



THURBER ENGINEERING LTD.

GEOTECHNICAL * ENVIRONMENTAL * MATERIALS

September 20, 2005

File: 15-85-10

Alberta Infrastructure and Transportation
Room 223, Provincial Building
4709 B 44 Avenue
Stony Plain, Alberta, T7Z 1N4

Attention: Mr. Mike Baik.

**NORTH CENTRAL REGION
GEOTECHNICAL INSTRUMENTATION SUMMARY
SPRING 2005**

Dear Sir:

Attached please find the North Central Region Spring 2005 geotechnical Instrumentation Summary. For your information, a total of 149 instruments (86SIs, 39PNs, 22SPs, 2GWs) were read in the Spring of 2005 and a projected 160 instruments (85SIs, 44PNs, 23SPs, 2GWs, 6VWs) will be read in the Fall of 2005.

As requested, we have added a column that identifies which instruments require repairs. We have also reviewed and made minor changes to the number of instruments that were and are to be read. This summary supersedes the one sent in July, 2005.

If any questions arise please contact the undersigned.

Yours very truly,
Thurber Engineering Ltd.
Don Proudfoot, P.Eng.
Review Engineer

Vedran Bijeljanin, E.I.T
Project Engineer

cc: Mr Roger Skirrow, P.Eng AIT (Twin Atria)
Mr. Fred Cheng, P.Eng AIT (Twin Atria)

**TABLE 1
NORTH CENTRAL REGION
SUMMARY OF GEOTECHNICAL INSTRUMENTATION SPRING 2005**

LOCATION	INSTRUMENTATION	RECOMMENDED ADDITIONAL INSTRUMENTS	NEW INSTRUMENTS ADDED	INSTRUMENTS DELETED FROM READING SCHEDULE	RECOMMENDATION	TOTAL NUMBER OF OPERATIONAL INSTRUMENTS	INSTRUMENTS REQUIRING REPAIRS	NUMBER OF INSTRUMENTS READ IN SPRING 2005 (SEMI-ANNUAL AND ANNUAL READINGS)	NUMBER OF INSTRUMENTS PROJECTED TO BE READ IN FALL 2005 (SEMI-ANNUAL READINGS)
NC1: HWY43:16 Whitecourt East Hill	SI 5, 10, 11, 12, 30, 31, SI01-1 and 01-2 PN01-1 and PN01-2	4 SI's 9 SP's	None	None	- Read all existing instrumentation semi-annually.	10 (8 SI's, 2 PN)	SI 12 (Blocked at 1.0m)	10 (8 SI's, 2PN)	10 (8 SI's, 2 PN)
NC2: HWY 22:30 Willey West Park	SI 3A, 4A, 7, 9, 10, 01-1 SP 01-1 & 01-2 PN 01-1	None	None	None	- Read all existing instrumentation semi-annually.	9 (6 SI's, 1 PN, 2 SP)	0	9 (6 SI's, 1 PN, 2 SP)	9 (6 SI's, 1 PN, 2 SP)
NC3: BF1517 Tawatinaw Br. Athabasca	SI 31, 32, 33, 34 SP04-1 & 04-8	None	SP04-1 & 04-8	None	- Read all existing SIs annually.	6 (4 SI's, 2 SP's)	SI 31 (Sheared off at the ground surface)	6 (4 SI's, 2 SP's)	0
NC4: BF75118 Overpass H55/SH813 (Athabasca)	SI 23, 24, 04-1, 04-2 SP04-1 & 04-2 PN04-1 & 04-2	None	SI 04-1, 04-2 SP04-1 & 04-2 PN04-1 & 04-2	SI 22	- Read all existing SIs annually.	8 (4 SI's, 2 SP's, 2 PN's)	0	8 (4 SI's, 2 SP's, 2 PN's)	0
NC5: HWY39:06 Saunders Lake (Modeste Creek)	SI 1, 01-2A & 01-3A PN 1(8339), 2(8342), 3(8343), 4(8346), 5(11548), 01-2A, 01-3A	None	None	None	- Read all existing instrumentation semi-annually.	9 (2 SI's, 7 PN)	SI01-2A (Blocked at 0.75m)	9 (2 SI's, 7 PN)	9 (2 SI's, 7 PN)
NC6: HWY2:46 Mitsue Rec. Area	SI 1, & 3 PN 2 (34443)	None	None	None	- Read all existing instrumentation semi-annually.	2 (2 SI's)	PN 2 (34443) (Damaged)	3 (2 SI's, 1 PN)	3* (2 SI's, 1 PN)

TABLE 1 - CONTINUED
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NC7:HWY759 Berrymoor Bridge	SI01-1, 02-1, 02-2, 02-3, 03-1, 04-1, and 04-2 SP01-1, 01-2, 01-3	None	None	None	- Read all existing SIs semi-annually.	10 (7 SIs, 3 SP)	0	10 (7 SIs, 3 SP)	10 (7 SIs, 3 SP)
NC9: HWY2:48 Canyon Creek	SI 2, 3, & 6 PN 1 (34445), 2 (34441), 4 (34453) & 5 (34442)	None	None	SI 4	- Read all existing instrumentation semi-annually.	7 (3 SIs, 4 PN)	0	8 (4 SIs, 4 PN)	7 (3 SIs, 4 PN)
NC10: HWY33:04	SI 97-1, 97-2, & 97-3	None	None	None	- Read all existing SIs semi-annually.	3 (3 SIs)	0	3 (3 SIs)	3 (3 SIs)
NC11: HWY40:30 Hinton	SI 1, 2, and 4	None	None	None	- Read all existing SIs annually.	3 (3 SIs)	0	3 (3 SIs)	0
NC13: HWY633:02 Cattlepass West	SI05-1 through 05-6 PN05-1, -2, and 05-3 VW05-1, -2, -3, -4, and 05-6	None	SI05-1 through 05-6 PN05-1, -2, and 05-3 VW05-1, -2, -3, -4, and 05-6	None	- Read all existing SIs semi-annually.	14 (6 SIs, 3 PN, 5 VW)	0	0	14 (6 SIs, 3 PN, 5 VW)
NC14: HWY661:02 Fort Assiniboine	None	5 SIs 14 SP's	None	None	- No instruments to be monitored.	0	0	0	0
NC17a:HWY63:12 Twinning	SI99-1, 99-2, 99-6, & 03-5	Two SIs to replace SI99-3 and SI99-4	None	SI-3 (Sheared off)	- Read all existing SIs semi-annually.	4 (4 SIs)	0	5 (5 SIs)	4 (4 SIs)
NC17b: HWY63:12 Super Test Hill	SI 1, 2, 3, 4, & 6	None	None	None	- Read all existing SIs semi-annually.	5 (5 SIs)	0	5 (5 SIs)	5 (5 SIs)
NC18: HWY764 Pembina River	SI# 7, 8, 9, 21, 22, 23, & 24 SP#96-1, and 96-2	None	None	None	- Read all existing SIs semi-annually.	9 (7 SIs, 2 SP)	0	9 (7 SIs, 2 SP)	9 (7 SIs, 2 SP)
NC19:HWY39:06 Buck Lake Creek	SI 1, 2, 5, 01-1A, 01-2A, & 01-3A, 02-1, and 02-2 PN 1, 2, 01-1A & 01-2A SP01-2A & 01-3A	None	None	None	- Read all existing SIs semi-annually.	14 (8 SIs, 4 PN, 2 SP)	0	14 (8 SIs, 4 PN, 2 SP)	14 (8 SIs, 4 PN, 2 SP)

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NC23: HWY39:06 km 12.6 (Near Greenwood Lake Road)	SI01-1, 01-2, 01-3, 01-4, and 01-5 PN01-1A, 01-2A, 01-1, 01-2, 01-3, 01-4, 01-5, 01-6 & 01-7 GW01-1 & 01-2 SP01-2	None	None	None	- Read all existing SIs semi-annually.	17 (5 SIs, 9 PN, 1 SP, 2 GW)	0	17 (5 SIs, 9 PN, 1 SP, 2 GW)	17 (5 SIs, 9 PN, 1 SP, 2 GW)
NC24: HWY28:16 Kehiwin Lake	SI 02-1, 02-2, 02-3, 02-4 & 02-5 SP02-1, 02-2, 02-3, 02-4, & 02-5	3 new SIs for a proposed pile wall option.	None	None	- Read all existing SIs semi-annually.	10 (5 SIs, 5 SP)	0	10 (5 SIs, 5 SP)	10 (5 SIs, 5 SP)
NC25: HWY646:04 Lindberg Hill	SI02-1, SP02-1, 02-2, & 02-4	Two new SIs to replace SI02-2, -3, and SI02-4 and 1 SP	None	SI02-2	- Read all existing SIs semi-annually.	4 (1 SI, 3 SP)	0	4 (1 SI, 3 SP)	4 (1 SI, 3 SP)
NC34: HWY40:28 Gregg River	SI04-2 PN04-2	None	SI04-1 & 04-2 SP04-1 & 04-3 PN04-2	SI04-1 SP04-1 & 04-3 Covered with asphalt ***	- Read all existing SIs semi-annually.	2 (1 SI, 1PN)	0	2 (1 SI, 1PN)	2 (1 SI, 1PN)
NC35: HWY 63 King Street Interchange	SI01-2, 01-4, 01-3A, 02-1, 02-2, and 03-1 PZ01-2, 01-6 to 01-10, 01-4A, and 01-5A	None	None	PZ01-5 PZ01-1	- Read all existing SIs semi-annually.	14 (6 SIs, 8 PN)	0	14** (6SIs, 8 PN)	14** (6SIs, 8 PN)
NC37: HWY33:10 South of Whitecourt	SI05-1, -2, and 05-3 SP05-1 through 05-5	None	SI05-1, -2, and 05-3 SP05-1 through 05-5	None	- Read all existing SIs semi-annually.	8 (3 SIs, 5 SP)	0	0	8 (3 SIs, 5 SP)
NC44: HWY633:02 Cattlepass East	SI05-7, -8, and 05-9 PN05-4, -5, -6 and 05-8 VW05-7	None	SI05-7, -8, and 05-9 PN05-4, -5, -6 and 05-8 VW05-7	None	- Read all existing SIs semi-annually.	8 (3 SIs, 4 PN, 1 VW)	0	0	8 (3 SIs, 4 PN, 1 VW)
TOTAL		40 (16 SIs, 24 SP)				146 (84 SIs, 38 PN, 22 SP, 2 GW)	4 (3 SIs, 1 PN)	149 (86 SIs, 39 PN, 22 SP, 2 GW)	160 (85 SIs, 44 PN, 23 SP, 2 GW, 6 VW)

SI (slope inclinometer); PN (Pneumatic Piezometer); SP (Standpipe Piezometer); VW (Vibrating Wire Piezometer); GW (Ground Water Monitoring Well)

*Assumes that the pneumatic piezometer will be repaired and read during the Fall 2005 reading cycle.

**An attempt will be made to read SI01-4 in the Fall 2005 to determine if the Spring blockage was due to ice.

***Instruments could be monitored in the future if required.