U.S. Department
of Transportation
Federal Highway
Administration

LTPP Seasonal Monitoring Program

Site Monitoring Suspension
Status Report
Section 510114, Danville
Virginia

Report No. FHWA-TS-96-51-05

December 1996

SMP SITE MONITORING SUSPENSION STATUS REPORT
VIRGINIA SECTION 510114

I. INTRODUCTION

The seasonal site 510114 near Danville, Virginia was installed on October 23 - October 26, 1995. Seasonal data was collected continuously from October 25, 1995 to October 23, 1996. (Table 1 summarizes the data collected). On October 23, 1996, all site suspension activities were completed at this site according to LTPP Directive SM-8 "Suspension of SMP Site Monitoring Activities". The site will remain out of operation until the next round of testing which is tentatively scheduled for October 1997.

This report entitled "SMP Site Monitoring Suspension Status Report" details the suspension preparation activities, site specific conditions, and provides information pertinent to the seasonal site 510114.

II. SUSPENSION PREPARATION ACTIVITIES

The suspension preparation activities at site 510114 with the exception of a manual distress survey, transverse Dipstick® surveys and a MDS survey of the instrumentation area were conducted during the final site visit on October 23, 1996. A manual distress survey of the entire section and transverse Dipstick® surveys were conducted on the August 22, 1996 site visit. A distress survey of the instrumentation area was conducted on May 15, 1996. There is no distress evident at the instrumentation area as this site was overlaid in November 1995. The overlay consisted of a 40mm lift of hot mix asphalt concrete and was necessary at this particular SPS-1 test section (constructed in 1995) because it did not meet the design depth requirement. PK nails were reconfirmed and replaced as required. The site paint marking did not need to be refreshed. On this day three sets of FWD tests were conducted and one set of elevations were obtained. Water table measurements were taken in the morning and afternoon. The Onsite datalogger was downloaded before being dismantled. Two sets of TDR traces were extracted by the mobile datalogger. It should be noted that a resistivity probe has not been installed at this site. Repairs to the instrument hole, trench, and surface temperature probe slot are not a concern because of the above referenced overlay.

This air temperature probe, tipping bucket, and the upper part of the support pole were dismantled. The lead wires from the air temperature probe and the tipping bucket were pulled out of the cabinet and sprayed with an anti-corrosive compound. The above ground conduit from the pole to the equipment cabinet was removed and the resulting hole in the back of the cabinet sealed. The bottom part of the support pole was cleaned and lubricated prior to installing the end cap.

After all the wires were disconnected from the control panel, the panel was detached from the equipment cabinet with the CR10 datalogger, terminal strip, and the battery pack attached to it. The TDR cables and MRC lead wires were sprayed with anti-corrosion compounds and sealed with desiccant packs in airtight bags. All cables 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 December 3, 1996.

All the necessary suspension activities were completed on October 23, 1996. The dismantled equipment was removed from the site. The suspended site contains all the underground instrumentation, equipment, and an equipment cabinet with all the cables. 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 site monitoring activities resume.

III. SPECIAL SITE CONDITIONS

The installation of site 510114 followed the "LTPP Seasonal Monitoring Program: Instrumentation Installation and Data Collection Guidelines" closely except this site, as noted above, does not contain a resistivity probe. Shortly after the LTPP seasonal instrumentation was completed the site was overlaid with a 40mm lift of hot mix asphalt concrete because the design depth requirement for the SPS-1 test section was not met during the initial construction of the site. As a result of the overlay the depth of the MRC sensors #1 to #3 are not according to the LTPP specifications. Initially there were problems with the datalogger and when a new panel was wired in the 10k ohm resistor was missed. This caused suspect temperature readings from the MRC sensors for the period between March 22, 1996 and July 17, 1996. These temperatures were edited out of the seasonal data upload file. In addition the MRC #1 sensor malfunctioned in March of 1996. It has provided erroneous readings since then and this data was also edited out of the seasonal upload file. There were no irregularities other than the ones mentioned above.

IV. SUPPLEMENTAL INFORMATION

Figure 1 shows the locations of the installed instrumentation at the site. The instrumentation hole is at Station 5+20 and the piezometer is at Station 4+00. Table 2 gives elevations of test section 510114 before and after the overlay. All offsets are from the PK nails found at the outside pavement edge.

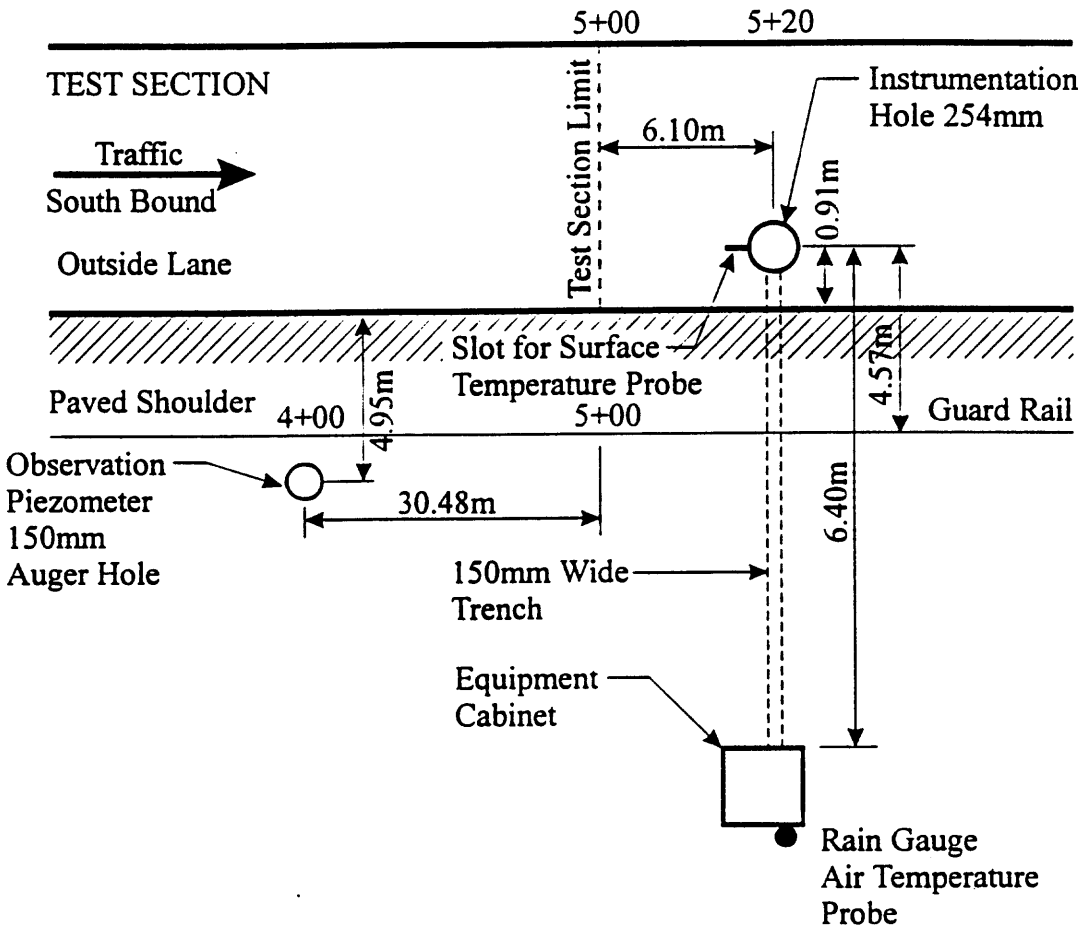
At the time of suspension of the site there were no unresolved problems with any of the sensors other than the malfunctioning MRC #1 sensor. All plots from ONSFIELD, MOBFIELD, and SMPCHECK follow expected trends and expected values.

Revised 12/9/96

TABLE 1
SUMMARY OF ROUND TWO SMP DATA COLLECTION TO DATE

Agency Code [5 1]
LTPP Section I.D. [0 1 1 4]
Location Danville, VA

Test Date dd/mmm/yy	Visit Ident./ Code	ONSITE Data			MOBILE Data		Manual Data								FWD Data				Distress Data		Profile Data		Comments
																No. of Cycles/Visit							
		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.	OWP	ML	PE	Manual	PASCO	Profiler	Dipstick	
25-Oct-95	A	X	X	X	X						X	X			X	3	3						
30-Nov-95	B	X	X	X	X						X	X			X	1	1						
21-Dec-95	C	X	X	X	X						X					1	1						
25-Jan-96	A	X	X	X	X						X	X			X	3	3						
22-Feb-96	B	X	X	X	X						X	X			X	3	3						
21-Mar-96	C	X	X	X	X						X				X	3	3						
24-Apr-96	D	X	X	X	X						X	X			X	2	2		X		24-Apr-96	X	
15-May-96	E	X	X	X	X						X				X	1	1						
15-Jul-96	F	X	X	X	X						X				X	3	3						Reload ONSITE program 07/16/96
22-Aug-96	G	X	X	X	X						X	X			X	1	1		X			X	
01-Oct-96	H	X	X	X	X						X	X			X	1	1						Data collected on 10/02/96 also
23-Oct-96	I	X	X	X	X						X	X			X	3	3				03-Dec-96		Close-out



- Height of Air Temperature Probe: 3.18m
- Height of Tipping Bucket Rain Gauge: 3.20m
- Depth of Piezometer: 4.28m

Figure 1. Location of Seasonal Monitoring Instrumentation Installed at SPS 510114

Table 2. Surface Elevation Measurements

LTPP Seasonal Monitoring Study	State Code	[51]
Surface Elevation Measurements	Test Section Number	[0114]

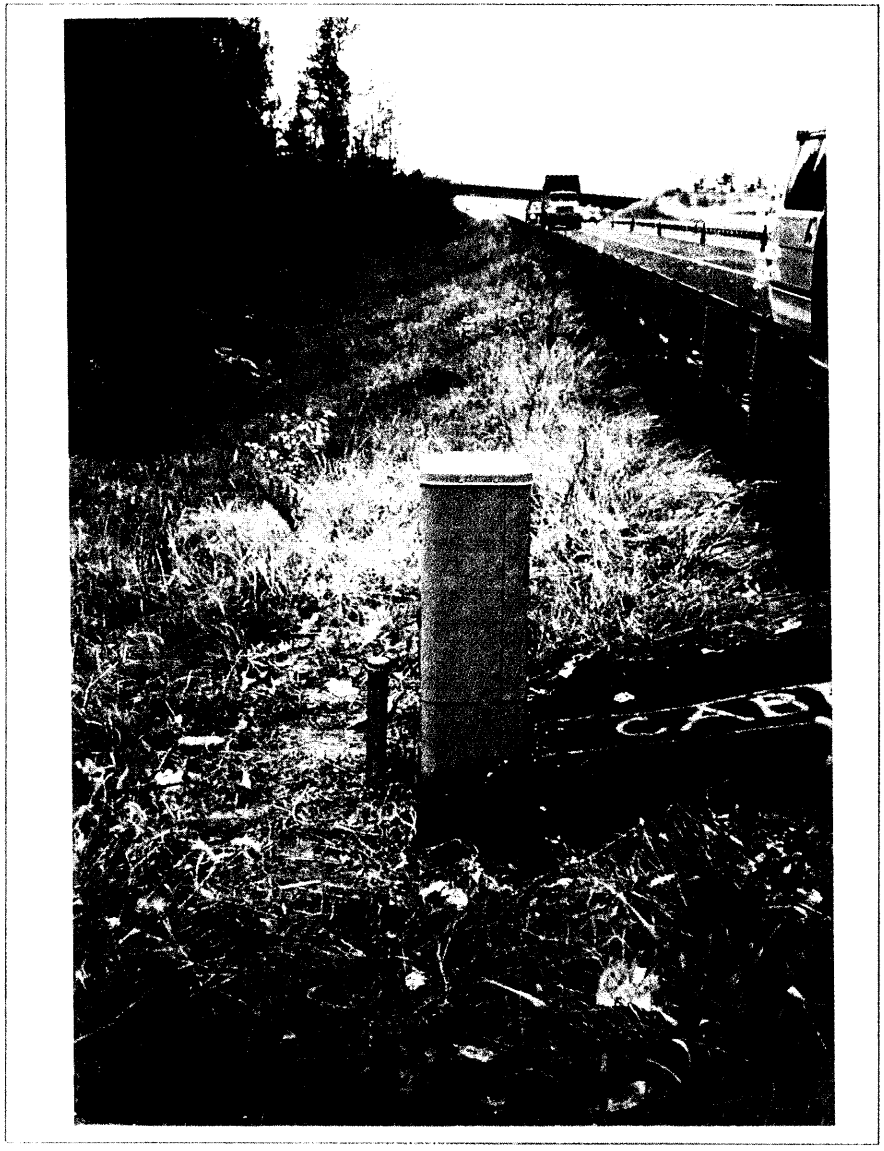
Survey Date	October 25, 1995 (Before) and October 23, 1996 (After)
Surveyed By	BH/DS (Before) and DS (After)
Surface Type	AC
Benchmark	Observation Piezometer - 1.000 meters - assumed

STATION	PE offset 0.30m			OWP offset 0.91m			ML offset 1.83m			IWP offset 2.74m			ILE offset 3.35m		
	After	Before	Diff.	After	Before	Diff.	After	Before	Diff.	After	Before	Diff.	After	Before	Diff.
3+00	2.7400	2.7100	0.0300	2.7500	2.7250	0.0250	2.7675	2.7400	0.0275	2.7825	2.7550	0.0275	2.7975	2.7675	0.0300
3+25	2.4300	2.4125	0.0175	2.4450	2.4200	0.0250	2.4625	2.4275	0.0350	2.4750	2.4450	0.0300	2.4900	2.4550	0.0350
3+50	2.1250	2.1000	0.0250	2.1400	2.1075	0.0325	2.1600	2.1200	0.0400	2.1750	2.1375	0.0375	2.1875	2.1450	0.0425
3+75	1.8150	1.7800	0.0350	1.8300	1.7925	0.0375	1.8525	1.8150	0.0375	1.8750	1.8375	0.0375	1.8925	1.8500	0.0425
4+00	1.5200	1.4800	0.0400	1.5350	1.4950	0.0400	1.5575	1.5175	0.0400	1.5800	1.5450	0.0350	1.5975	1.5600	0.0375
4+25	1.2175	1.1800	0.0375	1.2325	1.1950	0.0375	1.2575	1.2125	0.0450	1.2800	1.2450	0.0350	1.2975	1.2600	0.0375
4+50	0.9150	0.8825	0.0325	0.9300	0.8975	0.0325	0.9525	0.9150	0.0375	0.9700	0.9375	0.0325	0.9875	0.9500	0.0375
4+75	0.6250	0.5950	0.0300	0.6350	0.6075	0.0275	0.6525	0.6200	0.0325	0.6675	0.6350	0.0325	0.6800	0.6450	0.0350
5+00	0.3300	0.3025	0.0275	0.3400	0.3100	0.0300	0.3550	0.3225	0.0325	0.3675	0.3350	0.0325	0.3800	0.3400	0.0400
5+14	0.1650	0.1350	0.0300	0.1725	0.1450	0.0275	0.1850	0.1550	0.0300	0.1950	0.1675	0.0275	0.2075	0.1700	0.0375
5+20	0.0875	0.0675	0.0200	0.0975	0.0750	0.0225	0.1100	0.0800	0.0300	0.1175	0.0925	0.0250	0.1275	0.0950	0.0325
5+26	0.0175	-0.005	0.0225	0.0300	0.0025	0.0275	0.0425	0.0100	0.0325	0.0500	0.0200	0.0300	0.0600	0.0250	0.0350

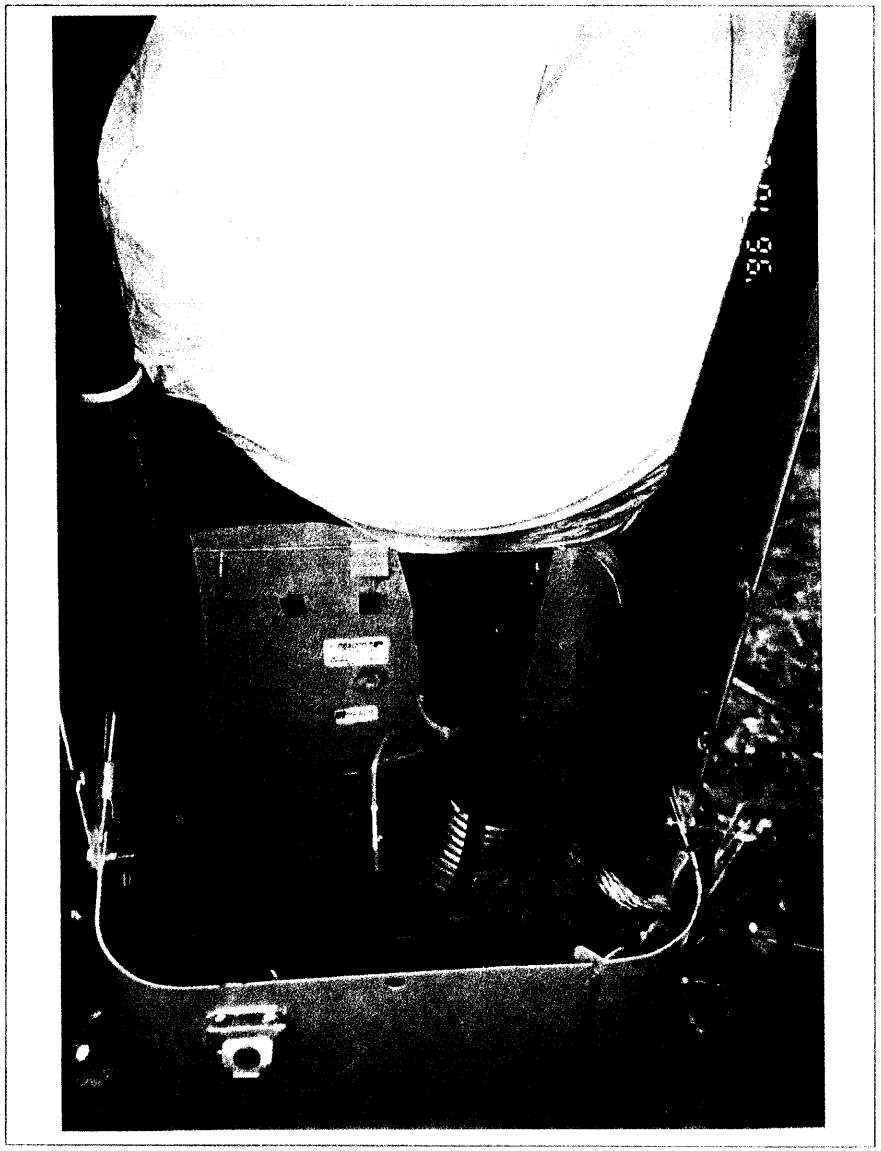
PE	Pavement Edge
OWP	Outer Wheel Path
ML	Mid Lane
IWP	Inner Wheel Path
ILE	Inner Lane Edge

Notes: 1. Offsets are measured from the PK nails at the outside of the pavement stripe at the pavement edge.

2. Before refers to before the overlay in November 1995 and After refers to after the overlay.



Instrumentation Cabinet, Seasonal Site 510114,
October 1996, After Suspension Activities



Inside Instrumentation Cabinet, Seasonal Site 510114,
October 1996, After Suspension Activities