

May 30, 2012

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF TRANSPORTATION
RHODE ISLAND CONTRACT NO.2011-CR-089
FEDERAL-AID PROJECT NO. FAP Nos: STP-RESF(224)

Paver Placed Elastomeric Surface Treatment

Statewide

CITY/TOWN OF East Providence, Lincoln, North Providence, Warwick, Newport
COUNTY OF PROVIDENCE, KENT, NEWPORT

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 1 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

A. Contract Documents

1. General Provisions - Contract

Delete the Certificate of Maintenance letter in the appendix with the attached Certificate of Maintenance letter (R-1) attached to this Addendum No. 1.

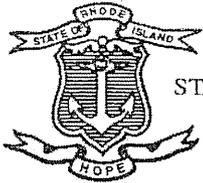
B. Specification Change/Addition

1. Job Specific

Delete page JS-i and JS-2 through JS-12 in their entirety and replace with JS-i (R-1), JS-1a (R-1), and JS-2 (R-1) through JS-12 (R-1) attached to this addendum No. 1.
Section 12.108.03 on page JS-1a has been added.
Special Provisions on pages JS-2 through JS-12 have been revised.



RI Department of Transportation
Chief Engineer



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

COASTAL RESOURCES MANAGEMENT COUNCIL

Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, R.I. 02879-1900

(401) 783-3370
FAX: (401) 783-3767

Certificate of Maintenance

Corrected assent 5/29/2012

May 16, 2012

Department of Transportation
c/o Peter A. Healey, PE
2 Capitol Hill; Rm 226
Providence, RI 02903

RE: CRMC Assent No. M2012-05-031: Resurface sections of Ocean Road as proposed.
Project Location: Ocean Road; *Newport*; Plat , Lot

Dear Applicant:

The Coastal Resources Management Council has reviewed your project proposal and has determined that it conforms to RICRMP Section 300.14 and applicable standards. Construction authorized by this approval shall be limited to replacement, reconstruction, or rebuilding to approved, pre-existing conditions and dimensions of the above noted structure. In accordance with revisions to RIGL 46-23-6.3 Expiration Tolling Periods (as amended effective June 8, 2011), all work being permitted must be completed on or before **July 1, 2016**. If this project involves excess construction materials or debris, these materials shall be removed from the site and disposed of at a suitable legal upland location. No equipment access or storage of equipment, construction material or debris shall occur on coastal features. If the project involves earthwork, appropriate erosion controls shall be utilized. All applicable conditions of original CRMC Assents that pertain to this property shall be upheld unless otherwise modified by the CRMC. All applicable policies, prohibitions, and standards of the RICRMP shall be upheld.

A copy of this maintenance authorization to perform maintenance work shall be kept on site and available for inspection. The maintenance (blue) card must be posted on site during the project duration.

Sincerely,

A handwritten signature in black ink that reads "Gregory Baribault".

Gregory P. Baribault
Engineering Tech IV

Coastal Resources Management Council

/rcm

SPECIFICATIONS - JOB SPECIFIC

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**JOB SPECIFIC
R.I. CONTRACT NO. 2011-CR-089**

**SECTION 12.108.03
PROSECUTION AND PROGRESS**

In accordance with **Section 12.108.03, PROSECUTION AND PROGRESS, Para. a., General Requirements, 1 Project Schedule Program**

The Schedule Level for this contract is Schedule Level C.

Replace **Subsection 12.108.03, PROSECUTION AND PROGRESS, Para. a., General Requirements, 2 Software** with the following:

12.108.03. a. 2 Software

The software used to generate the CPM Schedule shall be Primavera Contractor, Version 6.1; or P6 Version 7 or 8. The contractor shall purchase and maintain a valid software maintenance agreement for each license of software necessary to produce and maintain the Project Schedules. Unless specified elsewhere in the Contract Documents, the Contractor shall comply with the terminology defined by the Primavera Project Management Manual.

Special Provision 401.9901
Class 4.75 HMA Shim Course

401.01 Description.

Class 4.75 shall conform to the requirements of the RI Standard Specifications for Road and Bridge Construction with the following exceptions and modifications.

401.02 Materials.

1. Aggregate

The aggregate shall conform to the 3 to <10 million ESAL requirements of Table 5 in AASHTO M 323. No more than 20% of the aggregate shall be natural sand. All aggregate properties of Section M.03 shall apply.

2. Performance Graded Binder

The binder shall meet the requirements of PG 64-28, Grade S as specified in AASHTO M 320 and MP 19.

3. Mix Design

HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The design specifications found in AASHTO M 323 shall supersede those found in the Standard Specifications for Road and Bridge Construction. A mix design using PG64-28 Grade S shall be used to determine the design binder content. The VMA and $VMA_{\text{effective}}$ shall be calculated for each asphalt content during the mix design process. The following specific requirements and exceptions to AASHTO M 323 shall apply.

- a. N_{initial} shall be 6, N_{design} shall be 50 and N_{max} shall be 75 gyrations.
- b. A moisture susceptibility test will not be required.
- c. The mix shall be designed at 4% voids.
- d. The VMA shall be greater than or equal to 17.5%.
- e. The VFA shall be 70 to 80 percent.

- f. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.
- g. The dust to binder ratio ($P_{0.075}/P_{be}$) shall be 0.5 – 1.0. The design effective binder content shall be used to calculate this ratio.
- h. No RAP will be allowed in the mix.
- i. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves will be required. The 50.0 mm and 37.5 mm sieves will not be required.

The following procedures shall be adhered to for the mix design:

- Three trial blends shall be submitted and accepted before beginning the mix design procedure.
- All trial mixture data and calculations determined for Section 9 of AASHTO R 35 shall be submitted to the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for acceptance.

The gyratory cores and Rice (AASHTO T 209) samples at the design binder content shall be submitted to the Engineer.

A successful plant trial batch shall be performed before production of the HMA begins.

401.03 Construction Methods.

1. Plant Laboratory

In addition to the requirements of Section 930, the contractor provided lab shall be equipped with the following:

Gyratory compactor conforming to AASHTO T 312 and two molds.

All equipment required to determine the theoretical maximum specific gravity in accordance with AASHTO T 209 Test Method A and Section 13.1. A metal pycnometer and electronic digital vacuum gauge shall also be provided.

All sieves required for the mix design process.

Facilities and equipment to perform a wet-wash in accordance with AASHTO T-30 and a faucet spray hose shall be provided.

2. Mix Production

Samples will be taken at the plant every 600 tons. The following mix production tolerances shall apply:

- a. The air voids (V_a) shall be 3.0 – 5.0 percent.
- b. The voids in mineral aggregate (VMA) shall be 17.5% minimum.

The following tolerances for gradation shall apply:

12.5mm	100%
9.5mm	95% - 100%
4.75mm	85% - 100%
1.18mm	Established by the mix design $\pm 5\%$
0.075mm	Greater than or equal to 2.0%

3. Compaction

At least one pneumatic roller with a minimum operational weight of eight tons shall be included in the roller train for compacting leveling course.

401.04 Method of Measurement.

Subsection 401.04 of the RI Standard Specifications for Road and Bridge Construction will be used as the method of measurement.

401.05 Basis of Payment.

Subsection 401.05 of the RI Standard Specifications for Road and Bridge Construction will be used as the basis of payment.

Special Provision 401.9902
Class 12.5 HMA Shim Course

401.01 Description.

Class 12.5 shall conform to the requirements of the RI Standard Specifications for Road and Bridge Construction with the following exceptions and modifications.

401.02 Materials.

1. Aggregate

The aggregate shall conform to the 3 to <10 million ESAL requirements of Table 5 in AASHTO M 323. No more than 10% of the aggregate shall be natural sand. All aggregate properties of Section M.03 shall apply.

2. Performance Graded Binder

The binder shall meet the requirements of PG 64-28, Grade S as specified in AASHTO M 320 and MP 19.

3. Mix Design

HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The design specifications found in AASHTO M 323 shall supersede those found in the Standard Specifications for Road and Bridge Construction. A mix design using PG64-28 Grade S shall be used to determine the design binder content. The VMA and VMA_{effective} shall be calculated for each asphalt content during the mix design process. The following specific requirements and exceptions to AASHTO M 323 shall apply.

- a. N_{initial} shall be 6, N_{design} shall be 50 and N_{max} shall be 75 gyrations.
- b. A moisture susceptibility test will not be required.
- c. The mix shall be designed at 4% voids.
- d. The VMA shall be greater than or equal to 15.5%.
- e. The VFA shall be 70 to 80 percent.

- f. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.
- g. The dust to binder ratio ($P_{0.075}/P_{be}$) shall be 0.5 – 1.0. The design effective binder content shall be used to calculate this ratio.
- h. No RAP will be allowed in the mix.
- i. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves will be required. The 50.0 mm and 37.5 mm sieves will not be required.

The following procedures shall be adhered to for the mix design:

- Three trial blends shall be submitted and accepted before beginning the mix design procedure.
- All trial mixture data and calculations determined for Section 9 of AASHTO R 35 shall be submitted to the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for acceptance.

The gyratory cores and Rice (AASHTO T 209) samples at the design binder content shall be submitted to the Engineer.

A successful plant trial batch shall be performed before production of the HMA begins.

401.03 Construction Methods.

1. Plant Laboratory

In addition to the requirements of Section 930, the contractor provided lab shall be equipped with the following:

Gyratory compactor conforming to AASHTO T 312 and two molds.

All equipment required to determine the theoretical maximum specific gravity in accordance with AASHTO T 209 Test Method A and Section 13.1. A metal pycnometer and electronic digital vacuum gauge shall also be provided.

All sieves required for the mix design process.

Facilities and equipment to perform a wet-wash in accordance with AASHTO T-30 and a faucet spray hose shall be provided.

2. Mix Production

Samples will be taken at the plant every 600 tons. The following mix production tolerances shall apply:

- a. The air voids (V_a) shall be 3.0 – 5.0 percent.
- b. The voids in mineral aggregate (VMA) shall be 15.5% minimum.
- c. The percent passing the #200 sieve shall be 2.0% minimum.

The following tolerances for gradation shall apply:

19.0mm	100%
12.5mm	90% - 100%
9.5mm	90% max
2.36mm	Established by the mix design $\pm 5\%$
0.075mm	Greater than or equal to 2.0%

In-place density shall be 92% of the theoretical maximum density obtained at the plant.

401.04 Method of Measurement.

Subsection 401.04 of the RI Standard Specifications for Road and Bridge Construction will be used as the method of measurement.

401.05 Basis of Payment.

Subsection 401.05 of the RI Standard Specifications for Road and Bridge Construction will be used as the basis of payment

411.9901

PAVER PLACED ELASTOMERIC SURFACE TREATMENT

Delete Section 411.02.1 Modified Asphalt Binder from the Paver Placed Elastomeric Surface Treatment Specification No. 411.0100 in its entirety and replace with the following:

411.02.1 Asphalt Binder. This shall be either Chemically Modified Asphalt Binder with Rubber (411.02.1.1); Polymer Modified Asphalt Binder (411.02.1.2); or Asphalt Binder with Rubber (411.02.1.3).

411.02.1.1 Chemically Modified Asphalt Binder with Rubber.

- a. This shall consist of a blend of neat asphalt cement and crumb rubber, which are chemically bonded to produce a modified asphalt binder that complies with all the requirements of AASHTO M 320 and MP 19 for PG 64-28 Grade E. The high temperature grade (AASHTO M 320) of the neat asphalt cement shall not exceed PG 58-XX. The modified asphalt binder shall not contain any particles of rubber or elastomeric material when tested in accordance with AASHTO T 44. It shall incorporate an aromatic VOC inhibitor to mitigate odors at a dosage rate that conforms to the manufacturer's recommendation. The modified asphalt binder shall contain no polyphosphoric acid. The elastic recovery at 10°C (AASHTO T 301) shall be not less than 70%. The composition and PG grade of the modified asphalt binder shall be certified by the supplier. The contractor shall use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. Only chemical or organic WMA's may be used. Mechanical water injection will not be allowed.
- b. Asphalt Cement. The high temperature grade (AASHTO M 320) of the neat asphalt cement shall not exceed PG 58-XX.
- c. Anti-Stripping Agent. An anti-stripping agent that is heat stable and approved by the Engineer may be added to the neat asphalt cement prior to blending with the crumb rubber. The dosage (not exceeding 1.0% by weight of asphalt cement) shall be within the manufacturer's specified range.
- d. Crumb Rubber. The asphalt binder shall have a crumb rubber content of not less than 9% by weight of asphalt cement. The maximum size of the crumb rubber shall be 60 mesh.
- e. Chemical Bonding Agent. The chemical bonding agent shall be heat stable and compatible with asphalt and rubber.

411.02.1.2 Polymer Modified Asphalt Binder. This shall be a SBS polymer modified asphalt binder that complies with all the requirements of AASHTO M 320 and MP 19 for PG 64-28 Grade E. It shall incorporate an aromatic VOC inhibitor to mitigate odors at a dosage rate that conforms to the manufacturer's recommendation. The modified asphalt binder shall contain no polyphosphoric acid. The elastic recovery at 10°C (AASHTO T 301) shall be not less than 70%. The supplier of the modified asphalt binder shall certify the composition and PG grade of the modified asphalt binder. The contractor shall use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. Only chemical or organic WMA's may be used. Mechanical water injection will not be allowed.

- a. Asphalt Cement. The high temperature grade (AASHTO M 320) of the neat asphalt cement shall not exceed PG 58-XX.
- b. Anti-Stripping Agent. An anti-stripping agent that is heat stable and approved by the Engineer may be added to the neat asphalt cement prior to modification. The dosage (not exceeding 1.0% by weight of asphalt cement) shall be within the manufacturer's specified range.

411.02.1.3 Asphalt Binder with Rubber. This shall consist of a blend of neat asphalt cement and crumb rubber which shall be terminally blended or blended at the HMA plant. The asphalt cement and crumb rubber shall be bonded to produce a modified asphalt binder that complies with all the requirements of AASHTO M 320 and MP 19 for PG 64-28 Grade E. It shall incorporate an aromatic VOC inhibitor to mitigate odors at a dosage rate that conforms to the manufacturer's recommendation. The modified asphalt binder shall contain no polyphosphoric acid. The elastic recovery at 10°C (AASHTO T 301) shall be not less than 70%. The supplier of the modified asphalt binder shall certify the composition and PG grade of the modified asphalt binder. The contractor shall use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. Only chemical or organic WMA's may be used. Mechanical water injection will not be allowed.

The blend of neat asphalt cement and crumb rubber shall be continuously agitated by mechanical means from the time of blending until it is introduced into the HMA. The means of agitation is subject to approval by the Engineer. The method and equipment for combining the rubber and neat asphalt cement shall be such that the Engineer can readily determine the percentage by weight for each material being incorporated into the mixture. Provisions shall be made so that samples of the asphalt cement and crumb rubber blend may be obtained before it is introduced into the HMA mixture.

- a. Asphalt Cement. The high temperature grade (AASHTO M 320) of the neat asphalt cement shall not exceed PG 58-XX.

- b. Anti-Stripping Agent. An anti-stripping agent that is heat stable and approved by the Engineer may be added to the neat asphalt cement prior to blending with the crumb rubber. The dosage (not exceeding 1.0% by weight of asphalt cement) shall be within the manufacturer's specified range.
- c. Crumb Rubber. The asphalt binder with rubber shall have a crumb rubber content of not less than 12% by weight. The maximum size of the crumb rubber shall be 60 mesh.
- d. Polymer. A polymer modifier may be added as needed.

Delete Section 411.02.3 Mix Design, Item c in its entirety and replace with the following:

- c. Superpave mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt". The design specifications found in AASHTO M 323 shall supersede those found in the Standard Specifications for Road and Bridge Construction. A mix design using the binder grade required by Table 2 of AASHTO M 323 shall be used to determine the optimum asphalt content for all binder grades. The following specific requirements and exceptions to AASHTO M 323 shall apply.
 - i. N_{initial} shall be 7, N_{design} shall be 75 and N_{max} shall be 115 gyrations. In AASHTO M 323 Tables 5 and 6 the design ESALs shall be 3 to < 10 million.
 - ii. A moisture susceptibility test will not be required.
 - iii. The mix shall be designed at 5% voids.
 - iv. The VMA shall be greater than or equal to 18%.
 - v. The minimum asphalt content shall be 7%.

Three trial blends shall be submitted and approved before beginning the mix design procedure. In accordance with Section 6 of AASHTO R 35, three trial job mix formulas shall be developed and submitted if required by the Engineer. Both the job mix formula and mix design are subject to the approval of the Engineer. In addition to the sieves required in AASHTO M 323, the #4, #16, #30, #50 and #100 sieves will be required.

No RAP will be allowed in the mix.

The gyratory cores and Rice (AASHTO T 209) samples at optimum asphalt content shall be submitted to the Engineer.

A successful trial batch shall be performed before approval of the mix design.

In Section 411.02.3 Mix Design, insert the following after Item c:

d. The mix at the optimum modified asphalt binder content shall be tested for draindown in accordance with AASHTO T 305. The average percent draindown at the design mixing temperature shall not exceed 0.3%. The average percent draindown at a temperature 27°F above the design mixing temperature shall be reported.

In Section 411.03.1 Surface Preparation, delete the 4th sentence and replace with the following:

All localized depressions, ruts, trench cuts, utility settlements and joint settlements shall be brought to grade with a Class 4.75 HMA shim course

In Section 411.03.2 Production Tolerances, insert the following at the end of the section:

The following mix tolerances shall apply:

- a. The production air voids (V_a) shall be 3.0 – 5.0 percent.
- b. The production voids filled with asphalt (VFA) shall be $\pm 4\%$ of the VFA established by the mix design.

In Section 411.03.7 Placement, insert the following after the first sentence:

The paver shall be equipped with thermostatically – controlled heaters for the screed and screed extenders. These heaters shall remain on throughout the paving process.

Delete Section 411.05 Basis of Payment from the Paver Placed Elastomeric Surface Treatment Specification No. 411.0100 in its entirety and replace with the following:

411.05 BASIS OF PAYMENT

The accepted quantities of “Paver Placed Elastomeric Surface Treatment” (PPEST) will be paid for at the contract unit price per square yard as listed in the Proposal. The price so-stated shall constitute full and complete compensation for all traffic control; surface preparation; tack coat for PPEST overlay; furnishing, transporting, handling, placing and rolling the PPEST material as specified; site clean up; furnishing of all labor, tools, equipment, and incidentals for the satisfactory completion of the work.

The Class 4.75 HMA shim course, including the tack coat applied under the shim course, will be paid for under item code 401.9901.

Ten percent of the total amount due the contractor will be withheld until at least 30 days after all the contract work specified is completed, the surfaced highways have been opened to traffic and the surface treatment is determined to be performing satisfactorily.

412.9901

RUBBERIZED ASPHALT CHIP SEALING

Section 412.02.1 Asphalt Cement from the Rubberized Asphalt Chip Sealing Specification No. 412.0100. Change “AASHTO MP1a for PG 58-28” to “AASHTO M320 for PG 58-28 Grade S”.

Section 412.02.6 Rubberized Asphalt from the Rubberized Asphalt Chip Sealing Specification No. 412.0100. Change “PG58-28” to “PG 58-28 Grade S”.

Section 412.03.3 Surface Preparation from the Rubberized Asphalt Chip Sealing Specification No. 412.0100. Change “hot mix Type I-2 shim course” to “Class 4.75 HMA shim course”.

Delete **Section 412.03.4h. Post Placement Sweepings** from the Rubberized Asphalt Chip Sealing Specification No. 412.0100.

Section 412.05 BASIS OF PAYMENT from the Rubberized Asphalt Chip Sealing Specification No. 412.0100. Remove post placement sweeping from second paragraph. Delete the last paragraph.