Memorandum

U.S. Department
of Transportation

**Federal Highway
Administration**

6300 Georgetown Pike
McLean, Virginia 22101

Subject: **ACTION**: LTPP Directive M-31
Revised Material Testing on Overlaid Test Sections

Date: February 27, 2018

From: Jack Springer
Long-Term Infrastructure Performance Team

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Reply to
Attn of: HRDI-30

To: Mr. Gabe Cimini, PM - LTPP Data Collection Contract

Attached is the Long Term Pavement Performance (LTPP) Directive M-31, Revised Material Testing on Overlaid Test Sections, which supersedes M-29, and effective immediately is to be used for all LTPP materials sampling and testing of overlaid test sections. This directive should be transmitted to all appropriate personnel as soon as possible.

If you have any questions concerning this directive, please do not hesitate to call me at (202) 493-3144.

Attachments (1)

FHWA:HRDI-30:JSpringer:JHarris:493-3144:02/27/18
File: M:\LTPP Directives\Distress\M-31
cc:
Jonathan Groeger
Directive Binder
LTPP Team
Official file

LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE

For the Technical Direction of the LTPP Program

Program Area:	Materials	Directive Number:	M-31
Date:	February 27, 2018	Supersedes:	M-29
Subject:	**Revised Material Testing on Overlaid Test Sections**		

This directive provides revised material testing guidelines for overlay material samples previously obtained in conformance with LTPP directive M-29.

The LTPP Regional Support Contractors (RSC) shall follow these guidelines to assign test plans for each existing LTPP test section or LTPP project site for which material samples have already been obtained.

Because of the reduction in material test requirements, not all material samples obtained under LTPP directive M-29 will need to be tested by the central lab.

Thickness Measurements

Thickness measurements on all core samples shall be performed by RSC staff on all cores obtained in the field following the guidelines contained in LTPP Directive M-29 or prior issuance of LTPP Directive M-30, prior to submission to the Central Lab Testing Contractor (CLTC) for testing. If needed, RSC staff shall assign the performance of layer thickness measurements to the CLTC in those instances where the RSC did not perform the AC-01 thickness measurements.

AC Overlays

Figures 1 and 2 illustrate the standard field materials sampling plan for AC overlay materials described under LTPP Directive M-29. This sampling layout will be used to illustrate the revised laboratory test plan for use by RSC to assign for non-SPS-10 test sections.

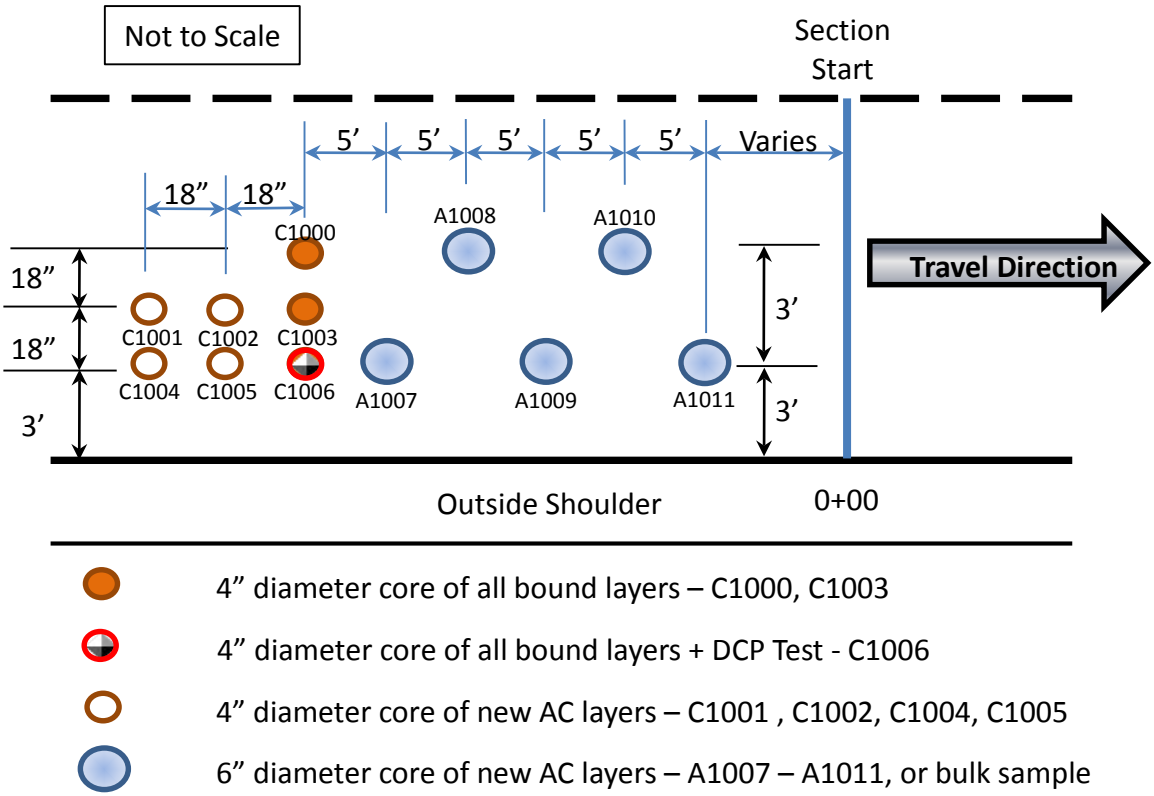

Figure 1. Standard sampling plan locations at approach end of test section for new AC overlays.

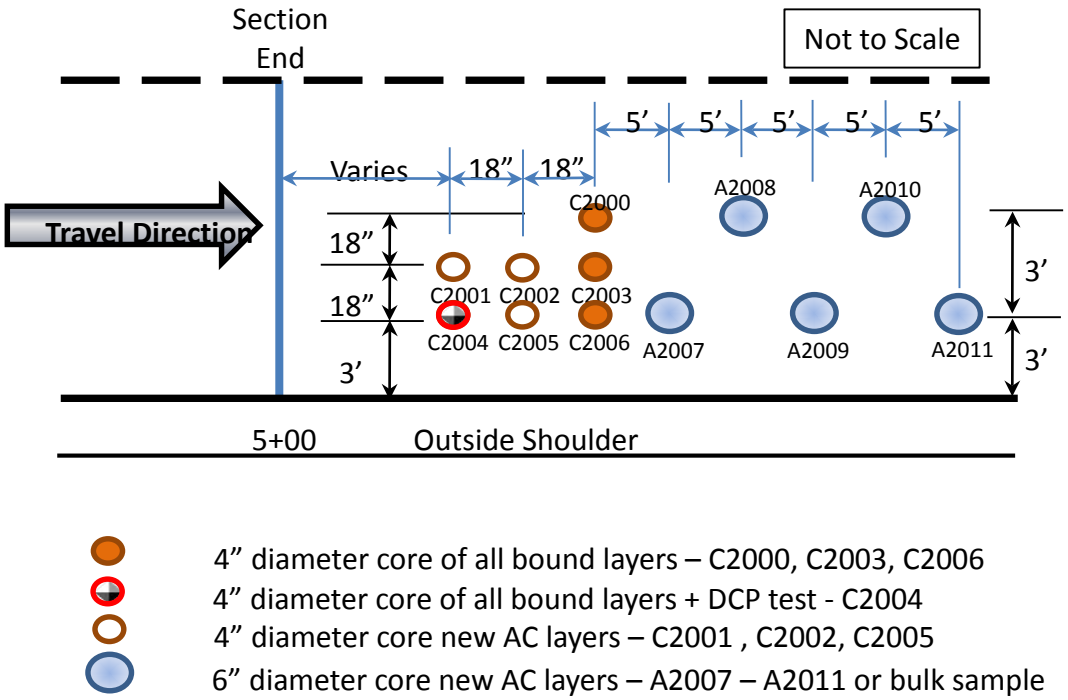

Figure 2. Standard sampling plan locations at leave end of test sections for new AC

overlays.

The mapping of material tests on AC material samples from each core location in the standard plan are shown in Table 1. In Table 1, samples from the core locations enclosed in brackets {} are meant to indicate a combination of field samples required to provide enough material to perform the indicated test.

Table 1. Mapping of AC material tests from standard core locations.

Test Name	Test Designation	Sample Locations	Minimum No of tests per new layer	Notes
Core Examination & Thickness	AC01	All cores	3 per side of test section	Perform this test on all cores by RSC prior to lab tests, storage, or shipment
Bulk Specific Gravity	AC02	All lab tested cores	3 per side of test section	This test is to be performed on all cores tested by the CLTC
AMPT Dynamic Modulus	AC08	One 6-inch diameter core from each test section side, A1011, A2007	2	Two tests per layer, one test on samples from each side of test section.
Maximum Specific Gravity	AC03	Combined samples representing the approach and leave side of each test section {A1007, A1008, A1009, A1010, A11011} {A2007, A2008, A2009, A2010, A2011}	2 - 1 per test section side	This test is to be performed on combined samples segregated from each side of the test section.
Extracted Asphalt Content	AC04	Combined samples representing approach and leave end of each test section {A1007, A1008, A1009, A1010, A11011} {A2007, A2008, A2009, A2010, A2011}	2 - 1 per test section side	Obtained from maximum specific gravity test samples

Test Name	Test Designation	Sample Locations	Minimum No of tests per new layer	Notes
Abson Recovery	AE01	Combined samples representing approach and leave end of each test section	2 - 1 per test section side	From extracted asphalt binders
Dynamic Shear Rheometer	AE07	Combined samples representing approach and leave end of each test section	2 - 1 per test section side	From extracted asphalt binders
Bending Beam Rheometer	AE08	Combined samples representing approach and leave end of each test section	2 - 1 per test section side	From extracted asphalt binders
Multiple Stress Creep Recovery	AE10	Combined samples representing approach and leave end of each test section	2 - 1 per test section side	From extracted asphalt binders
Aggregate Gradation	AG04	Combined samples representing approach and leave end of each test section	2 - 1 per test section side	Tests on extracted aggregate from AC04.

Considerations for SPS Project Sites

RSC staff who used a material sampling plan based on LTPP directive M-29 that took into consideration distributed samples from a project layer plan approach, shall consult with TSSC staff on how to assign material samples to test sections in Materials Tracking System (MTS). The PROJECT_LAYER_CODE convention contained in the TST_L05 table shall be used to link test result from samples on the same constructed material layer to individual test sections in the Pavement Performance Data Base (PPDB).

Prepared by: TSSC

Approved by:

JEAN NEHME

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Jean Nehme
LTIP Team Leader