

**STONY PLAIN REGION
GEOHAZARD RISK ASSESSMENT
SITE INSPECTION FORM**

SITE NUMBER AND NAME: NC 2 - Pavement Cracking	HIGHWAY AND KM: Hwy 22:30, km 3.64	PREVIOUS INSPECTION DATE: May 20, 2010	INSPECTION DATE: June 14, 2011
LEGAL DESCRIPTION: SE 11-49-7-W5M	NAD 83 COORDINATES: -60737 E, 5897694 N	RISK ASSESSMENT: PF: 10 CF: 4 TOTAL: 40	

SUMMARY OF SITE INSTRUMENTATION: Slope Inclinometers: 4 (one of which is located outside of landslide area) Pneumatic Piezometers: 1 Standpipe Piezometers: 2	INSPECTED BY: Adam Gmeinweser, P. Eng. (EBA) Chris Gräpel, P. Eng. (EBA) Fred Cheng, P. Eng. (TRANS) Sabhago Oad, P. Eng. (TRANS)
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LAST READING DATE: May 17, 2011
PRIMARY SITE ISSUE: Landslide dating back to 1960's.
APPROXIMATE DIMENSIONS: 200 m long
DATE OF REMEDIAL ACTION: Pavement overlay in 2004.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Cracking present in eastbound lane. Dip in pavement observed	X	
Slope Movement	X		Continued movement north of Hwy 22		X
Erosion		X			
Seepage		X			
Culvert Distress		X			

COMMENTS: Location and site plan shown on Figure NC2-1. Site conditions shown in Photo 1. Risk level unchanged from 2010. Site recently cleared in preparation of twinning. Condition of highway unchanged from 2010 inspection.
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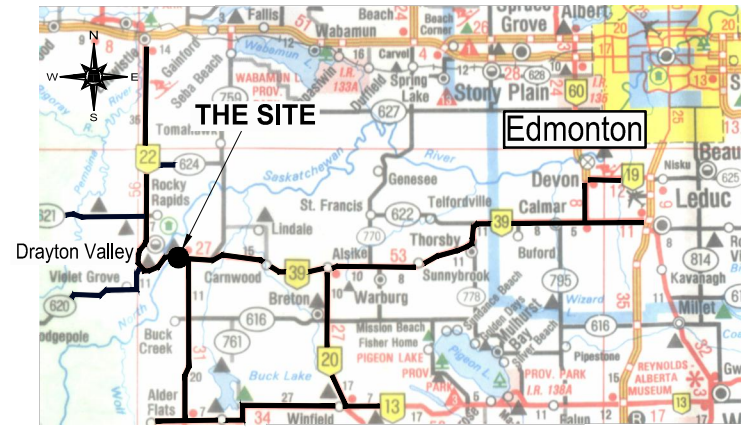
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SITE OBSERVATIONS:

- Magnitude of crack in pavement has increased slightly from last year. Dip in pavement has developed and is suspected to be in relation to embankment movement. Continued movement could increase deflection in the pavement surface.
- Sealant appears to have failed which may contribute to cracking of the pavement.
- Instrumentation observed near the creek, north of Hwy 22. Suspected to have been installed as part of proposed highway realignment.
- Recent tree clearing for highway twinning may be contributing to increase in movement.

RECOMMENDATIONS:

- A fill slope design for twinning of Hwy 22 should consider the presence of the existing slide.
- Each horizontal drain near the creek should be exposed and its outlet covered with coarse drainage rock to prevent clogging. Proposal to conduct this work has been submitted (EBA File No. PE12101119 dated May 13, 2009).
- Inoperable slope inclinometers should be replaced if pavement cracking worsens. Additional investigation may need to be conducted should slope movements or pavement deformations begin to accelerate.
- Pavement cracks which formed in 2004 should be sealed regularly to minimize infiltration.
- The deflection in the pavement that has developed should be monitored and may require patching if dip increases in size.
- The ditches and culvert inlet/outlets should be inspected for debris or beaver activity impeding water flow.



KEY MAP
N.T.S



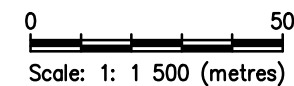
Q:\Edmonton\Drafting\DIVISIONS\2007\12\12\12\101085\002\ACAD\12\101085_002_FIG_NC_2-1.dwg [FIGURE NC2-1] July 15, 2011 - 10:39:06 am (BY: KIROS, TIGIST)

LEGEND

- ASPHALT PATCH
- SCARP
- SLOPE INCLINOMETER (SI)
- STANDPIPE PIEZOMETER (SP)
- PNEUMATIC PIEZOMETER
- SLOPE INCLINOMETER (SI) DESTROYED

NOTES

1. FEATURE LOCATIONS ARE APPROXIMATE.
2. PREVIOUS OBSERVATIONS SHOWN FOR REFERENCE
3. ACTIVE SLOPE INCLINOMETER SHOWN IN RED
4. BASE DRAWING PROVIDED BY THURBER ENGINEERING LTD.
5. EXTENT OF CLEARING CONDUCTED AFTER 2009 NOT SHOWN ON FIGURE.



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North Central (Stony Plain)
Geohazard Risk Management Plan
NC-2 Wiley West Park

SITE PLAN

PROJECT NO. E12101085.002	DWN TK/RH	CKD MW/AG	REV 0
OFFICE EDM	DATE July 2011		

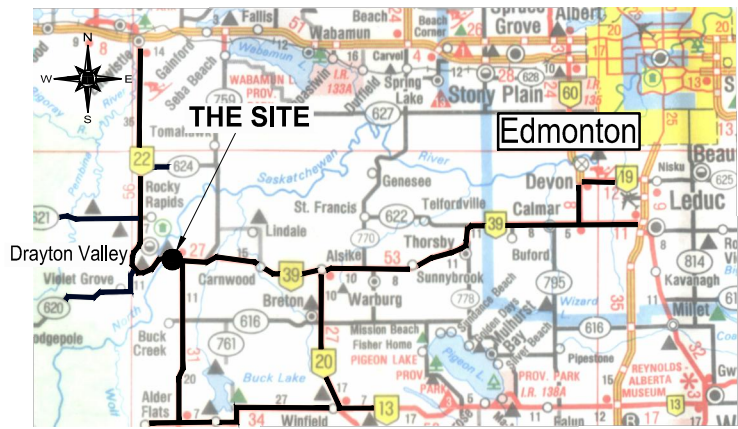
Figure NC2-1



Photo 1: Sealed crack and dip in pavement overlay



Photo 2: Site clearing in preparation of highway twinning



KEY MAP
N.T.S

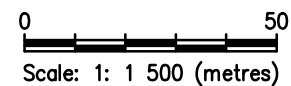


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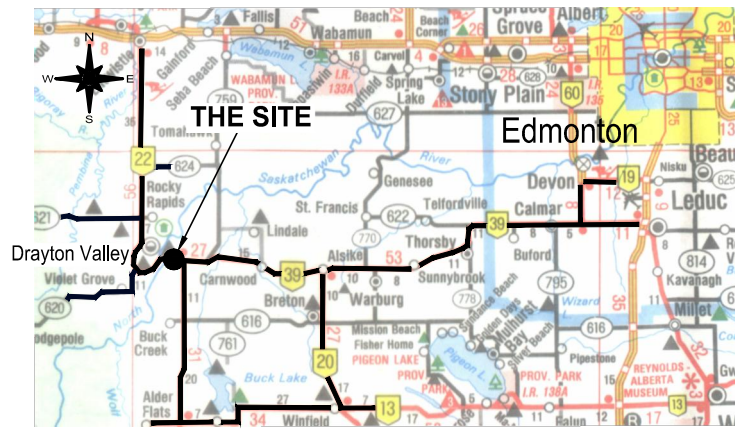


North Central (Stony Plain)
Geohazard Risk Management Plan
NC-2 Wiley West Park

SITE PLAN

PROJECT NO. E12101085.002	DWN TK/RH	CKD MW/AG	REV 0
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Figure NC2-1

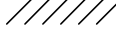


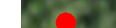




KEY MAP
N.T.S



Q:\Edmonton\Drafting\DN\S\ONS2007\E12\1E\12101085\003\Acad\E12101085.003_FIG NC 2-1_2010.dwg [FIGURE NC 2-1] November 10, 2011 - 12:15:33 pm (BY: KROS, TGIST)

LEGEND

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-  SCARP
-  SLOPE INCLINOMETER (SI)
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5. EXTENT OF CLEARING AND ROAD CONSTRUCTION CONDUCTED AFTER JUNE 2010 NOT SHOWN ON FIGURE

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North Central (Stony Plain)
Geohazard Risk Management Plan
NC-2 Wiley West Park

SITE PLAN

PROJECT NO. E12101085.003	DWN DBD/TK	CKD RJM	REV 0
OFFICE EDM	DATE November 2011		

Figure NC 2-1



Photo 1: Sealed crack and dip in pavement overlay



Photo 2: Site clearing in preparation of highway twinning