

LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE



For The Technical Direction Of The LTPP Program



Program Area: Seasonal Monitoring Directive Number: SM-8

Date: March 15, 1995 Supersedes: n/a

Subject: Suspension of SMP Site Monitoring Activities

Whenever monitoring of the installed climate and response instrumentation at a SMP test section is suspended for more than five (5) months, the following actions described in this directive shall be performed.

Monitoring

On the last monitoring day prior to the suspension, perform the full suite of SMP monitoring measurements including:

- FWD and associated measurements
- Elevation survey
- Manual distress survey with transverse profile measurements
- Manual electrical resistivity measurements (two- and four-point)
- Automated mobile data measurements (TDR and Resistivity)
- Water table measurement

The final collection of the Onsite data must be performed after the top of the hour following completion of the last deflection measurement pass. This is to capture the Onsite pavement and air temperature measurements performed during the last pass. For example, if the last deflection measurement was completed at 1515 hours, then the operator must wait until 1600 hours to collect the Onsite data.

Longitudinal profile measurement should be performed within two (2) months of the date of the last SMP monitoring measurements prior to the suspension.

Site Preparation

On the last day of monitoring, perform the following activities to prepare the site for the suspension interval:

- Inspect the Time Domain Reflectometry (TDR) sensor cables and reapply numbered wire labels as necessary.
- After completion of the final water table depth measurement, seal the end of the well pipe using appropriate means. Inspect and either repair or replace the well access cover. Apply lubricant to the threads on the access cover as appropriate. Provide a drainage path from the inside of well access cover if water accumulation inside the cover has been a problem. If necessary, mark the well location with an easily identifiable object. (Painted rock for example)
- Prior to completion of any pavement repairs to the instrumentation hole, perform a condition assessment of the area around the instrumentation hole and access trench in accordance with directive SM-4.
- As needed, repatch any distressed areas; reapply crack sealant around the block, over the pavement surface layer temperature sensor, and/or sides of the trench; seal the inside of the conduit if it is acting as a drain; and provide a drainage path from the inside of the cabinet if water accumulation has been a problem. Advance coordination of road repair activities with the responsible highway agency may be necessary.
- Refresh all test section markings and SMP references used to locate deflection test points and elevation surveys points.
- Prepare a site layout schematic detailing the dimensions and location of all test points and position references in the SMP monitoring area. The schematic should provide sufficient detail to permit re-establishment of the test locations by a person not familiar with the site.
- After the last upload of Onsite data, dismantle and remove the air temperature sensor, rain gage, and support pole. Electrical power to the CR10 should be turned off prior to disconnecting and removing the sensor wires from the panel board. Care must be taken not to damage the wires when removing them from the conduits and pole. If an underground conduit to the support pole was used, a wire should be connected to the sensor wires prior to pulling them through the conduit. This wire should be left in place to pull the lead wires back through the conduit when the sensors are reinstalled. The upper portion of the support pole should be disconnected at the union junction. Lubricant should be applied to the threads on the remaining bottom portion of the support pole and a metal end cap attached.
- Disconnect and remove the panel board containing the Onsite CR10, power supply, terminal strip, and relay.

- Apply electronics quality, anti-corrosion compound to the TDR BNC connectors, electrical resistivity connector and MRC temperature lead wires.
- Seal a desiccant pouch with all wires and connectors in air tight containers, such as plastic bags, taped around the wires. Secure the wires and connectors as high as possible in the cabinet.
- On portland cement concrete pavement test sections, fill the joint width measurement holes with a silicone type sealant that will resist corrosion and degradation of the snap rings and will be easy to remove in the future.
- Inspect the cabinet lock and replace if necessary.
- Perform other work as necessary to preserve the site for future resumption of monitoring activities.
- After all site preparation work is completed, take photographs of the following locations:
 - instrumentation hole and access trench
 - reference markings used to locate test points
 - well
 - pavement distresses which occur in the SMP monitoring zone
 - bench mark(s)

SMP Site Monitoring Suspension Status Report

Prepare a SMP Site Monitoring Suspension Status report which contains the following elements:

- Narrative description of suspension preparation activities
 - Date of final monitoring measurements and preparation activities.
 - Pavement repairs made to the instrumentation hole or trench.
 - Site preparation activities performed.
- Special site conditions
 - Non-standard equipment, sensors, or connector wiring.
 - Unique site features.
 - Unresolved problems with the installed sensors.
- Supplemental Information
 - Summary table of SMP measurements over preceding monitoring cycle following the standard format.
 - Site layout schematic with location dimensions.
 - Color copies of site photographs taken during suspension preparation activities.

- Plots from ONSFIELD, MOBFIELD or SMPCHECK illustrating unresolved sensor problems.

Submit two copies of the SMP Site Monitoring Suspension Status report to the FHWA LTPP Branch Office within two months after completion of the site preparation activities and last full SMP monitoring session.

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