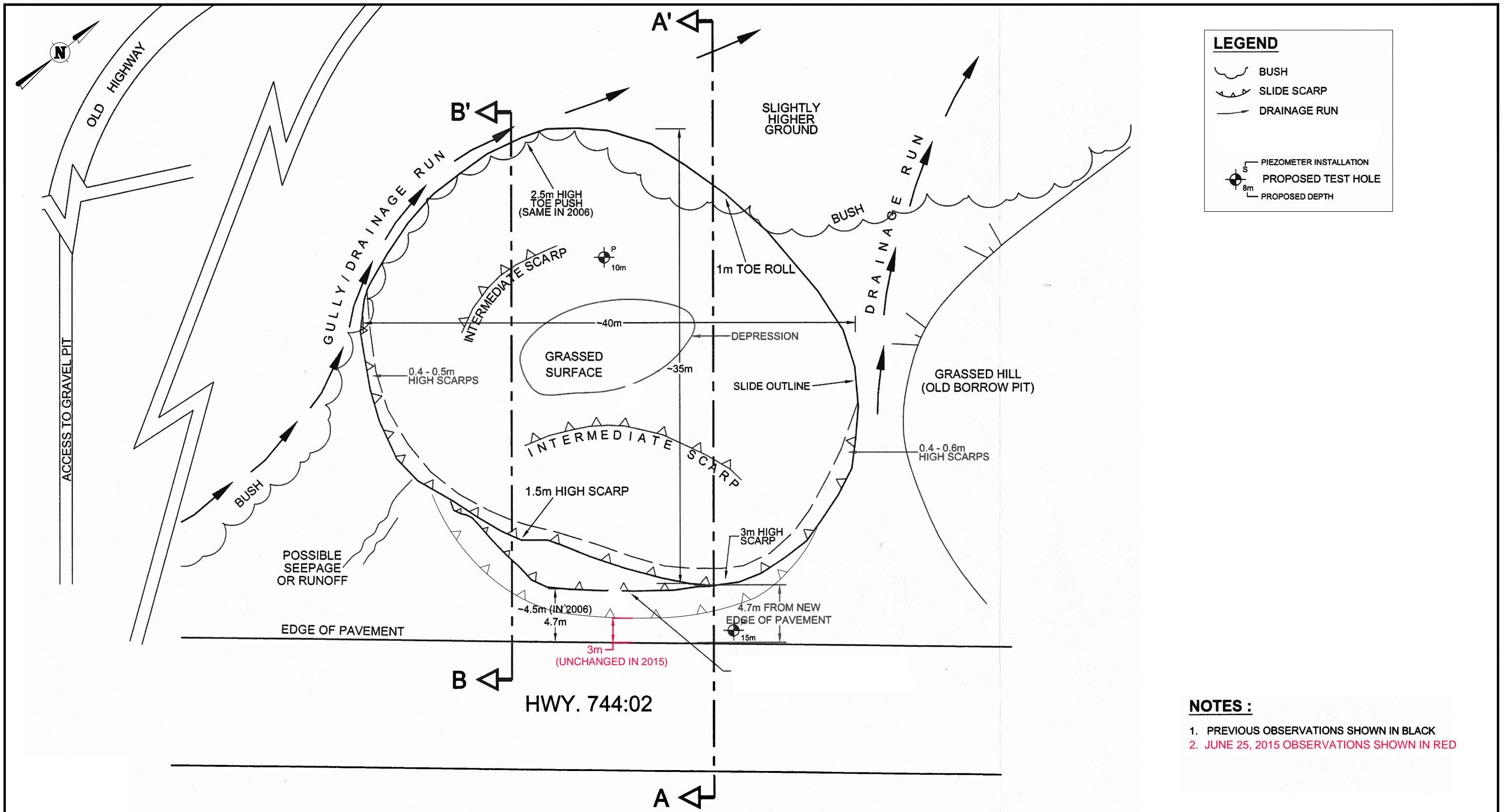
ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION		
	YES	NO		YES	NO	See Comment
PAVEMENT DISTRESS		X			X	
SLOPE MOVEMENT	X		Oval shaped failure of possible saturated, uncontrolled fill. Headscarp of failure is ~3 m from the edge of the roadway.		X	
EROSION		X			X	
SEEPAGE	X		Possible seepage from backslope ditch, under highway and into failure area.		X	

**COMMENTS/RECOMMENDATIONS:**

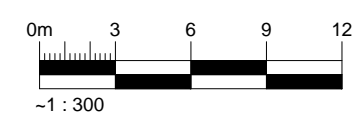
There was no evidence of movement activity at the time of the 2015 inspection. Little to no retrogression has occurred since 2011. Vegetation has grown along the failure mass and scarps and is relatively mature (Photos 2 and 3).

The mechanism of failure is not known with certainty. It is possible that the feature is failed uncontrolled fill that has been saturated and failed on the natural grade.

A guard rail would be required along the roadway if the headscarp of the failure is within or retrogresses into the Clear Zone of the roadway. If retrogression is observed in the future, stabilization of the failure would be required to preserve the R/W and to mitigate further retrogression and encroachment towards the highway. Stabilization/remediation may include drainage improvements and slope flattening/buttressing. An investigation and possibly instrumentation would be required if remedial works were planned.



REFERENCE: BASE "SITE PLAN", SH1010plan.pdf, SUPPLIED BY ALBERTA INFRASTRUCTURE AND TRANSPORTATION.



CLIENT:

**Alberta**  
Transportation

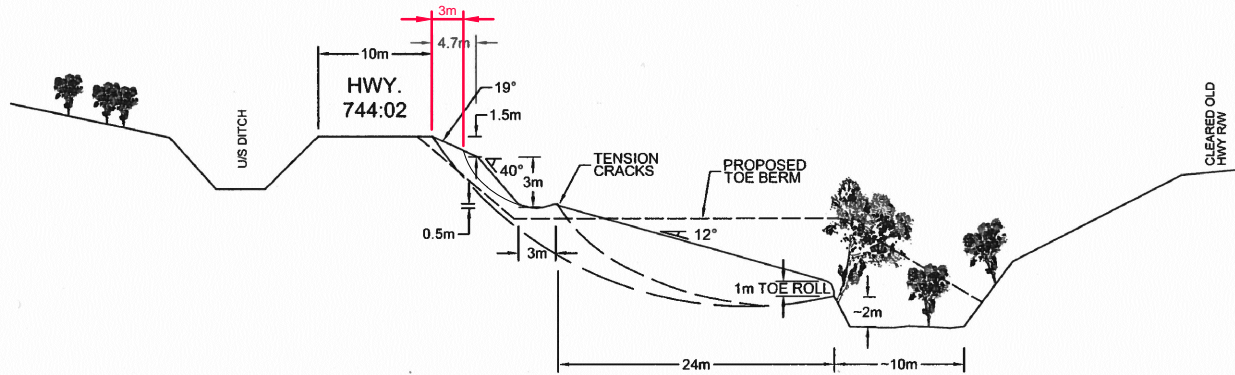
**amec foster wheeler**  
Environment & Infrastructure  
5681-70 STREET, EDMONTON, ALBERTA, T6B 3P6  
PHONE 780-436-2152, FAX 780-435-8425

DWN BY:	VH
CHK'D BY:	DJM
DATUM:	-
PROJECTION:	-
SCALE:	-1:300

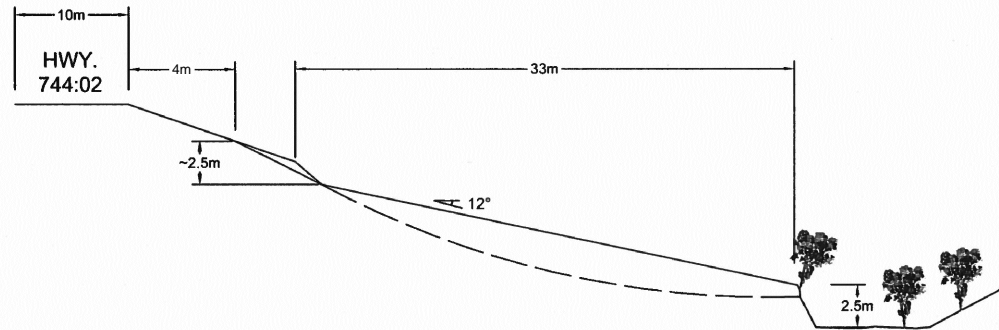
PROJECT:	GEO HAZARD ASSESSMENT PEACE REGION (SWAN HILLS)
TITLE:	SH28: HWY744:02 - LITTLE SMOKY VALLEY SITE PLAN

DATE:	JULY, 2015
PROJECT No.:	EG10030
REV. No.:	A
FIGURE No.:	FIGURE 1

S:\Cadd\Geo\EG10030\EG10030E\G10030 2015 Annual Inspections\2015 SH28 Inspection.dwg - Figure 1 - 2015-07-19 3:51 PM - vincent.huang-Half-Colour2.cib



**SECTION A-A'**  
N.T.S.





**SECTION B-B'**  
N.T.S.

**NOTES :**

1. BASE PLAN AND CONTOURS PROVIDED BY EXH ENGINEERING SERVICES LTD.
2. PREVIOUS OBSERVATIONS SHOWN IN BLACK
3. JUNE 25, 2015 OBSERVATIONS SHOWN IN RED

REFERENCE: BASE "SITE PLAN", SH1010plan.pdf, SUPPLIED BY ALBERTA INFRASTRUCTURE AND TRANSPORTATION.

CLIENT: 	DWN BY: VH	PROJECT: <b>GEO HAZARD ASSESSMENT PEACE REGION (SWAN HILLS)</b>	DATE: JULY, 2015
	CHK'D BY: DJM		PROJECT No.: EG10030
 Environment & Infrastructure 5681-70 STREET, EDMONTON, ALBERTA, T6B 3P6 PHONE 780-436-2152, FAX 780-435-8425	DATUM: -	TITLE: <b>SH28: HWY 744:02 - LITTLE SMOKY VALLEY SECTION A-A' &amp; SECTION B-B'</b>	REV. No.: A
	PROJECTION: -		FIGURE No.: <b>FIGURE 2</b>
	SCALE: NOT TO SCALE		



**Photo 1:** (looking south)  
No indications of pavement distress or deformation were observed.



**Photo 2:** (looking south)  
Distance between the edge of the pavement and backscarp was unchanged from July 2014.



**Photo 3:** (looking northeast)  
Backscarp is well vegetated and no signs of retrogression were visible.