



Florida Department of Transportation

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SECRETARY

August 4, 2014

MATERIALS BULLETIN NO. 10-14
DCE MEMORANDUM NO. 17-14
(FHWA Approved: 8/4/2014)

This Memo has Expired

TO: DISTRICT MATERIALS RESEARCH ENGINEERS
DISTRICT CONSTRUCTION ENGINEERS

FROM: Timothy J. Ruelke, P.E., Director, Office of Materials
David A. Sadler, P.E., Director, Office of Construction

COPIES: Rudy Powell, Tom Byron, Chad Thompson, Barbara Young, Rafiq Darji, Bob Burleson, Jim Warren, John Shoucair

SUBJECT: SPECIFICATION CHANGE FOR SECTION 200 ROCK BASE – ADDING PIT PROCTOR

This memorandum serves as a blanket approval to process a \$0.00 specification change to incorporate the attached specifications into Construction projects let prior to January 1, 2015, upon the Contractor's request. A copy of this memorandum and the attached specifications shall be attached to the Work Order or Supplemental Agreement used to document the change to active Construction projects.

If you have any questions, please contact John Shoucair (352) 955-2925 at the State Materials Office.

DAS/cg

Attachment

200 ROCK BASE.

(REV 7-18-14) (FA 7-29-14) (1-15)

SUBARTICLE 200-7.2 is deleted by the following substituted:

200-7.2 Acceptance Criteria:

200-7.2.1 Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D or the Pit Proctor when using the Pit Proctor option. For shoulder only areas and bike/shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T 180, Method D or the Pit Proctor when using the Pit Proctor option.

200-7.2.2 Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. The Engineer will perform Verification sampling and tests at a minimum frequency listed in the table below.

Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface	Ten per LOT	Witness
Roadway Thickness	Three per LOT	Witness

Shoulder-Only, Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface	Five per 500 feet	Witness
Thickness	Three per 1000 consecutive feet	Witness

200-7.2.3 Pit Proctor: In lieu of Modified Proctor Maximum Density testing at the roadway, notify the Engineer in writing of a Contractor option to use the Pit Proctor supplied by the Department. The Modified Proctor maximum density frequency requirements of 200-7.2.2 shall not apply. The Department will determine the Pit Proctor from statistical analysis of the base rock Modified Proctor maximum density at Department approved mines. For posting of Mines and Pit Proctors for each calendar quarter refer to the State Materials Office internet website at <http://www.dot.state.fl.us/statematerialsoffice/>. Use the current posted Pit Proctor value in lieu of the Modified Proctor maximum density required by 200-7.2.1. Use the current posted Pit Proctor value for density acceptance during the quarter corresponding to the posting. Notify the Engineer in writing if returning to the provisions of 200-7.2 and 200-7.2.2 but do not re-elect to use the Pit Proctor until the start of the next calendar quarter.

SUBARTICLE 200-7.4 is deleted and the following substituted:

200-7.4 Verification Comparison Criteria and Resolution Procedures:

200-7.4.1 Modified Proctor Maximum Density: The Engineer will compare the Verification test results of 200-7.3.2.1 to the corresponding Quality Control test results. If the test result is within 4.5 lb/ft³ of the QC test result, the LOTs will be verified. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.

The Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft³ of the corresponding Quality Control test result, the Engineer will use the Quality Control test results for material acceptance purposes for each corresponding set of LOTs. If the Resolution test result is not within 4.5 lb/ft³ of the corresponding Quality Control test, the Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTs in question.

200-7.4.2 Pit Proctor: When using the Pit Proctor option, the Engineer will, at a minimum frequency of one per 16 LOTS, select a random location to collect an Independent Verification (IV) sample and test material to obtain a Modified Proctor maximum density as determined by FM 1-T 180, Method D. The Engineer will collect enough material to split and hold a sample for Resolution testing. The Engineer will compare the IV results with the Pit Proctor. If the IV result is lower than or equal to the Pit Proctor plus 4.5 pcf, keep the option to use the Pit Proctor. If the IV result is more than 4.5 pcf higher than the Pit Proctor the Engineer will test the Resolution sample and compare the Resolution result with the Pit Proctor. If the Resolution result is higher than but within 4.5 pcf of the Pit Proctor, keep the option to use the Pit Proctor. Otherwise return to the provisions of 200-7.2.2, 200-7.3.1.1, 200-7.3.2.1, and 200-7.4.1.

200-7.4.3 Density: When a Verification or Independent Verification density test does not meet the requirements of 200-7.2.1 (Acceptance Criteria), retest at a site within a 5 feet radius of the Verification test location and observe the following:

1. If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, the Engineer will accept the LOTs in question.
2. If the Quality Control retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the material in that LOT. The Engineer will re-verify the LOTs in question.
3. If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new equipment-comparison analysis as defined in 120-10.1.1. Once acceptable comparison is achieved, retest the LOTs. The Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until the Contractor has a gauge that meets the comparison requirements.

200-7.4.4 Thickness and Surface Testing Requirements: Resolve deficiencies in accordance with 200-7.3.1.2.

Use of Pit Proctor – Frequently Asked Questions

The Districts have asked some questions about the Pit Proctor Materials Bulletin/Construction Memorandum, addressing the Specification change approved for the January 2015 Workbook.

Q1. Does the Contractor have to indicate the use of the Pit Proctor in the Quality Control Plan?

A1. Yes. The information would be useful considering the Contractor is now allowed the option each quarter.

Q2. How many Proctor tests must the mine run in order for their Pit Proctor to be listed on the website?

A2. A minimum of three for the preceding quarter.

Q3. If a mine does not have a Pit Proctor available in the quarter, can it submit tests in the current quarter to be added to the website for that quarter?

A3. No. The test results submitted in a quarter are used to calculate the Pit Proctor for the following quarter.

Q4. The Contractor has not compacted 16 LOTs and is testing in accordance with the frequencies of subsection 200-7.2.2. If one QC Proctor was taken in the field, say after three LOTs, can the request to use the Pit Proctor be made even if the V sample has been taken?

A4. Yes. The spec allows the Contractor to request the Pit Proctor once per quarter at any time. The results of the V Proctor should be known only to the Department. Also, the request is subject to the approval of the Department. The V sample result can be re-entered as the Independent Verification (IV) result.

Q5. If the Resolution Proctor value indicates that the Contractor must resume roadway sampling, does the Contractor have to run a Proctor for unverified LOTs associated with the IV test?

A5. Yes. For those 16 LOTs, either partially or fully finished, the Contractor would run one Proctor per eight consecutive LOTs.

Q6. If the Resolution Proctor value indicates that the Contractor must resume roadway sampling, can the Department re-enter the IV result for the required V result.

A6. No. A new V sample must be tested because the specifications require the V sample to be a split portion of the Contractor's QC.

Q7. When using the Pit Proctor, does the Department sample 1 per 4 LOTs (8000') for shoulder, shared-use path, and sidewalk construction?

A7. No. IV frequency is a minimum of one per 16 LOTs.

Q8. Who should take the Department's IV sample for Pit Proctor testing?

A8. The Project Administrator alone has authority to delegate the IV sampling and testing.

Q9. Does IV sample each time a new quarter starts, regardless of the number of Contractor LOTs placed?

A9. Yes. A new IV Proctor is required in order to compare with the Pit Proctor that was published when the new quarter started.

Q10. What comparison is made if less than 16 LOTS were compacted before the quarter ended?

A10. An IV must be taken on the material placed before the quarter ended. The completed LOTS in that quarter would use that quarter's Pit Proctor. When the new quarter begins, a new Pit Proctor is assigned, and a new IV sample must be obtained. The IV frequency would start over at one per 16 LOTS beginning with the first LOT of the new quarter.

Q11. Does a Contractor using the Pit Proctor process have to make a new request when a new quarter begins?

A11. No.

Q12. How should the Pit Proctor be coded in the Contractor Quality Control Density Record System?

A12. Add the letter "P" after the first letter of the regular numbering system, for example, BP003Q. Designate the LOTS represented in the "**Quality Control - Summary of Proctor Samples**" table.

Q13. How should the IV Proctor be coded in the Verification Earthwork Density Record System?

A13. Add the letter "P" after the first letter of the regular numbering system, for example, BP002I (that's a letter "I" at the end of BP002). Designate the LOTS represented in the "**Verification/Resolution Summary of Proctor Samples**" table.

Q14. Does the Contractor have to enter a QC Proctor in LIMS when using the Pit Proctor?

A14. Yes. Once per quarter the Contractor should enter the Pit Proctor value under the LIMS Spec
Material ID: 032L
Sample Level: Q
Spec Year: 201501
Spec Authority: Spec 200 Pit Proctor

Q15. Does the Department enter the IV Proctor in LIMS during the Pit Proctor stage?

A15. Yes. At a minimum, once per 16 LOTS the Department should enter the IV Proctor value under the
Material ID: 032L
Sample Level: IV
Spec Year: 201501
Spec Authority: Spec 200 Pit Proctor

Q16. Have Pit Proctor LIMS Specs been associated with Pay Items?

A16. Yes. Use the Pay Items in the Job Guide Schedule.

Q17. Does the Department verify the Pit Proctors at the mine?

A17. No. The IV/Resolution results are used on the roadway. Verification Proctor data from the Department's Aggregate program are available for review only.