Government of Alberta ■
Transportation

STONY PLAIN REGION
GEOHAZARD RISK ASSESSMENT
SITE INSPECTION FORM

SITE NUMBER AND NAME:	HIGHWAY AND KM:	PREVIOUS INSPECTION DATE:	INSPECTION DATE:
NC 22 - Pavement Dip	Hwy 759:02, km 1.42	June 2, 2009	May 20, 2010
LEGAL DESCRIPTION:	**NAD 83 COORDINATES:**	**RISK ASSESSMENT:**	
NW 11-49-6-W5M	-51362 E, 5898567 N	PF: 9 CF: 2 **TOTAL: 18**	

SUMMARY OF SITE INSTRUMENTATION:	INSPECTED BY:
None	Adam Gmeinweser, P. Eng. (EBA) Chris Gräpel, P. Eng. (EBA) Sabhago Oad, P. Eng. (TRANS) Wilf Cousineau (TRANS) Fred Cheng, P. Eng. (TRANS)
LAST READING DATE: N/A	
PRIMARY SITE ISSUE: Section of asphalt with as much as 0.6 m settlement	
APPROXIMATE DIMENSIONS: 30 m in length	
DATE OF REMEDIAL ACTION:	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		30 m long strip of asphalt; 0.6 m maximum settlement		X
Slope Movement		X			
Erosion		X			
Seepage		X			
Culvert Distress	X		Culvert south of pavement dip; blocked with static water		X

COMMENTS:
Location and site plan shown on Figure NC-22.
Site conditions shown in Photo 1.
Risk level unchanged from 2009.
No additional pavement has been placed since 2001.

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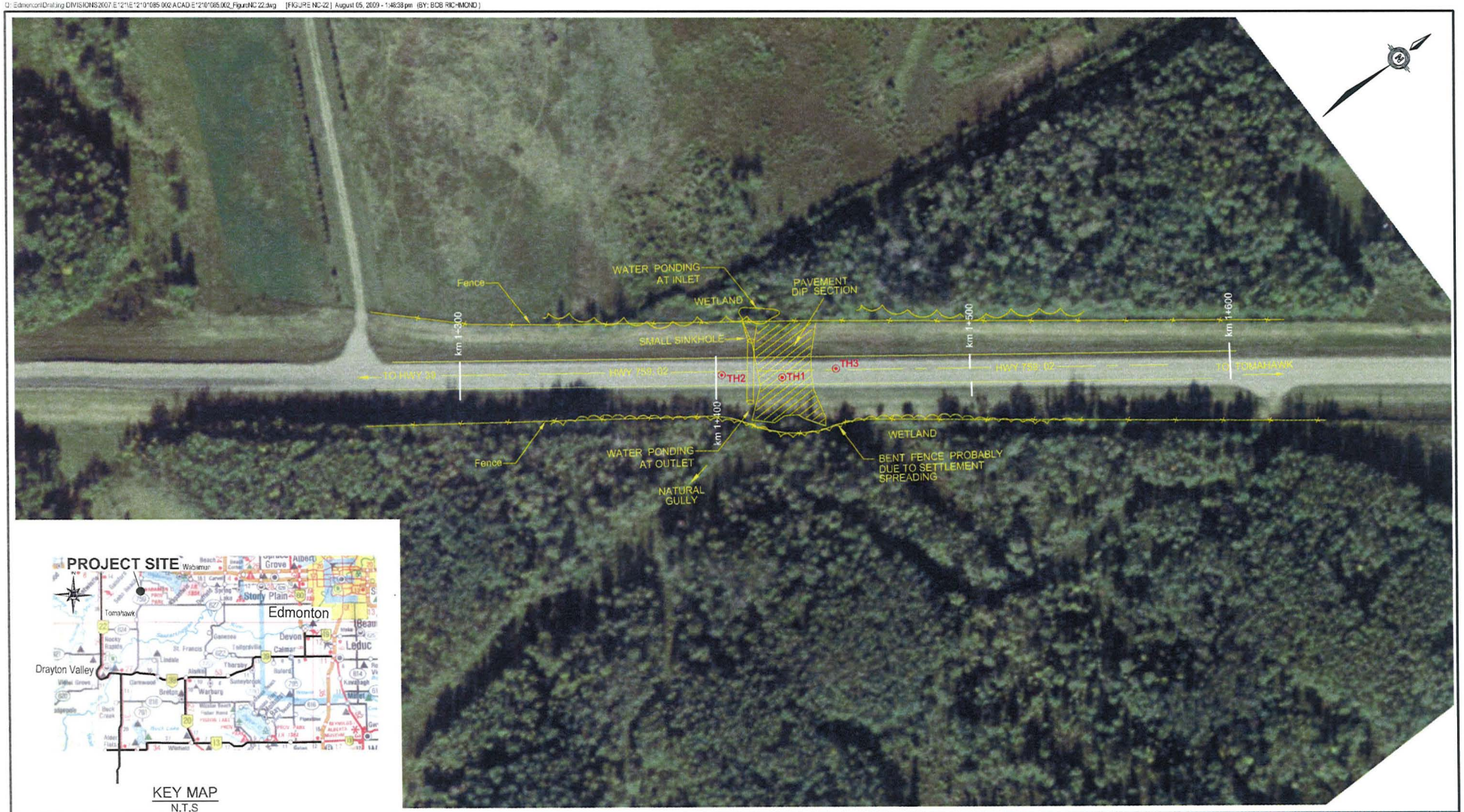
SITE OBSERVATIONS:

- Length of pavement dip is approximately 30 m long and appears to be relatively uniform across the width of the pavement;
- Pavement dip appears to be about 0.6 m;
- Embankment is about 3 m high with approximately 3H:1V sideslopes outside of the dip;
- Sideslopes within dip area are concave and steep (about 1H:1V);
- Pavement cracks are sealed. Relatively unchanged pattern from 2007 and 2008 inspections;
- 800 mm diameter culvert located south of the pavement dip. Culvert appears to be blocked and standing water is located within the ditch on both sides of the highway;
- Small sinkhole observed about 3 m east of the west outlet of the culvert. Relatively unchanged from 2008 inspection;
- Deflection of barbed wire fence observed at toe of east embankment (i.e. northbound lane); and
- Lateral spreading of embankment suspected due to concave shape of sideslopes in dip area and deflection of the barbed wire fence.

RECOMMENDATIONS:

- Recommended for pilot project for foam injection. Project to be conducted Summer/Fall 2010. Survey monitoring points should be measured before and after foam injection and re-grading of road surface to monitor performance. Three surveys should be conducted after construction. The surveys should be conducted at 3 month intervals.
- MCI should replace the existing culvert and develop a construction plan for improvement of both ditches.
- TRANS operations staff and EBA to discuss milling pavement versus leveling asphalt with pavement options after foam injection is complete.



KEY MAP
N.T.S

LEGEND:

⊙ - TEST HOLE DRILLED BY JACQUES WHITFORD LTD. (2006)

0 50
Scale: 1: 1 500 (metres)

CLIENT
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EBA Engineering Consultants Ltd.

North Central (Stony Plain)
Geohazard Risk Management Plan
NC-22, Hwy. 759:02

Site Plan

PROJECT NO.	DWN	CKD	REV
E12101085.002	BR/TK	MW	0
OFFICE: EDM	DATE: July 2009		

Figure NC-22

Photo 1
Pavement dip site, facing north

SUMMARY OF MAINTENANCE RECOMMENDATIONS
2010 GEOHAZARD RISK ASSESSMENT
NORTH CENTRAL STONY PLAIN REGION

NC-22 Pavement Dip at Hwy 789:02, km 1.42

Based on the observations made during the 2010 GRMP site inspection, the following maintenance procedures should be implemented to improve current slope conditions.

1. Maintenance contractor to conduct re-grading, culvert replacement and ditch improvements upon completion of foam injection program.

Blocked culvert and poor ditch drainage along west ditch

2. Determine thickness of asphalt required to level highway after foam injection and report information to Alberta Transportation and EBA. It may be more economical and prudent to mill the existing asphalt, replace with gravel fill placed to final subgrade and then add asphalt surfacing.