ALBERTA TRANSPORTATION
GEOHAZARD ASSESSMENT PROGRAM
PEACE REGION – GRANDE PRAIRIE DISTRICT
2018 CALL OUT

THURBER ENGINEERING LTD.

Site Number	Location	Name	Hwy	km
Call Out	Hwy 43/Smoky River East	Hwy 43 Runaway Ramp	43:04	34.7
Legal Description		**UTM Co-ordinates**		
SW¼ 16-072-02 W6M		11U E 420351	N 6121546	

	Date	PF	CF	Total
Previous Inspection:				
Current Inspection:	24-May-2017	5	2	10
Road AADT:	8180		**Year:**	2017
Inspected By:	Rocky Wang, TRANS Ed Szmata, TRANS Dwayne Lowen, TRANS		Renato Clementino, Thurber Nicole Wilder, Thurber	
Report Attachments:	☑ Photographs ☑ Plans		☑ Maintenance Items	

Primary Site Issue:	Hwy 43 was twinned through the site by AT in 1999/2000 under Contract No. 6335/01 with the construction of a new SBL/EBL, while the original highway became the new NBL/WBL. A 1.2 m diameter CSP culvert is located about 1 km east of the Smoky River Bridge. A dip in the pavement exists on the southern west bound lane. The surface of the WBL has several vehicle marks from the dip and several cracks and ruts present (Photos 1 to 3).	
Dimensions:	About ~10m stretch of pavement on both WBLs has been affected.	
Maintenance:	No maintenance has been performed recently at the site however, patching took place in 2014/2015	
Observations:	**Description**	**Worsened?**
☑ Pavement Distress	There is a deep dip and cracking in the ACP of the WBL of Hwy 43:04 above the a 1,200 mm diameter CSP at km 34.7 (Photos 1 to 3).	☐
☐ Slope Movement		☐
☑ Erosion	No erosion was evident near the pipe inlet or outlet other than a hint of a depression further downslope from the outlet which was overgrown at the time of the inspection. An erosion gully exists about 140 m southeast of the site within the median.	☐
☑ Seepage	No Seepage was observed; however, there was standing water noted near the culvert outlet along with some build up of debris.	☐
☑ Bridge/Culvert Distress	No significant distress was noted at the outlet or inlet; however, the culvert may be damaged or the backfill surrounding the culvert may not have been compacted adequately.	☐

☐ Other		☐

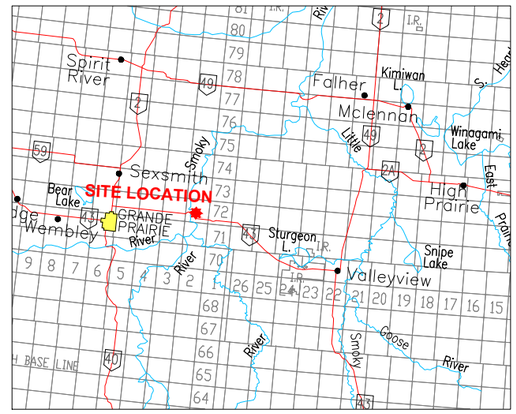
Instrumentation: (There are currently no instruments at the site)

Assessment:

It is uncertain that the settlement in the pavement is developing at either a disconnected section of the existing centerline culvert or due to the backfill and subgrade not being adequately compacted around the culvert. Once the underlying cause of the settlement has been determined, a proper remediation measure can be provided.

Recommendations:	**Cost**
Short Term	
The MCI and the maintenance contractor should regularly monitor the site and notify Thurber of any signs of further deterioration within the roadway right-of-way.	Maintenance
This site should be inspected again next year to assess its performance. Consideration should be given to patch the depression to improve roadway driveability.	
The outlet of the 1200 mm diameter culvert within the median on the south side of the NBL/WBL at km 34.7 should also be cleared so build up does not continue.	Investigation
Medium Term to Long term Perform an investigation using CCTV to identify if there are any flaws within the culvert then repair the damaged culvert by means of lining or replacing it depending on the findings.	

H:\13000\13353 Geohazard Assessment - Grand Prairie (CON0017603)\Drafting\2018\SGR13353-NORTH OF GP45 CALLOUT-1.dwg - 1N - Jul. 26, 2018



KEY PLAN
SCALE: 1: 2500 000

LEGEND

- APPROXIMATE LOCATION OF GUARDRAIL
- (8) DIRECTION AND NUMBER OF PHOTO

NOTES :

1. FEATURE LOCATIONS ARE APPROXIMATE

0 20 40 60 80 m
SCALE 1:1500

LIDAR PROVIDED BY ALBERTA TRANSPORTATION

Alberta Transportation

PEACE REGION (GRANDE PRAIRIE) 2018

CALLOUT: HWY 43:04, km 34.7
RUNAWAY RAMP
MAY 24, 2018 CALLOUT FIGURE
SITE PLAN

DWG No. 13353- HWY 43:04-CALLOUT-1

DRAWN BY	ML
DESIGNED BY	NPW
APPROVED BY	RVC
SCALE	1:1500
DATE	JULY 2018
FILE No.	13353

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	**Photo 1.** Looking northwest at dip in the pavement.
	**Photo 2.** Looking northwest standing in right NBL looking at cracks and the dip.

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	**Photo 3.** Looking northwest from left NBL at vehicle marks on the road before the dip.
	**Photo 4.** Looking northwest at 1200 mm diameter CSP culvert outlet.

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	**Photo 5.** Looking southwest and grown over outlet seepage water trail.
	**Photo 6.** Looking southeast at GP 45 and eroded area 140 m east.

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	**Photo 7.** Looking northwest towards dip.
	**Photo 8.** Looking southwest at culvert inlet.

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Photo 9.
Looking west at culvert inlet.