

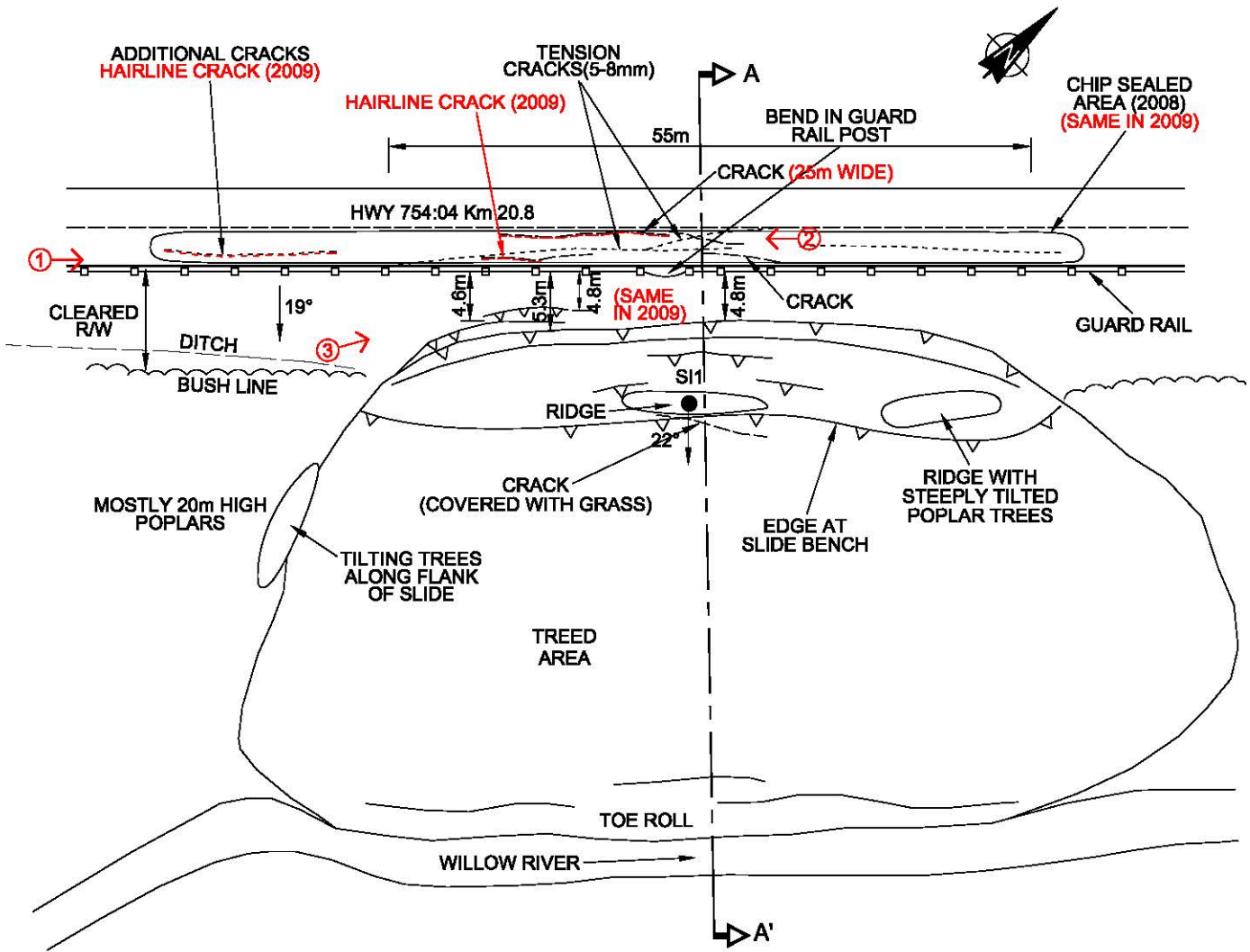
**GEOHAZARD ASSESSMENT PROGRAM**  
**NORTH CENTRAL REGION – ATHABASCA**  
**2009 INSPECTION**



Site Number	Location	Name	Hwy	km
NC 42	75 km north of Slave Lake and 40 km from the junction of highways 88 and 754	North of Slave lake	754:04	20.8
<b>Legal Description</b>		<b>UTM Co-ordinates (NAD 83)</b>		
SE-28-77-3-W5M		11 N 6177576	E 664053	

	Date	PF	CF	Total
<b>Previous Inspection:</b>	June 9, 2008	9	3	27
<b>Current Inspection:</b>	June 18, 2009	9	3	27
<b>Road AADT:</b>	720	<b>Year:</b>		2008
<b>Inspected By:</b>	Tarek Abdelaziz, Renato Clementino (Thurber) Roger Skirrow, Neil Kjelland, Arthur Kavulok, Gordon Wolters (TRANS)			
<b>Report Attachments:</b>	<input checked="" type="checkbox"/> Photographs <input checked="" type="checkbox"/> Plans <input type="checkbox"/> Maintenance Items			

<b>Primary Site Issue:</b>	A large landslide affecting the highway side slope, triggered by toe erosion from the Willow river	
<b>Dimensions:</b>	About 55 m long at backscarp in side slope	
<b>Date of any remediation:</b>	N/A	
<b>Maintenance:</b>	Highway chip- sealed in 2007	
<b>Observations:</b>	<b>Description</b>	<b>Worse?</b>
<input checked="" type="checkbox"/> Pavement Distress	Reflective hairline cracks on the highway surface. A longitudinal reflective crack up to 25 mm wide was noted on the highway SBL	<input checked="" type="checkbox"/>
<input type="checkbox"/> Slope Movement	Slide continued to display creep movement	<input type="checkbox"/>
<input type="checkbox"/> Erosion		<input type="checkbox"/>
<input type="checkbox"/> Seepage		<input type="checkbox"/>
<input type="checkbox"/> Bridge/Culvert Distress		<input type="checkbox"/>
<input checked="" type="checkbox"/> Other		<input type="checkbox"/>
<b>Instrumentation: (1SI, No piezometers)</b>		
S11 operational; rate of movement increased by 2.8 mm/yr to 5.8 mm/yr		
<b>Assessment (Refer to attached Figure):</b>		
The reflective hairline and open cracks on the highway surface reveal the continued creep movement of the slide Retrogression of the head scarp to the highway could occur at some point in the future due to the continued creep movement.		
<b>Recommendations:</b>		
In the short term, the MCI should seal any open cracks to reduce the potential of increasing slide movement due to infiltration of surface water into the slide mass. As discussed on site, reinforcing the slide head scarp using soil nails could be undertaken as a short term solution to reduce the risk of future head scarp retrogression to the highway surface. A long term solution would consist of re-alignment of the highway further away from the slide. The pall bark cost for soil nails is \$170,000.		



**LEGEND**

- SLOPE INDICATOR INSTALLED BY JACQUES WHITFORD IN 2006  
2009 OBSERVATIONS ARE SHOWN IN RED
- ① PHOTOGRAPH APPROXIMATE LOCATION AND DIRECTION (JUNE 18, 2009)

**FIGURE NC42-1 SKETCH SITE PLAN  
NC42- HWY 754:04 Km 20.8**





**Photo #1** General view of highway surface at slide location, looking north



**Photo #2** Looking south toward an open longitudinal crack on the highway SBL





**Photo #3** Looking north from the southern limit of the slide headscarp