*New Jersey Department of Transportation*
1035 Parkway Avenue, PO Box 600, Trenton, New Jersey 08625-0600

# *Baseline Document Change Announcement*

**ANNOUNCEMENT: BDC25S-16**

**DATE: September 30, 2025**

**SUBJECT: Ultra-High Performance Thin Overlay**
- **Revisions to Subsection 406.01, Subpart 406.02.01, and Subsection 406.04 of the 2019 Standard Specifications for Road and Bridge Construction, and the addition of Subpart 406.03.02 and Subsection 902.16.**

Subsection 406.01, Subpart 406.02.01, and Subsection 406.04 of the 2019 Standard Specifications for Road and Bridge Construction have been revised, and Subpart 406.03.02 and Subsection 902.16 have been added to incorporate Ultra-High Pefromance Thin Overlay into the Specifications. The name of Section 406 has been updated to reflect this change.

**The following revisions have been incorporated into the 2019 Standard Specifications via the 2019 Standard Inputs, SI2019:**

## SECTION 406 – HIGH PERFORMANCE THIN OVERLAY

THE SECTION IS RENAMED TO:

## SECTION 406 – HIGH PERFORMANCE THIN OVERLAY AND ULTRA-HIGH PERFORMANCE THIN OVERLAY

**406.01 DESCRIPTION**

THE FIRST PARAGRAPH IS CHANGED TO:

This Section describes the requirements for constructing high performance thin overlay (HPTO) and Ultra-high performance thin overlay (Ultra-HPTO).

**406.02 MATERIALS**

**406.02.01 Materials**

THE FOLLOWING MATERIAL IS ADDED:

| | |
|---|---|
| Ultra-HPTO | 902.16 |

**406.03 CONSTRUCTION**

THE FOLLOWING SUBPART IS ADDED:

**406.03.02 Ultra-High Performance Thin Overlay**

**A. Paving Plan.** At least 20 days before the start of placing the Ultra-HPTO, submit a detailed plan of operation to the RE for approval as specified in 401.03.07.A.

**B. Weather Limitations.** If within the 3 hours before paving the National Weather Service locally forecasts a 50 percent chance or greater of precipitation during the scheduled placement, postpone the placement of Ultra-HPTO. Do not place Ultra-HPTO if it is precipitating and do not allow trucks to leave the plant when precipitation is imminent. The Contractor may resume paving operations when the chance of precipitation is less than 50 percent and the surface is dry.

Do not pave if the surface temperature of the underlying pavement is below 50 °F.

**C. Test Strip.** At least 14 days prior to production of the Ultra-HPTO, construct a test strip as specified in 401.03.07.C except for the allowance to continue paving. Submit test strip results to the RE. The RE will analyze the test strip results in conjunction with the ME's results from the HMA plant to approve the test strip. Do not proceed with production paving until receiving written permission from the RE.

**D. Transportation and Delivery of HMA.** Transport and deliver HMA as specified in 401.03.07.D.

**E. Spreading and Grading.** Use of a MTV is required for the construction of Ultra-HPTO. If Ultra-HPTO is only for bridge deck paving, the use of a MTV is optional. Ensure that the surface where the Ultra-HPTO is placed is clean of foreign and loose material. Clean the surface of existing pavement using a self-propelled power broom equipped with a vacuum collection system before placement. Ensure that the surface is dry before paving begins. Do not start paving of the Ultra-HPTO until the RE has approved the underlying surface. In areas where the existing pavement is not being milled, remove traffic stripes and traffic markings as specified in 610.03.08. Apply tack coat as specified in 401.03.05. Place Ultra-HPTO at the laydown temperature recommended by the supplier of the asphalt binder or the supplier of the asphalt modifier without exceeding 330 ºF maximum discharge temperature. Spread and grade Ultra-HPTO as specified in 401.03.07.E.

**F. Compacting.** Compact as specified in 401.03.07.F. If vibratory compaction causes aggregate breakdown, forces liquid asphalt to the surface or creates a surface with undesirable ride quality, then operate rollers in static mode only. If compacting Ultra-HPTO on a bridge deck, then operate rollers in static mode only.

**G. Opening to Traffic.** Remove loose material from the traveled way before opening to traffic. Do not allow construction equipment or traffic on the Ultra-HPTO until the mat cools to a temperature of less than 140 °F.

**H. Air Void Requirements on Roadway.** Drill cores as specified in 401.03.08. Mainline lots are defined as the area covered by a day's paving production of the same job mix formula for the traveled way and auxiliary lanes. The RE may combine daily production areas less than 500 tons with previous or subsequent production areas. If a day's production is greater than 2000 tons, the RE may divide the area of HMA placed into 2 lots with approximately equal areas.

Ramp pavement lots are defined as approximately 10,000 square yards of pavement in ramps. The RE may combine ramps with less than the minimum area into a single lot. If 2 or more ramps are included in a single lot, the RE will require additional cores to ensure that at least 1 core is taken from each ramp.

Other pavement lots are defined as approximately 10,000 square yards of pavement in shoulders and other undefined areas.

The ME will calculate the percent defective (PD) as the percentage of the lot outside the acceptable range of 2 percent air voids to 7 percent air voids. The acceptable quality limit is 10 percent defective. For lots in which PD < 10, the Department will award a positive pay adjustment. For lots in which PD > 10, the Department will assess a negative pay adjustment.

The ME will determine air voids from 5 cores taken from each lot in random locations. The ME will determine air voids of cores from the values for the maximum specific gravity of the mix and the bulk specific gravity of the core. The ME will determine the maximum specific gravity of the mix according to NJDOT B-3 and AASHTO T 209, except that minimum sample size may be waived in order to use a 6-inch diameter core sample. The ME will determine the bulk specific gravity of the compacted mixture by testing each core according to AASHTO T 166.

The ME will calculate pay adjustments based on the following:

1. **Sample Mean ($\overline{X}$) and Standard Deviation (S) of the N Test Results (X1, X2,..., XN).** Calculate using the formula specified in 401.03.07.H.1.

2. **Quality Index (Q).**

$$Q_L = \frac{(\overline{X} - 2.0)}{S}$$

$$Q_U = \frac{(7.0 - \overline{X})}{S}$$

3. **Percent Defective (PD).** Using NJDOT ST for the appropriate sample size, the Department will determine $PD_L$ and $PD_U$ associated with $Q_L$ and $Q_U$, respectively. $PD = PD_L + PD_U$

4. **Percent Pay Adjustment (PPA).** Calculate the PPA for traveled way and ramp lots as specified in Table 401.03.07-3.

   Calculate the PPA for other pavement lots as specified in Table 401.03.07-4.

5. **Outlier Detection.** If PD < 10, the ME will not screen for outliers. If PD ≥ 10, the ME will screen all acceptance cores for outliers using a statistically valid procedure. The following procedure applies only for a sample size of 5 or 10.
   1. The ME will arrange the core results in ascending order, in which $X_1$ represents the smallest value and $X_N$ represents the largest value.
   2. If $X_N$ is suspected of being an outlier, the ME will calculate:

$$R = \frac{X_N - X_{(N-1)}}{X_N - X_1}$$

   3. If $X_1$ is suspected of being an outlier, the ME will calculate:

$$R = \frac{X_2 - X_1}{X_N - X_1}$$

   4. For N = 5 if R > 0.642, the value is judged to be statistically significant and the core is excluded. For N = 10 if R > 0.412, the value is judged to be statistically significant and the core is excluded.

   If an outlier is detected for N = 5 and no retest is warranted, the Contractor may replace that core by taking an additional core at the same offset and within 5 feet of the original station. If an outlier is detected and a retest is justified, take a replacement core for the outlier at the same time as the 5 additional retest cores are taken. If the outlier replacement core is not taken within 15 days, the ME will use the initial core results to determine PPA.

   If an outlier is detected for N = 10, the Contractor may replace that core by taking an additional core at the same offset and within 5 feet of the original station. If the outlier replacement core is not taken within 15 days, the ME will use the initial core results to determine PPA.

6. **Retest.** If the initial series of 5 cores produces a percent defective value of PD ≥ 30 for mainline or ramp lots, or PD ≥ 50 for other pavement lots, the Contractor may elect to take an additional set of 5 cores at random locations chosen by the ME. Notify the RE within 15 days of receipt of the initial core results to take the additional cores. If the RE is not notified with the 15 days, the ME will use the initial core results to determine the PPA. If the additional cores are taken, the ME will recalculate the PPA using the combined results from the 10 cores.

7. **Removal and Replacement.** If the final lot PD ≥ 75 (based on the combined set of 10 cores or 5 cores if the Contractor does not take additional cores), remove and replace the lot and all overlying work. The replacement work is subject to the same requirements as the initial work.

   Do not remove and replace shoulder lots. Perform fog seal as specified in 422.03.01 and the Department will assess the calculated PPA.

**I. Air Void Requirements on Bridge Deck.** The RE may waive the coring of Ultra-HPTO constructed on a bridge deck or may require that the Contractor to test bridge decks with the thin lift nuclear density gauge. If required by RE, perform nuclear density gauge testing according to ASTM D 2950 at 5 random locations per bridge deck. Use the maximum specific gravity determined at the HMA plant according to AASHTO T 209 to determine percent air voids. If the average air voids for the bridge deck are 8 percent or greater, the RE will require a revised paving plan for any subsequent bridge deck placement of Ultra-HPTO and may require the Ultra-HPTO to be removed and replaced.

**J. Ride Quality Requirements.** The Department will evaluate the ride quality of the final riding surface of all constructed pavement on the project as specified in 401.03.07.J.

**406.04 MEASUREMENT AND PAYMENT**

THE SUBPART IS CHANGED TO:

| *Item* | *Pay Unit* |
|---|---|
| HIGH PERFORMANCE THIN OVERLAY | TON |
| ULTRA-HIGH PERFORMANCE THIN OVERLAY | TON |

The Department will measure HIGH PERFORMANCE THIN OVERLAY and ULTRA-HIGH PERFORMANCE THIN OVERLAY by the ton as indicated on the certified weigh tickets, excluding unused material.

The Department will not include payment for tack coat, polymer modified tack coat, and core samples in HIGH PERFORMANCE THIN OVERLAY and ULTRA-HIGH PERFORMANCE THIN OVERLAY. The Department will pay for tack coat, polymer modified tack coat, and core samples under TACK COAT, POLYMER MODIFIED TACK COAT, and CORE SAMPLES, HOT MIX ASPHALT as specified in 401.04, respectively.

## SECTION 902 – ASPHALT

THE FOLLOWING SUBSECTION IS ADDED:

**902.16 ULTRA-HIGH PERFORMANCE THIN OVERLAY (ULTRA-HPTO)**

**902.16.01 Composition of Mixture**

Mix Ultra-HPTO in a plant that is listed on the QPL and conforms to the requirements for HMA Plants as specified in 1009.01. The composition of the mixture for Ultra-HPTO is coarse aggregate, fine aggregate, and asphalt binder, and may also include mineral filler and a WMA additive. Do not use Reclaimed Asphalt Pavement (RAP), Ground Bituminous Shingle Material, Remediated Petroleum Contaminated Soil Aggregate, or Crushed Recycled Container Glass (CRCG). Use asphalt binder and aggregates that meet the following requirements:

1. Use polymer modified asphalt binder that is specially formulated for meeting the mix performance criteria as specified in 906.16.02 and conforms to AASHTO M 332 including compliance with the elastic response requirement in Figure 1 of AASHTO R 92. Consult with the asphalt binder supplier to obtain the appropriate material for the specific mix design. Submit a certificate of analysis (COA) showing the PG continuous grading (AASHTO R 29) for the asphalt binder used in the mix design.

   For quality assurance testing of the asphalt binder, the ME may sample the asphalt binder during production of the mix and compare the results with the COA submitted at the time of test strip. To analyze the binder the ME will test the binder at the nearest standard PG temperature then compare the results with the COA. If the high ($G^*/\sin\delta$) and low (stiffness and m value) temperature passing test results are within 5 percent of the results from the passing temperature on the COA, then the ME will consider the asphalt binder comparable to the binder used during test strip.

2. WMA additives may be used in the mix and must conform to 902.01.04. If a WMA additive is pre-blended in the asphalt binder or added at the HMA plant, ensure that the mix meets the mix performance criteria in this specification and will not be negatively impacted by the WMA additive. Follow the manufacturer's recommendations for percentage of WMA additive needed. Controlled asphalt foaming system WMA is prohibited for use in this mixture.
3. Use coarse aggregate that is gneiss, granite, quartzite, or trap rock and conforms to 901.05.01.
4. For fine aggregate, use 100 percent stone sand conforming to 901.05.02 and having an uncompacted void content of at least 45 percent when tested according to AASHTO T 304, Method A. In addition, the minimum sand equivalent is 45 percent when tested according to AASHTO T 176.
5. If necessary, use mineral filler as specified in 901.05.03.

**902.16.02 Mix Design**

At least 45 days before initial production, submit a job mix formula for the Ultra-HPTO on forms supplied by the Department. Include a statement naming the source of each component and a report showing the results meet the criteria specified in Tables 902.16.02-1 and 902.16.02-2.

For the job mix formula for the Ultra-HPTO mixture, establish the percentage of dry weight of aggregate passing each required sieve size and an optimum percentage of asphalt binder based upon the weight of the total mix. Determine the optimum percentage of asphalt binder according to AASHTO R 35 and M 323 with an $N_{des}$ of 50 gyrations. Before maximum specific gravity testing or compaction of specimens, condition the mix for 2 hours according to the requirements for conditioning for volumetric mix design in AASHTO R 30, Section 7.1. If the absorption of the combined aggregate is more than 1.5 percent according to AASHTO T 84 and T 85, condition the mix for 4 hours according to AASHTO R 30, Section 7.2 prior to compaction of specimens (AASHTO T 312) and determination of maximum specific gravity (AASHTO T 209). Ensure that the job mix formula is within the master range specified in, Table 902.16.02-1.

**Table 902.16.02-1 JMF Requirements for Ultra-HPTO**

| Sieve Sizes | Percent Passing[1] | Production Control Tolerances[2] |
|---|---|---|
| 3/8" | 100 | ±0.0% |
| No. 4 | 65-85 | ±4.0% |
| No. 8 | 30-45 | ±4.0% |
| No. 16 | 20-35 | ±3.0% |
| No. 30 | 15-30 | ±3.0% |
| No. 50 | 10-20 | ±3.0% |
| No. 100 | 5-15 | ±3.0% |
| No. 200 | 5.0-8.0 | ±2.0% |
| Asphalt Binder Content (Ignition Oven) | | ±0.40% |

1. Aggregate percent passing to be determined based on dry aggregate weight.
2. Production tolerances are applied to the approved JMF for gradation and asphalt binder content. Gradation results may not fall outside of the wide band gradation limits when tolerances are applied

Design the Ultra-HPTO to meet the requirements in Table 902.16.02-2.

**Table 902.16.02-2 Volumetric Requirements for Design and Control of Ultra-HPTO**

| | Required Density (% of Max Sp. Gr.) @ Ndes (50 gyrations) | Required Density (% of Max Sp. Gr.) @ Nmax (100 gyrations) | Voids in Mineral Aggregate (VMA) | Dust to Binder Ratio | Draindown[1] AASHTO T 305 |
|---|---|---|---|---|---|
| **Design Requirements** | 96.0 | ≤ 99.0 | ≥ 17.0 % | 0.6 - 1.2 | ≤ 0.1 % |
| **Control Requirements** | 95.0 - 97.0 | ≤ 99.0 | ≥ 17.0 % | 0.6 - 1.3 | ≤ 0.1 % |

1. Draindown testing is at the discretion of the ME.

Ensure that the job mix formula provides a mixture that meets a minimum tensile strength ratio (TSR) of 85 percent when prepared according to AASHTO T 312 and tested according to AASHTO T 283 with the following exceptions:

1. Before compaction, condition the mixture for 2 hours according to AASHTO R 30 Section 7.1.
2. Compact specimens with 40 gyrations.
3. Extrude specimens as soon as possible without damaging.
4. Use AASHTO T 269 to determine void content.
5. Record the void content of the specimens.
6. If less than 55 percent saturation is achieved, the procedure does not need to be repeated, unless the difference in tensile strength between duplicate specimens is greater than 25 pounds per square inch.
7. If visual stripping is detected, modify or readjust the mix.

For each mix design, submit 3 gyratory specimens and 1 loose sample corresponding to the composition of the job mix formula, including the design asphalt content. The ME will use these samples for verification of the properties of the job mix formula. Compact the specimens to the design number of gyrations ($N_{des}$). To be acceptable all three gyratory specimens must comply with the gradation requirements in Table 902.16.02-1 and with the design requirements in Table 902.16.02-2. The ME reserves the right to be present at the time of molding the gyratory specimens.

In addition, submit 11 gyratory specimens and two boxes of loose mix to the ME. The ME will use these additional gyratory samples for performance testing of the Ultra-HPTO mix. The ME reserves the right to be present at the time of molding the gyratory specimens. Ensure that the additional gyratory specimens are compacted according to AASHTO T 312. Compact 6 of the specimens to 77 millimeters in height and an air void content of 5.0 ± 0.5 percent. The ME will test the six 77 millimeter specimens using an Asphalt Pavement Analyzer (APA) according to AASHTO T 340 at 64 °C, 100 pound per square inch hose pressure, and 100 pound wheel load. Compact the other 5 specimens to 115 millimeter in height. These 5 specimens will be cut, from the middle of each 115 millimeter in height specimen, to 38 millimeter in height test specimens. The air void content of the 5 cut specimen will be determined to ensure compliance with the target air void content of 5.0 ± 0.5 percent. The ME will use the five 38 millimeter in height specimens to test using an Overlay Tester (NJDOT B-10) at 25 °C and a joint opening of 0.025 inch. The ME will eliminate the highest and lowest Overlay test results then average and report the middle 3 test results. The ME will ensure that all submitted specimens are within the target air void content as tested at the Material's Central Lab. The ME will not accept specimens lower than the target air void content, but may accept and test specimens higher than the target air void content.

The ME will approve the JMF if the average rut depth for the 6 specimens in the Asphalt Pavement Analyzer testing is not more than 3 millimeters at 8,000 loading cycles and the average number of cycles to failure in the Overlay Tester is not less than 2500. If the JMF does not meet the APA and Overlay Tester criteria, redesign the Ultra-HPTO mix and submit for retesting. The JMF for the Ultra-HPTO mixture is in effect until modification is approved by the ME.

When unsatisfactory results for any specified characteristic of the work make it necessary, the Contractor may establish a new JMF for approval. In such instances, if corrective action is not taken, the ME may require an appropriate adjustment to the JMF.

Should a change in sources or changes in the properties of materials occur, the ME will require that a new JMF be established and approved before production can resume.

The ME may verify a mix on an annual basis rather than on a project-to-project basis if the properties and proportions of the materials do not change. If written verification is submitted by the HMA supplier that the same source and character of materials are to be used, the ME may waive the requirement for the design and verification of previously approved mixes.

### 902.16.03 Sampling and Testing

**A. General Acceptance Requirements**. The RE or ME may reject and require disposal of any batch or shipment that is rendered unfit for its intended use due to contamination, segregation, improper temperature, lumps of cold material, or incomplete coating of the aggregate. For other than improper temperature, visual inspection of the material by the RE or ME is considered sufficient grounds for such rejection.

Ensure that the temperature of the Ultra-HPTO at discharge from the plant or surge and storage bins is maintained between 300 and 330 °F. For mixes produced using a WMA additive or process, ensure that the temperature of the mixture at discharge from the plant or surge and storage bins is at least 10 °F above the WMA manufacturer's recommended laydown temperature.

Combine and mix the aggregates and asphalt binder to ensure that at least 95 percent of the coarse aggregate particles are entirely coated with asphalt binder as determined according to AASHTO T 195. If the ME determines that there

is an on-going problem with coating, the ME may obtain random samples from 5 trucks and will determine the adequacy of the mixing on the average of particle counts made on these 5 test portions. If the requirement for 95 percent coating is not met on each sample, modify plant operations, as necessary, to obtain the required degree of coating.

**B. Sampling.** The ME will take a sample of Ultra-HPTO for volumetric acceptance testing from each 700 tons of a mix. The ME will perform sampling according to AASHTO T 168, NJDOT B-2, or ASTM D 3665. During production at the plant, a sample of asphalt binder will be taken once every 1,400 tons or as directed by the ME.

**C. Quality Control Testing.** The HMA producer is required to provide a quality control (QC) technician who is certified by the Society of Asphalt Technologists of New Jersey as an Asphalt Technologist, Level 2. The QC technician may substitute equivalent technician certification by the Mid-Atlantic Region Technician Certification Program (MARTCP). Ensure that the QC technician is present during periods of mix production for the sole purpose of quality control testing and to assist the ME. The ME will not perform the quality control testing or other routine test functions in the absence of, or instead of, the QC technician.

The QC technician is required to perform sampling and testing according to the approved quality control plan, to keep the mix within the limits specified for the Ultra-HPTO mix being produced. The QC technician may use acceptance test results or perform additional testing as necessary to control the mix.

To determine the composition, perform ignition oven testing according to AASHTO T 308. For each acceptance test, perform maximum specific gravity testing according to AASHTO T 209 on a test portion of the sample taken by the ME. Sample and test coarse aggregate, fine aggregate, mineral filler, and asphalt binder according to the approved quality control plan for the plant.

**D. Acceptance Testing and Requirements.** The ME will determine volumetric properties at $N_{des}$ for acceptance from samples taken, compacted, and tested at the HMA plant. The ME will compact Ultra-HPTO to 50 gyrations, using equipment according to AASHTO T 312. The ME will determine bulk specific gravity of the compacted sample according to AASHTO T 166. The ME will use the most current QC maximum specific gravity test result in calculating the volumetric properties of the Ultra-HPTO.

The ME will determine the dust-to-binder ratio from the composition results as tested by the QC technician.

Ensure that the HMA mixture conforms to the requirements specified in Table 902.16.02-2, and to the gradation and asphalt content requirements in Table 902.16.02-1. If the test results are outside of the requirements specified in Table 902.16.02-1 or Table 902.16.02-2 for an acceptance sample, immediately run a quality control sample. If the quality control sample is also outside of the control requirements specified in Table 902.16.02-1 or Table 902.16.02-2, determine if a plant adjustment is needed and take corrective action to bring the mix into compliance. Take an additional quality control sample immediately after completing the corrective action to ensure that the mix is within the requirements. If the mix is within the requirements based on the quality control sample results, then the ME will immediately take an acceptance sample to test and verify that the composition meets the requirements specified in Table 902.16.02-1 and Table 902.16.02-2. If 2 consecutive acceptance or quality control samples are outside the requirements specified in Table 902.16.02-1 or Table 902.16.02-2, immediately stop production and shipping.

After a production stop, obtain ME approval of a plant correction plan before resuming production. Upon restarting production, do not transport mixture to the Project Limits before the results of a quality control sample from the mixture indicate that the mixture meets the requirements specified in Table 902.16.02-1 and Table 902.16.02-2 and ME approval. The ME will reject mixture produced at initial restarting that does not meet the requirements specified in Table 902.16.02-1 and Table 902.16.02-2.

The ME will test a minimum of 1 sample per 3500 tons for moisture, basing moisture determinations on the weight loss of an approximately 1600 gram sample of mixture heated for 1 hour in an oven at 280 ± 5 °F. Ensure that the moisture content of the mixture at discharge from the plant does not exceed 1.0 percent.

**E. Performance Testing.** Provide 11 gyratory specimens that are compacted according to AASHTO T 312 and 2 boxes of loose mix. Compact 6 of the specimens to 77 millimeter in height and an air void content of 5.0 ± 0.5 percent. Compact the other 5 specimens to 115 millimeter in height. These 5 specimens will be cut, from the middle of each 115 millimeter in height specimen, to 38 millimeter in height test specimens. The air void content of the 5 cut test specimens will be determined to ensure compliance with the target air void content of 5.0 ± 0.5 percent.

The ME will use the boxes of loose mix to determine the maximum specific gravity of the mix according to AASHTO T 209. The ME will use the gyratory samples for performance testing of the Ultra-HPTO mix. The ME will test six 77 millimeter in height specimens using an Asphalt Pavement Analyzer (APA) according to AASHTO T 340 at 64 °C, 100 pound per square inch hose pressure, and 100 pound wheel load. The ME will use the five 38 millimeter in height specimens to test using an Overlay Tester (NJDOT B-10) at 25 °C and a joint opening of 0.025 inch. The ME will eliminate the highest and lowest Overlay test result then average and report the middle 3 test results. The ME will ensure that all submitted specimens are within the target air void content as tested at the Material's Central Lab. The ME will not accept specimens lower than the target air void content, but may accept and test specimens higher than the target air void content.

Ensure that the first sample is taken during the construction of the test strip as specified in 406.03.01.C. Thereafter, sample every lot or as directed by the ME. If the test strip is done within the project limits and the performance testing results are acceptable to the ME, the results will be included into the first lot. A lot is defined as material placed on the traveled way within the project limits.

If a sample does not meet the criteria for performance testing as specified in Table 902.16.03-1, the Department will assess a pay adjustment as specified. The Department will calculate the pay adjustment by multiplying the percent pay adjustment (PPA) by the quantity in the lot and the bid price for the Ultra-HPTO item. If APA rutting is greater than 8.0 millimeters or Overlay cycles is less than 1000 or both, the Department will assess the maximum pay adjustment of PPA = -100 percent or may require removal and replacement. PPA for both APA and Overlay are cumulative and may not exceed -100 percent in total. If samples received are lower than the target air void range, 5.0 ± 0.5 percent, the Department will consider the samples un-testable and assess a PPA of -100 percent or may require removal and replacement of the lot. If the Department requires removal and replacement, then the replacement work is subject to the same requirements as the initial work.

**Table 902.16.03-1 Performance Testing Pay Adjustments for Ultra-HPTO**

| Test | Requirement | Test Result | PPA |
|---|---|---|---|
| **APA @ 8,000 loading cycles, mm (AASHTO T 340)** | 3.0 maximum | $t \leq 3.0$<br>$3.0 < t \leq 8.0$<br>$t > 8.0$ | 0<br>-10(t-3)<br>-100 or Remove & Replace |
| **Overlay Tester, cycles (NJDOT B-10)** | 2500 minimum | $t \geq 2500$<br>$2500 > t \geq 1000$<br>$t < 1000$ | 0<br>-(2500-t)/30<br>-100 or Remove & Replace |

**Implementation Code R (ROUTINE)**

Changes must be implemented in all applicable Department projects scheduled for Final Design Submission at least one month after the date of the BDC Announcement. This will allow designers to make necessary plan, specifications, and estimate/proposal changes without requiring the need for addenda or postponement of advertisement or receipt of bids.

**Recommended By:**

Tina M. Shutz

Tina Shutz
Director
Capital Program Support

**Approved By:**

Parth Oza

Parth Oza, P.E.
Assistant Commissioner
Capital Program Management
and Deputy State Transportation Engineer

TS: MS