U.S. Department
of Transportation
Federal Highway
Administration

LTPP Seasonal Monitoring Program

Site Monitoring Suspension
Status Report
Section 871622
Bracebridge, Ontario

Report No. FHWA-TS-98-87-01

January 1998

SEASONAL MONITORING PROGRAM SUSPENSION STATUS REPORT ONTARIO SECTION 871622

I. INTRODUCTION

Seasonal monitoring equipment was initially installed at site 871622 on Highway 11 near Bracebridge, Ontario in September 1993 and was used to collect data continuously from September 23, 1993 to June 15, 1995 (Round 1), and from September 11, 1996 to October 30, 1997 (Round 2). On October 30, 1997, Round 2 site suspension activities were completed according to LTPP Directive SM-8 "Suspension of SMP Site Monitoring Activities". See Table 1 for a summary of the Round 2 seasonal data collected. The site will remain out of operation until a decision relative to further testing is reached.

This report entitled "SMP Site Monitoring Suspension Status Report" details the close-out preparation activities, site specific conditions, and provides information pertinent to seasonal site 871622.

II. SUSPENSION PREPARATION ACTIVITIES

The suspension preparation activities at site 871622 with the exception of a manual distress survey and transverse Dipstick surveys were conducted during the final site visit of Round 2 on October 30, 1997. The manual distress survey of the section as well as the transverse dipstick surveys were conducted on the September 25, 1997 site visit. The PK nails were reconfirmed and replaced as necessary. The site markings were in good condition and did not need to be refreshed. Three sets of FWD tests were completed. One set of elevations and a distress survey of the instrumentation area were obtained. The trench to the instrument hole/instrument hole area is considered to be in good condition. The instrumentation area was cleaned and sealed as necessary. Water table measurements and manual resistivity measurements (2 and 4 point) were performed in the morning and afternoon. The ONSITE datalogger was downloaded before being dismantled. Two sets of TDR traces and resistance voltages were extracted by the mobile datalogger.

The air temperature probe, tipping bucket, and the upper part of the support pole were dismantled. The lead wires from the air temperature probe and tipping bucket were removed from the cabinet and sprayed with an anti-corrosive compound. A portion of the lead wires broke off in the underground conduit between the weather pole and the equipment cabinet during the removal process. An above ground connection between the equipment cabinet and the weather pole will be installed if data collection is reinitiated at this site. The bottom portion of the support pole was cleaned and lubricated prior to installing the end cap.

The solar panel was disconnected. After all wires to the control panel were disconnected, the panel was detached from the equipment cabinet along with the CR 10 datalogger, terminal strip and battery pack. The TDR cables, resistivity cable and MRC lean wires were sprayed with an anti-corrosive compound and sealed with desiccant packs in air tight bags. All cables/wires were hung up high inside the equipment cabinet. After the last piezometer reading was recorded, the pipe was cleaned and sealed with grease. The access cover and seat were cleaned and lubricated before being covered and brought up to grade with native soil.

The Profilometer survey corresponding to the close out was conducted on October 22, 1997.

All the necessary suspension activities were completed on October 30, 1997. The dismantled equipment was removed from the site. The suspended site contains all the underground instrumentation and equipment and an equipment cabinet with all the cables in it. The equipment cabinet was locked before leaving the site. The site was cleaned and left in a condition such that the instrumentation could be easily accessed when the need arises.

III. SPECIAL SITE CONDITIONS

The installation of site 871622 followed the "LTPP Seasonal Monitoring Program Installation and Data Collection Guidelines" closely. There were no irregularities associated with the installation of this site. This site is tentatively scheduled for an overlay during the summer of 1999.

IV. SUPPLEMENTAL INFORMATION

Figure 1 shows the locations of the installed instrumentation at the site. The instrumentation hole is at Station 5+14 and the piezometer is at Station 4+00. Table 2 gives the elevations of the portion of test section 871622 that was used for elevation measurements. All offsets are from the PK nails found at the outside pavement edge.

At the time of suspension, MRC #1 sensor was not functioning. This sensor was not working at the time Round 2 data collection began in September 1996 and in fact, malfunctioned shortly after installation. A plot of the erroneous MRC #1 sensor is not provided because the temperature values are off a plotable scale. Other than the above, there were no unresolved problems with any of the other sensors at the time of site suspension activities. The plots for ONSFIELD, MOBFIELD and SMPCHECK follow expected trends and produce expected values.

TABLE 1:
SUMMARY OF ROUND TWO NORTHERN LOOP SMP DATA COLLECTION TO DATE

Agency Code [8 7]
LTPP Section I.D. [1 6 2 2]
Location Bracebridge, Ontario

Test Date dd/mmm/yy	Visit Ident./ Code	ONSITE Data			MOBILE Data		Manual Data								FWD Data				Distress Data		Profile Data		Comments
		Pav Temp.	Ambient Temp.	Rainfall	Moisture (TDR)	Frost Depth (Resist.)	Backup Pav. Temp.	Backup Moisture (TDR)	Frost Depth 2 - point	Frost Depth 4 - point	Water Table	Surface Elev.	Joint Open.	Joint Fault.	Surface Layer Temp.	No. of Cycles/Visit OWP	ML	PE	Manual	PASCO	Profiler	Dipstick	
26-Sep-95	J	A	A	A																			Agency collected "off-years" data from 6/16/95 - 9/26/95
11-Sep-96	A	X	X	X	X	X			X	X	X				X	1	1		X			X	Re-commission
28-Nov-96	B	X	X	X	X	X					X										21-Nov-96		no FWD Data due to snow and Solar Panel installed
19-Dec-96	C	X	X	X	X	X			X	X	X										24-Jan-97		no FWD Data due to traffic control
30-Jan-97	A	X	X	X	X	X																	no FWD Data due to weather
20-Feb-97	B	X	X	X	X	X			X	X	X	X			X	2	3				05-Mar-97		
18-Mar-97	C	X	X	X	X	X															01-Apr-97		ONS/MOB Data only
03-Apr-97	D								X	X	X				X	4	4						no ONS/MOB data due to dual FWD mobilization
01-May-97	E	X	X	X	X	X			X	X	X												no FWD Data due to traffic control
22-May-97	F	X	X	X	X	X			X	X	X	X			X	3	3		X			X	
19-Jun-97	G	X	X	X	X	X					X				X	3	3						
24-Jul-97	H	X	X	X	X	X			X	X	X	X			X	4	4				07-Aug-97		
21-Aug-97	I	X	X	X	X	X					X				X	1	1						
25-Sep-97	J	X	X	X	X	X					X				X	1	1		X		20-Oct-97	X	
30-Oct-97	K	X	X	X	X	X			X	X	X	X			X	3	3						De-commission

Table 2. Surface Elevation Measurements

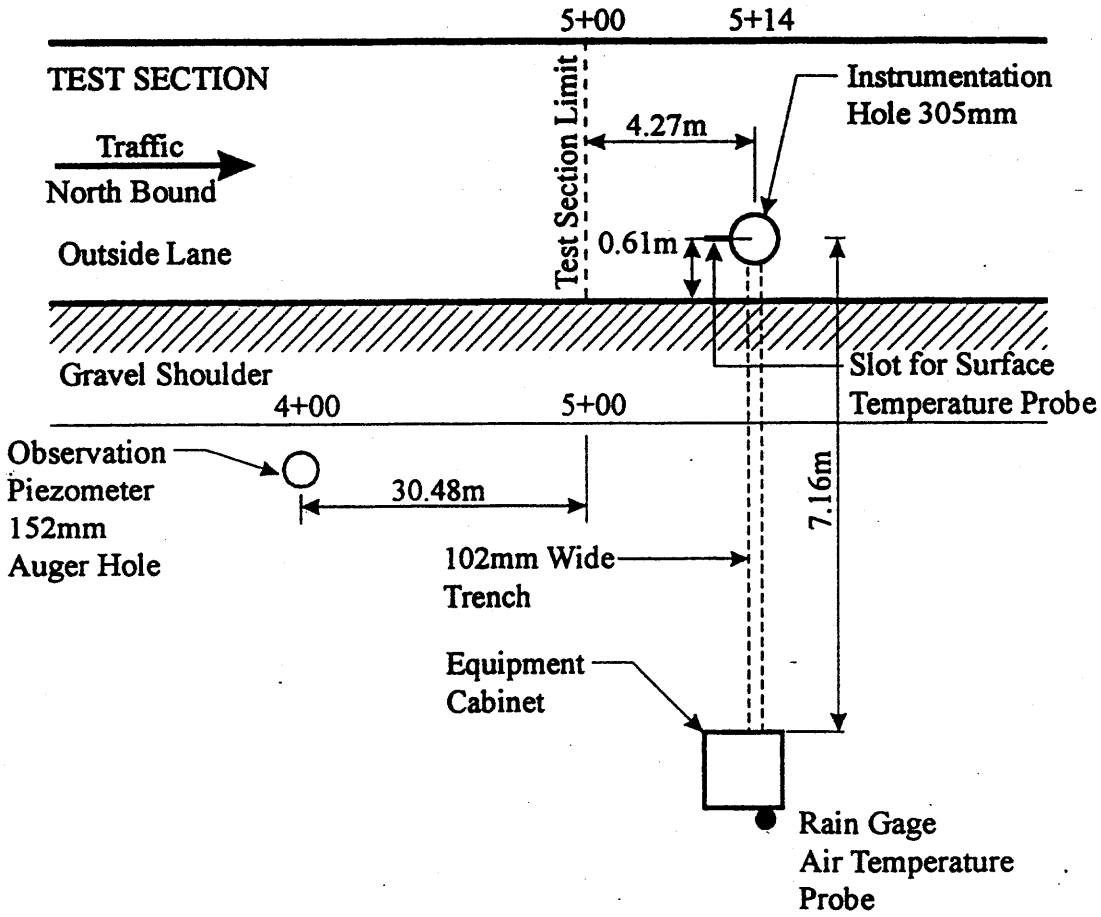
LTPP Seasonal Monitoring Study	State Code	[87]
Surface Elevation Measurements	Test Section Number	[1622]

Survey Date	October 30, 1997
Surveyed By	DS
Surface Type	AC
Benchmark	Observation Piezometer - 1.000 meters - assumed

STATION	PE m offset 0.30m	OWP m offset 0.91m	ML m offset 1.83m	IWP m offset 2.74m	ILE m offset 3.35m
3+00	1.6575	1.6625	1.6875	1.6975	1.7150
3+25	1.6100	1.6150	1.6425	1.6525	1.6700
3+50	1.5600	1.5625	1.5875	1.6000	1.6150
3+75	1.5100	1.5150	1.5425	1.5500	1.5675
4+00	1.4700	1.4725	1.4950	1.5025	1.5200
4+25	1.4275	1.4325	1.4575	1.4650	1.4850
4+50	1.3825	1.3900	1.4175	1.4300	1.4500
4+75	1.3450	1.3525	1.3750	1.3850	1.4050
5+00	1.3025	1.3075	1.3350	1.3425	1.3625
5+15	1.2750	1.2775	1.3050	1.3175	1.3350
5+20	1.2600	1.2650	1.2950	1.3100	1.3300
5+25	1.2550	1.2625	1.2900	1.2975	1.3175
5+30	1.2525	1.2550	1.2825	1.2900	1.3100
5+40	1.2375	1.2400	1.2675	1.2750	1.2950

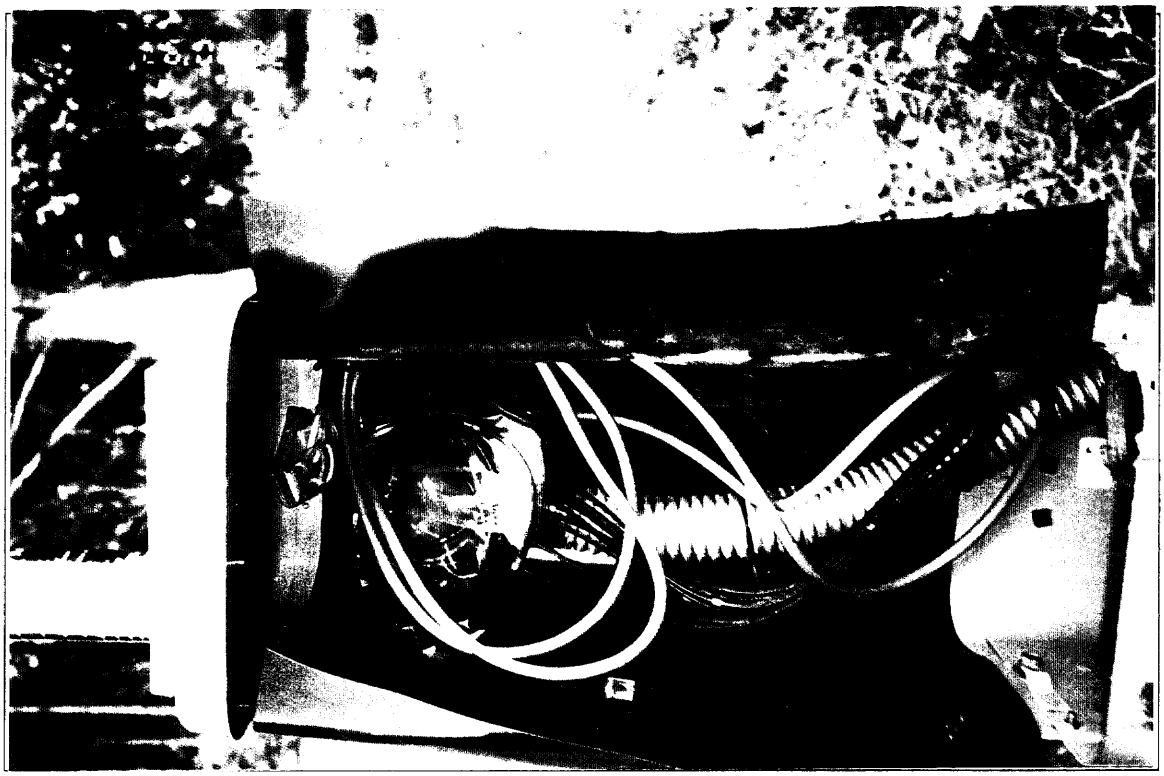
PE	Pavement Edge
OWP	Outer Wheel Path
ML	Mid Lane
IWP	Inner Wheel Path
ILE	Inner Lane Edge

Note: Offsets are measured from the PK nails at the outside of the pavement stripe at the pavement edge.

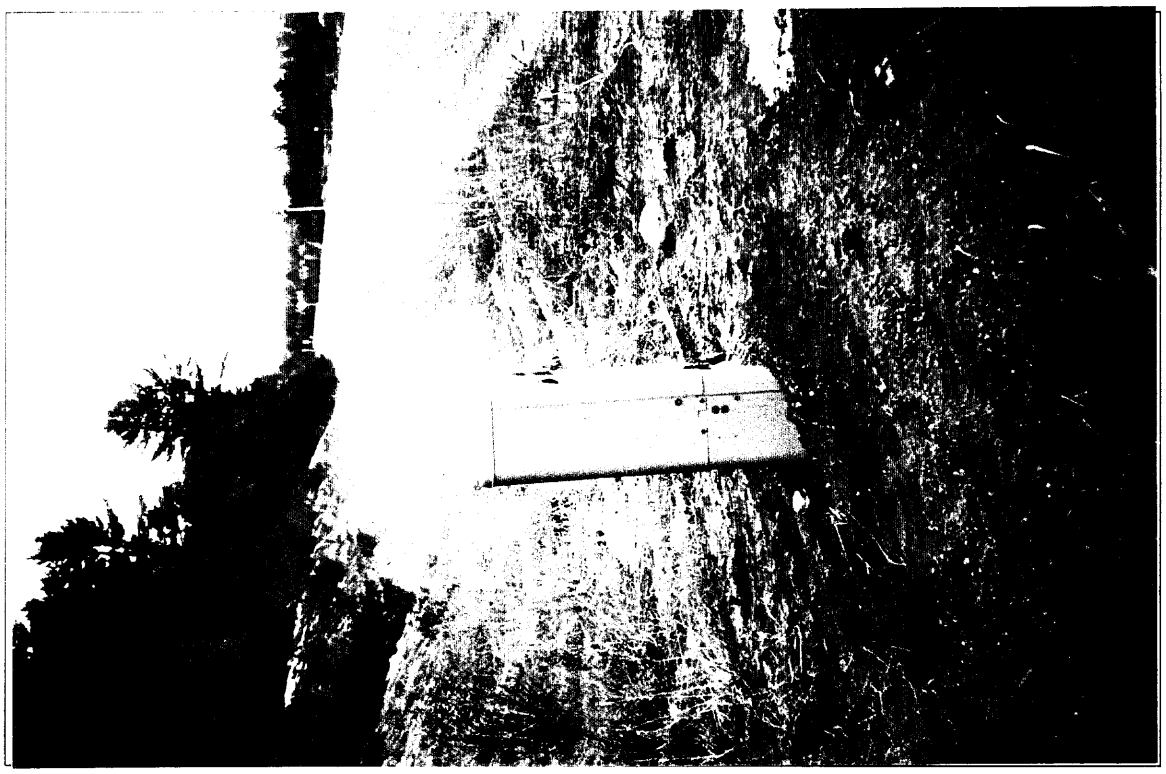


- Height of Air Temperature Probe (center): 3.40m
- Height of Tipping Bucket Rain Gage (center): 3.40m
- Total Depth of Piezometer: 4.28m
- Distance of Piezometer Below Ground Level: 216mm

Figure 1. Location for Seasonal Monitoring Instrumentation Installed at GPS 871622



Inside Equipment Cabinet, Seasonal Site 871622 - Oct. 1997, after Suspension Activities



Equipment Cabinet, Lower portion of inst. pole, Seasonal Site 871622 - Oct. 1997, after Suspension Activities