

**TOWN OF POMFRET  
INVITATION TO BID**

Sealed bids for a Resilient Elastomeric Surface Treatment for overlay Restoration (RESTOR) pavement preservation strategy utilizing and placing a High Performance thin bituminous concrete overlay material, consisting of 4.75 mm, 6.3mm or Superpave 9.5 mm hybrid asphalt mixtures that will be used to extend a pavement's service life. The liquid asphalt binder shall consist of a hybrid material; comprising a blend of a suitable Polymer together with a chemically modified recycled tire rubber will be received by the Town of Pomfret at the Office of the First Selectman, Pomfret Town Hall, Five Haven Road, Pomfret Center, CT 06259 until 12:00 PM, Local Prevailing Time, on Thursday, July 13, 2017.

Bid package with Specifications and insurance requirements are available at the Pomfret Town Hall, Selectmen's Office, Five Haven Road, Pomfret Center, CT 06259.

No Bidder may withdraw his/her bid for a period of forty-five (45) days after the actual date of the Bid opening. The Town of Pomfret reserves the right to waive all formalities or to reject any or all Bids

Dated at Pomfret, Connecticut  
This 28th day of June, 2017

Craig W. Baldwin  
First Selectman

The term Treated Crumb Rubber refers to a partially depolymerized recycled tire product that is activated to chemically bond to the liquid asphalt to improve the elastic properties of the asphalt mix. The Treated Crumb Rubber will be chemically bound to the liquid asphalt prior to exiting the asphalt plant's mixing chamber. Rubber that does not chemically bind to the asphalt cement or is pre-swollen and/or acts as an aggregate in the mix is strictly prohibited for use.

## **SURFACE PREPARATION OF EXISTING PAVEMENT**

It is the intention of the Awarding Authority that the existing pavement surface be properly prepared as outlined in NAPA Information Series 135 Table 1 "Suggested Approaches to Surface Preparation Prior to Thin Overlay Based on Distresses".

The Contractor may be required to assist the Owner with preparing the existing pavement on an "as needed" basis which may include, tack coating, patching, milling, and crack filling. Separate pay items are provided within if or when the need arises.

Independent of the resultant contract for the RESTOR thin overlay process, the Awarding Authority reserves the right to perform or eliminate any or all surface preparation.

## **Materials**

All materials must be pre-approved by the Awarding Authority prior to manufacture and placement of the RESTOR. Verification to be certified by HSRC and submitted to the Owner in writing before any work can commence.

### ***Asphalt Binder***

The asphalt binder shall be a polymer modified, asphalt cement that has a performance grade approved by the North East Asphalt User Producer Group (NEAUPG). The extracted binder shall conform to PG76-28 or PG82-28. Testing of the extracted binder will be performed as part of the HSRC Job Mix Formula written review and certification.

PG76-34 is recommended for roadways exhibiting only low severity cracking. The PG82-28 is recommended for roadways with greater distress. The liquid asphalt supplier shall also provide testing in accordance with AASHTO R29 "Grading or Verifying the Performance Grade of an Asphalt Binder" Section 6.0 – *Test Procedure for Grading an Unknown Asphalt Binder* and AASHTO M320 "Performance-Graded Asphalt Binder" to ascertain the actual performance grade of the asphalt binder.

### ***Aggregate***

Aggregate shall meet all the Superpave aggregate consensus properties requirements listed in Table 5 of AASHTO M323. Coarse aggregates are aggregates retained on the #4 sieve (4.75 mm). Fine aggregates are aggregates passing the #8 sieve (2.36 mm). The coarse aggregates shall also conform to the criteria listed in Table 1:

### ***Table 1 - Superpave Source Property Requirements***

| Test                             | Applicable Method       | Limitations |
|----------------------------------|-------------------------|-------------|
| LA Abrasion, % loss              | AASHTO T96 or ASTM C131 | 40% max.    |
| Sodium Sulfate Soundness, % loss | AASHTO T104 or ASTM C88 | 16% max.    |

### ***Mineral Filler***

If necessary, additional mineral filler (not including that which is naturally present in the aggregate), shall meet the requirements of AASHTO M17 or ASTM D242.

### ***Tack Coat***

Tack coat materials shall be limited to the use of emulsions designed and manufactured for the purpose of improving bonding and/or enhancing the characteristics of existing bituminous concrete surface conditions. Approved emulsions may also be evaluated and utilized as a "stand alone" preservative and/or restorative surface treatment.

Material samples of proposed emulsion(s) shall be submitted to HSRC for approval prior to use. The Contractor will be responsible for conducting and documenting all field tests as required by HSRC to determine the final site specific formulation, concentration, function and application rate of any material selected for use.

Application rates for approved emulsion(s) may vary depending on the function of the material. For the purpose of tack coating or bonding to the RESTOR, the application rates are expected to be contained to within 0.05 to 0.10 gallons per square yard. However, when suitable HSRC approved modified emulsion(s) are employed as a preservative or restorative surface treatment, the application rates may be expanded to between 0.025 to 0.25 gallons per square yard as surface conditions warrant. Two separate applications may also be required to achieve the desired results.

All emulsion applications will be with an approved full circulating liquid asphalt distributor truck. The distributor truck must be equipped with an onboard computer system to regulate precise dosages with the speed of the truck and varying width of the spray bar to achieve a uniform application across the pavement.

### ***Job Mix Formula***

The JMF shall be submitted for testing to HSRC for testing and verification before paving can commence. Payment for testing by HSRC shall be the responsibility of the contractor.

The RESTOR mixture shall be a Superpave 4.75, 6.3mm or a Superpave 9.5 mm mixture conforming to the gradation and asphalt binder content requirements detailed below. The awarding authority prior to the JMF being submitted will determine the gradation to be constructed.

At the time of the JMF submittal the contractor will also submit a list of the paving equipment to be used on the project for review and acceptance by HSRC. The equipment

shall consist of but not be limited to a self propelled mechanical spreader with a screed in good working condition, at least 2, 8 ton or larger static rollers and sufficient trucks to supply the project with mix without frequent delays in laydown. The contractor will supply a full crew to insure that the laydown and hand work be done with good construction practices

#### Superpave 4.75mm Mixture

The RESTOR mixture shall be a Superpave 4.75 mm mixture conforming to the gradation and asphalt binder content requirements detailed in Table 3:

**Table 3 – Superpave 4.75mm Mixture Requirements for a HY-RESTOR**

| <b>Sieve Designation</b> | <b>Percent by Mass Passing</b> | <b>Production Tolerances</b> |
|--------------------------|--------------------------------|------------------------------|
| 12.5 mm (1/2")           | 100                            | ± 6                          |
| 9.5 mm (3/8")            | 95 – 100                       | ± 6                          |
| 4.75 mm (#4)             | 90 – 100                       | ± 6                          |
| 1.18 mm (#16)            | 30 – 55                        | ± 4                          |
| 0.075 mm (#200)          | 6 – 13                         | ± 1                          |
| Asphalt Binder %         | Min. 6.5                       | ± 0.3                        |

AASHTO R35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt" shall be used to develop a 4.75mm mixture that will meet the specified design criteria in accordance with AASHTO M323 "Standard Specification for Superpave Volumetric Mix Design." A copy of all design test data used in developing the mix design, including graphs, shall be submitted with the mixture design. The job mix formula shall establish the percentage of aggregate passing each sieve and the percentage of polymer-modified binder to be added to the aggregate. Also, the Superpave 4.75mm mixtures shall meet the volumetric properties outlined in AASHTO M323 Table 6. No change in the job-mix formula may be made without prior written approval.

#### 6.3mm Mixture

If 1/4" aggregates are available, the HY-RESTOR mixture shall be a 6.3 mm mixture conforming to the gradation and asphalt binder content requirements detailed in Table 2:

**Table 2 – 6.3mm Mixture Requirements for a HY-RESTOR**

| <b>Sieve Designation</b> | <b>Percent by Mass Passing</b> | <b>Production Tolerances</b> |
|--------------------------|--------------------------------|------------------------------|
| 9.5 mm (3/8")            | 100                            | ± 4                          |
| 6.3mm (1/4")             | 90 – 100                       | ± 4                          |
| 4.75 mm (#4)             | ≤ 90                           | ± 3                          |
| 2.36 mm (#8)             | 37-70                          | ± 3                          |
| 0.075 mm (#200)          | 2 – 10                         | ± 2                          |
| Asphalt Binder %         | Min. 6.0                       | -                            |

The required volumetric properties of the 6.3mm mixture are 4% air voids (96% density) at N<sub>design</sub> of 75 gyrations, Voids in Mineral Aggregate (VMA) of 16% minimum, and

Voids Filled with Asphalt (VFA) of 70-78%. A copy of all design test data used in developing the mix design, including graphs, shall be submitted with the mixture design. The job mix formula shall establish the percentage of aggregate passing each sieve and the percentage of polymer-modified binder to be added to the aggregate. No change in the job-mix formula may be made without prior written approval.

*Superpave 9.5mm Mixture*

The HYRESTOR mixture shall be a Superpave 9.5 mm mixture conforming to the gradation and asphalt binder content requirements detailed in Table 3:

**Table 3 – Superpave 9.5mm Mixture Requirements for a HY-RESTOR**

| <b>Sieve Designation</b> | <b>Percent by Mass Passing</b> | <b>Production Tolerances</b> |
|--------------------------|--------------------------------|------------------------------|
| 12.5 mm (1/2")           | 100                            | ± 6                          |
| 9.5 mm (3/8")            | 90 – 100                       | ± 6                          |
| 4.75 mm (#4)             | ≤ 90                           | ± 6                          |
| 2.36 mm (#8)             | 32 – 67                        | ± 4                          |
| 0.075 mm (#200)          | 2 – 10                         | ± 1                          |
| Asphalt Binder %         | Min. 6.5                       | ± 0.3                        |

AASHTO R35 “Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt” shall be used to develop a 9.5mm mixture that will meet the specified design criteria in accordance with AASHTO M323 “Standard Specification for Superpave Volumetric Mix Design.” A copy of all design test data used in developing the mix design, including graphs, shall be submitted with the mixture design. The job mix formula shall establish the percentage of aggregate passing each sieve and the percentage of polymer-modified binder to be added to the aggregate. Also, the Superpave 9.5mm mixtures shall meet the volumetric properties outlined in AASHTO M323 Table 6. No change in the job-mix formula may be made without prior written approval.

For the Superpave 4.75mm, the 6.3mm, and the Superpave 9.5mm mixtures, in addition to the criteria previously noted, these mixtures will satisfy the following performance criteria listed in Table 4.

**Table 4 – Performance Criteria**

| <b>Property</b>   | <b>Device/Test</b>                                       | <b>Criteria</b>   |
|---|--|---|
| Thermal cracking temperature of the modified asphalt binder       | Asphalt Binder Cracking Device (ABCD)                    | Equal to or colder than the low temperature performance grade of the binder |
| Thermal cracking temperature of extracted binder from the mixture | Asphalt Binder Cracking Device (ABCD)                    | ± one grade from the low temperature performance grade of the binder        |
| Thermal cracking temperature of                                   | Thermal Stress Restrained Specimen Tensile Strength Test | ± 6°C from the low temperature performance grade                            |

|              |   |   |
|--------------|---|---|
| mixture      | (TSRST) - AASHTO TP10-93  | of the binder   |
| Cracking     | Overlay Test -TXDOT Test Designation Tex-248-F  | Mixtures shall exhibit average overlay test cycles to failure (93% load reduction) $\geq 300$ |
| Fatigue Life | SCB Flexibility Index Test (FIT)  | Flexibility Index (FI) $>15.0$  |
| Rutting      | Asphalt Pavement Analyzer - AASHTO TP 63 at the standard PG high temperature for the project location | Average rut dept for 6 specimens is $\leq 4$ mm at 8,000 loading cycles                       |

### ***RECLAIMED ASPHALT PAVEMENT***

The amount of Reclaimed Asphalt Pavement (RAP) in the RESTOR mixture will be limited to 5 percent.

#### **Compaction**

Compaction will begin immediately after the application of the wearing course and will consist of a minimum of two (2) passes. The roller(s) will not be allowed to stop on the freshly placed wearing course. Multiple rollers may be required to achieve proper density before the pavement temperature falls below 185°F. The wearing course must be protected from vehicular traffic until compaction is completed and the material has cooled sufficiently to resist damage.

#### **Traffic Control**

The Awarding Authority will provide all traffic control.

### **METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

Payment for work under this agreement shall be made at the contract unit price per square yard, times the number of square yards, measured by the Contractor and the Director or his/her designee, of road surface treated as accepted. Price per square yard shall be for complete in place quantities as outlined by the items provided in the Proposal Section.

Upon completion of work and acceptance by the Owner, the Contractor shall submit a payment request to the Director. Payment shall be net thirty (30) days.

## **GENERAL TERMS and CONDITIONS**

The Awarding Authority has prepared this bid package in accordance with all current laws and regulations governing public procurement. The technical specifications are intended to establish acceptable standards for newly developed, innovative preservative and/or restorative materials and procedures to assist with, and improve upon, previously available conventional pavement treatments. One vendor will be responsible and accountable for furnishing all contract items.

Proposed substitutions must receive written approval prior to the bid opening. The decision and/or judgment of this Awarding Authority on these matters will be final, conclusive and binding as provided by law.

The intent of this bid is to select the most advantageous proposal in the best interest of the Owner, and in doing so, reserves the right to award this contract to the lowest responsible and eligible bidder predicated on established requirements contained within, retaining sole jurisdiction in its interpretation and administration.

The successful bidder must be able to demonstrate the ability to provide the appropriate expertise, relative to the required procedures, equipment, materials and services contained within. All contract provisions must be furnished in a professional and workmanlike manner.

Interviews may be required to assist the Owner in determining the expertise and/or competency of prospective bidders. Bidders will be required to demonstrate a thorough comprehension of the specialized technology relative to the objectives contained within these specifications.

Failure to complete any section, or comply with any requirement as set forth in the technical specifications, shall be considered non-responsive and will result in disqualification of bidder.

**MATERIALS TESTING:** All materials will be subject to certified testing as stipulated in the specifications to insure compliance, at any time prior to, or throughout the duration of the contract period.

**CONTRACT:** The initial contract term shall be thirty-six (36) months from commencement. The invalidity or unenforceability of any provision in this proposed agreement shall not affect the validity or enforceability of all other provisions contained within.

**EXTENSION:** At their sole discretion of the Owner, this contract may be extended by the maximum period which is permitted by law. Extensions will only be considered with the satisfactory completion of the initial and/or preceding term.

**PRICES/ESCALATORS:** all relevant applicable laws for all contract materials and fuels will govern Price adjustments.

The price(s) for bid items not covered by established guidelines may be adjusted on the annual anniversary of the contract commencement date by the percentage increase, if any, in the Construction Cost Index as published by the Engineering News Record magazine during the preceding twelve (12) month period. If this Index should cease to be published in its present form during the term of this contract including all extensions, a comparable index reflecting changes in the cost of construction determined in a similar manner, shall be chosen by agreement of both parties.

**JOB SITE:** Worksites will be identified and assigned by the Awarding Authority. No additional compensation will be allowed for any unauthorized work performed outside these designated areas.

**TRAFFIC CONTROL/POLICE PROTECTION:** The Awarding Authority will be responsible for furnishing traffic control. To the extent possible the contractor will cooperate with the traffic plan to insure the safety of the jobsite(s) at all times.

**PAYMENT:** It is the intent of this contract that all approved invoices will be paid within thirty (30) days. Discounts may also be considered for early payment.

**GUARANTEE/WARRANTY:** All defective materials and/or substandard work shall be corrected or replaced immediately at the contractor's expense.

The contractor will not be held responsible for acts of nature or the actions of other parties which may result in a work defect.

**FAILURE TO EXECUTE CONTRACT:** Should the successful bidder fail to execute the contract and furnish the required services within a reasonable timeframe the Owner may determine that the bidder has abandoned the contract; thereupon the bid and acceptance shall be null and void. The bid deposit and bond(s), if any, shall be retained and collected as liquidated damages for the delay and expense caused by the abandonment of the contract.

**TERMINATION OF AGREEMENT:** The Awarding Authority may at any time during the term of the agreement elect to terminate the agreement if it is determined that the bidder has failed to maintain faithful conformance to these specifications. Contract infractions considered serious enough to discontinue the agreement will disqualify bidder from consideration for future bids of a similar nature.

**INQUIRIES:** Prospective, qualified and eligible bidders are encouraged to make reasonable inquiries that may be of assistance in the preparation of their bid. All inquiries must be submitted in writing at least one week prior to the published bid opening. If necessary, appropriate addenda may be issued.

Any alteration to, or proposed deviation from these specifications without the prior written consent of the Awarding Authority will constitute a cause for bid rejection. Modifications or amendments to these specifications will only be contemplated when a



qualified equivalent alternative is presented and accepted by the Awarding Authority prior to the bid.

**PROPOSAL:** Bidders are required to thoroughly examine these specifications and instructions pertaining to the goods, services and information requested. Failure to do so will be at the bidder's own risk. It is assumed that the bidder has made full investigation as to be fully informed as to the extent and character of the items requested and of the requirements of the specification.

Prospective bidders must complete all sections contained within this bid package, including pricing for all bid items required. Bid proposals lacking any stipulated requirements, information, or prices will be deemed incomplete and rejected as non-responsive.

**GENERAL CONDITIONS:** The Awarding Authority may make any such investigations as it deems necessary to determine the ability of a bidder to perform the work, and the bidder shall furnish all such information and data for this purpose, as required. Bids may be rejected if the evidence submitted by, or investigation of a bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the agreement and to complete the work contemplated, within a reasonable the time period.

No award will be made to any bidder who cannot satisfy the Owner that he or she has sufficient ability and experience in this specialized class of work and adequate capital, plant and personnel to enable him to prosecute and complete the work successfully and furnish contract equipment and/or materials as specified within the time named.

Material Safety Data Sheets (MSDS) must be submitted for all materials required under this contract.

Any reference to the masculine gender shall include the feminine gender where appropriate.

**SPECIAL CONDITIONS:** Contractor will be required to work closely, cooperatively and harmoniously with all authorized representatives of the Awarding Authority to develop a "best practices" work plan, which will include jobsite assessment and recommendations. The awarding authority will make the final determination regarding these matters upon which the contractor shall provide all specified services, equipment and materials as required by the awarding authority in a timely fashion.

Contractor performance is essential to the nature of this work. Should the contractor fail to satisfactorily carry out the obligations of the work contemplated herein, or provide the Awarding Authority with the equipment, products and/or services required within a reasonable timeframe, the Owner may at its option cancel this contract, replace the contractor and seek all available remedies as provided by law.

Contractor must not initiate any work, in any form, without an authorized notice to proceed.

The contractor shall hold the Awarding Authority harmless from liability of any nature or kind because of any copyrighted or uncopyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used under this bid, and agrees to defend, at his own expense, any and all actions brought against this Awarding Authority or himself because of the unauthorized use of such articles.

When previously established standards conflict with any special provision contained herein, the special provision shall govern.

**EMPLOYEE SAFETY TRAINING:** All employees to be employed at a worksite for construction, reconstruction, alteration, remodeling, repair, installation, demolition, maintenance or repair of any public work or any public building estimated to cost more than \$10,000.00 must have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) that is at least 10 hours in duration at the time the employee begins work.

INSURANCE REQUIREMENTS: The successful contractor will be required to provide the following minimum limits of liability insurance coverage.

| Damage | Bodily Injury<br>Liability | Property Damage<br>Liability |
|--------|----------------------------|------------------------------|
|--------|----------------------------|------------------------------|

1. WORKER'S COMPENSATION

Statutory coverage  
Coverage B

100/100/500

2. PRIMARY COVERAGE

Comprehensive General Liability including without limitations:

- (a) Operations
- (b) Independent contractors
- (c) Products/Completed Operations
- (d) Contractual liability

|                        |                        |
|------------------------|------------------------|
| \$1,000,000 per occur. | \$1,000,000 per occur. |
| \$1,000,000 per agg.   | \$1,000,000 per agg.   |

Automobile liability including owned, non-owned and hired vehicles

|                          |                          |
|--------------------------|--------------------------|
| \$1,000,000 per person   | \$1,000,000 per accident |
| \$1,000,000 per accident |                          |

3. UMBRELLA COVERAGE

A minimum limit of \$5,000,000 is required.

A completed, signed and conforming insurance certificate must be submitted prior to the commencement of this agreement. Updated certified certificates are also required throughout the life of the contract, including all extensions.

## QUANTITIES

The Awarding Authority understands and accepts that the materials referenced herein are highly specialized and require extraordinary preparatory measures in order to comply with the specifications. As a result, the successful contractor will only be required to mobilize, furnish and apply these material(s) when the Awarding Authority has a minimum quantity of 10,000 square yards of work available.

The activities outlined within these specifications are designed to supplement existing pavement maintenance programs. The work required will be provided on an as needed basis. Portions of the work may be subject to available funding. As a result, the overall composition of work generated under this contract can vary from year to year. An increase or decrease in the quantity for any item shall not be regarded as a cause for an increase or decrease in the price. The Awarding Authority reserves the right to increase or decrease the quantities of all items provided that the agreed minimum quantities as set forth above are met.

Bid unit/lump sum price(s), as submitted, must include furnishing all labor, materials, equipment, and tools, including mobilization, demobilization, storage and protection of materials, site clean-up and safety, not including police protection or flaggers, disposal of waste and surplus materials, restoration of damaged/disturbed areas, and all else incidental to the satisfactory completion of each item as provided or as otherwise noted.

## **Bid Proposal Form**

### **ITEM I Furnishing, Installing and Compacting RESTOR**

For furnishing all equipment, labor and material for the placement of an approved High Performance thin modified bituminous concrete (RESTOR) overlay material, in accordance with the attached specifications, consisting of 4.75 mm, 6.3mm or Superpave 9.5 mm hybrid asphalt mixtures:

4.75 mm Superpave Hybrid Asphalt Mixture \$ \_\_\_\_\_ Price Per Square Yard

6.30 mm Superpave Hybrid Asphalt Mixture\$ \_\_\_\_\_ Price Per Square Yard

9.50 mm Superpave Hybrid Asphalt Mixture\$ \_\_\_\_\_ Price Per Square Yard

### **ITEM II Application of Approved Emulsion(s) for Tack Coating, Filling Cracks, Preservative and/or Restorative Surface Treatments**

For furnishing all equipment, labor and material for the placement of an approved emulsion, in accordance with the attached specifications to be used as a tack coating material in conjunction with the RESTOR:

Tack Coat (applied) \$ \_\_\_\_\_ Price Per Square Yard

For furnishing all equipment and labor for the placement of a pre-approved emulsion, in accordance with the attached specifications to be used as a crack filler, preservative, or restorative surface treatment:

Crew Price (2 person crew) \$ \_\_\_\_\_ Price Per Day

Additional Crew Staffing (only as directed) \$ \_\_\_\_\_ Price Per Person/Per Day

For furnishing a pre-approved emulsion, in accordance with the attached specifications to be used as a crack filler, preservative or restorative surface material:

Emulsion \$ \_\_\_\_\_ Price Per Gallon