

DETAILED SPECIFICATIONS

1.0 DESCRIPTION

The Paver Placed Surface Treatment system shall consist of a warm polymer modified asphalt emulsion sprayed immediately preceding the application of a hot mix asphalt wearing course which forms a homogeneous well-textured and durable wearing surface that can be opened to traffic immediately on cooling. The nominal thickness of the layer shall be 5/8 inch, the maximum thickness of the mat shall not exceed 1 1/2 inches.

The wearing course system shall be placed in one pass by a single machine. This machine shall complete the operation by spraying the polymer modified asphalt emulsion and applying a hot mix asphalt overlay. The machine shall incorporate a receiving hopper, asphalt emulsion storage tank, variable width asphalt emulsion spray system and a variable width heated screed. The machine shall be capable of applying the Paver Placed Surface Treatment at 20 to 100 feet per minute, and actual application shall not be less than 30 feet per minute.

2.0 POLYMER MODIFIED ASPHALT EMULSION MATERIAL

The liquid material shall be a cationic, rapid setting, asphalt emulsion, NYS Item 702-4001 except as modified in DATA TABLE I - POLYMER MODIFIED ASPHALT EMULSION. The emulsion shall be obtained from a storage facility that has been approved by the Director, Materials Bureau, New York State Department of Transportation, within the current calendar year, prior to the start of work.

3.0 HOT MIX ASPHALT MATERIAL FOR WEARING COURSE

The wearing course shall be a plant mixed hot asphalt concrete and shall be a mixture of single size coarse aggregate, fine aggregate, mineral filler and asphalt cement. The single size coarse aggregate shall be nominal 1/4-inch for Type A mix, nominal 3/8-inch for Type B or nominal 1/2" for Type C mix, according to the gradation specifications in Data Table II. The hot mix asphalt concrete shall be obtained from a facility that has been approved by the Director, Materials Bureau, New York State Department of Transportation, within the current calendar year, prior to the start of work. The asphalt content of the mix shall be 4.8 - 5.3% by weight of the total mix and must be computed based on the actual job mix.

4.0 DESIGN, CERTIFICATIONS, AND DEMONSTRATIONS:

- a) PreConstruction Conference: For all In-Place projects, a preconstruction conference shall be held at least five days prior to site work to discuss mix designs, application procedures, maintenance and protection of traffic, public notification, scalar chain, and other operational issues.
- b) Prior to Construction: Sources of all materials shall be selected prior to the time the materials are required for use in the work. All materials shall be pre-tested in a qualified laboratory, as to their suitability for use in slurry. A job mix formula for the slurry mixture shall be prepared prior to construction. More specifically:
 - 1) The Contractor shall furnish to the Superintendent of Highways, prior to the start of work, a certified statement from the emulsion manufacturer giving analysis of the base asphalt used in the manufacture of the emulsion. The statement shall also certify that the material represented is a true Quick Set Emulsion, passing all above procedures.
 - 2) The Contractor shall furnish to the Superintendent of Highways, prior to the start of work, a certified testing data sheet from a qualified laboratory. The data sheet will show that their test methods and results on the emulsion and the aggregate, conform to the requirements of the specifications.

5.0 SURFACE PREPARATION

The following items will be performed by the contracting agency, unless otherwise directed.

- A. Manhole covers, water valves, catch basins, and other such drainage structures shall be clearly referenced for location and adjustment after the surfacing operation.
- B. Thermoplastic traffic markings shall be removed. All vegetation at the edge of pavement shall be removed. Abrading of existing pavement markings may be necessary. The method of abrading may include sand blasting, water blasting, grinding or other methods approved by the Jefferson County Highway Department. The price bid for pavement marking abrading shall include all labor, materials, and equipment required to abrade the existing pavement markings and to properly maintain and protect traffic.
- C. Pavement cracks and joints, greater than 1/4-inch wide, shall be cleaned and filled with an approved material prior to the surfacing operation.
- D. Before applying the Paver Placed Surface Treatment, serious surface irregularities shall be corrected. Wheel ruts greater than 1 inch in depth shall be filled prior to the re-surfacing operation.
- E. The pavement surface area to be overlaid shall be cleaned and made free of any debris that may hinder bonding of the overlay.
- F. Furnishes hauling of hot mix asphalt from plant to paving machine.

6.0 APPLICATION

Paver Placed Surface Treatment shall be placed on a dry or damp, but not on a wet, pavement surface. The pavement temperature shall not be less than 45°F and rising.

The polymer modified asphalt emulsion shall be applied by the asphalt emulsion spray system mounted on the self-priming paver. The spray system shall accurately, uniformly and continuously monitor the rate of application across the entire width to be overlaid.

The rate of spray shall be 0.2 +/- 0.05 gallons per square yard. The asphalt emulsion shall be applied at a temperature of 140°F – 180°F. No wheel or other part of the paving machine shall come into contact with the polymer modified asphalt emulsion before the hot mix asphalt wearing course is applied.

The hot asphalt concrete wearing course shall be delivered to the self-priming paver at a temperature of 315°F +/- 15°F. The application rate of the hot asphalt aggregate mixture shall be:

- Type A (nominal 1/4-inch) 50 +/- 10 pounds per square yard
- Type B (nominal 3/8-inch) 55 +/- 10 pounds per square yard
- Type C (nominal 1/2-inch) 60 +/- 10 pounds per square yard

The hot mix asphalt wearing course shall be spread over the polymer modified asphalt emulsion within seconds of the spray application. Where shape correction is necessary or the old surface is porous, the application rate of the emulsion and hot mix asphalt wearing course may need to be increased.

Compaction of the Paver Placed Surface Treatment shall be accomplished with a minimum of a steel wheeled, double drum roller of minimum dead weight of 10 tons before the material temperature has fallen below 180°F at mid-layer. Because of the speed of the paving machine, and if production is over 15,000 square yards per day, two steel-wheeled double drum rollers may be required.

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7.0 TRAFFIC

Traffic Control: Traffic Control shall be provided by the contracting Department in strict compliance with the provisions of the MUTCD. The new pavement surface may be opened to traffic when rolling is completed and proper cooling has taken place. In general, traffic can use the new surface at a distance of 300 feet behind the last roller.

8.0 VERIFICATION OF QUANTITIES AND TESTING

At the end of each working day or completed job site, a check shall be made to determine the quantities of polymer modified asphalt emulsion used. The check shall be made by means of the gauge on the self-priming paver or the unit used to transport the material. The total gallons of material sprayed shall be divided by the total square yards sprayed to determine yield per square yard.

The hot mix asphalt concrete spread rate shall be calculated by dividing the tonnage placed by the square yards covered to determine yield per square yard.

Samples of the hot mix asphalt shall be taken at a rate of 1 per 250 tons and tested for aggregate gradation and asphalt cement content. Samples of the polymer modified asphalt emulsion shall be taken once per tanker load or once per day.

At the conclusions of each day's production, a delivery ticket or invoice shall be completed by the Contractor and signed by a representative of the Contracting Agency.

Asphalt price adjustments shall be allowed for quantities actually placed, verified by delivery tickets. The pavement item shall be adjusted by the OGS formula provided in Item 200xh - 2 Asphalt Materials and Services. The emulsion item shall be adjusted by the OGS formula provided in Item 200xH - 3 Liquid Asphalt and Materials.

9.0 PERFORMANCE WARRANTY

The Contractor attests to the following warranty upon completion of the work and acceptance of final payment:

The Contractor hereby warrants that all workmanship and all materials furnished under this item shall comply fully with the requirements of these specifications. If at any time within two years after the date of the completion of the work, any unfaithful or defective work should appear, which in the opinion of the Superintendent is due to inferior materials or workmanship, the Contractor shall have thirty (30) days, after receiving written notification from the Superintendent, to correct, repair or replace the defective or inferior materials and / or workmanship at his or her expense to the satisfaction of the Superintendent. The guarantee shall be automatically extended to two years from the completion of any corrections, repairs or replacements of defective materials. The cost of inspections, samplings, or tests that reveal defective, inferior or inadequate materials or workmanship and any subsequent inspections, sampling or tests shall be paid by the Contractor.

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DATA TABLE I

POLYMER MODIFIED ASPHALT EMULSION

This material shall be cationic asphalt emulsion modified with an approved polymer, using either natural or synthetic latex. It shall be smooth and homogeneous and shall conform to the following requirements and be available on site at a temperature of not less than 140°F.

TEST	METHOD	MIN	MAX
Polymer Content (% mass of total residue)		3.0	-
Demulsibility, % by wt Residue	ASTM D244	40	-

DATA TABLE II

SINGLE SIZE COARSE AGGREGATE COMPONENT GRADATION

AASHTO STANDARD SIEVES		TOTAL % PASSING BY WT		
US	mm	TYPE A (1/4 inch)	TYPE B (3/8 inch)	TYPE C (1/2 inch)
3/4	19	-	-	100
1/2	12.5	-	100	85-100
3/8	9.5	100	85-100	25-50
1/4	6.3	85-100	0-15	0-15
4	4.75	25-50	0-3	0-3
8	2.36	0-3	0	0

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DATA TABLE III

COURSE AGGREGATE PROPERTIES

TESTS	METHOD	LIGHT MEDIUM TRAFFIC < 200 HEAVY VEH/DAY	HEAVY TRAFFIC > 200 HEAVY VEH/DAY
Los Angeles Abrasion Value, %	ASTM C131	<25	<20
Water Absorption, %	ASTM C127	<2	<2
Flatness index, %	NFP 18-561	<20	<15
Flatness coefficient (G/E) ¹	NFP 18-561	<1.58	<1.58
Crushing Ratio, %	Observation	100	100
Overall Cleanliness (% Pas #30)	ASTM C142	<2	<2
Resistance to Stripping ²	ASTM D3625	>95	>95

Note 1: Where “G” is the smallest square opening through which the particles can pass and “E” is the smallest slot through which the particles can pass.

Note 2: Anti-stripping agent may be required to provide acceptable values.

DATA TABLE IV

FINE AGGREGATE COMPONENT GRADATION

AASHTO STANDARD SIEVES		% PASSING BY WEIGHT
US	METRIC	TYPE A, B OR C
#4	4.75	100
#8	2.36	90-100
#16	1.18	60-80
#30	0.60	45-60
#50	0.30	30-40
#100	0.15	20-30
#200	0.075	15-25
Crushing ratio, % minimum (Observation)		100
Sand Equivalency, % minimum (ASTM D2419)		60

Mineral Filler, if required, may be Hydrated Lime, Fly Ash or Bag-house Fines
100% passing #100, 80% passing #200

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DATA TABLE V

COMBINED AGGREGATE GRADATIONS - DESIGN TARGET ENVELOPES

AASHTO STANDARD SIEVE SIZES		TOTAL % PASSING BY WT		
US	mm	TYPE A (1/4 inch)	TYPE B (3/8 inch)	TYPE C (1/2 inch)
3/4	19	-	-	100
1/2	12.5	-	100	85-100
3/8	9.5	100	85-100	70-90
1/4	6.3	85-100	30-50	30-50
4	4.75	40-60	24-40	24-40
8	2.36	21-32	21-32	21-32
#16	1.18	16-26	16-26	16-26
#30	0.60	12-20	12-20	12-20
#50	0.30	8-16	8-16	8-16
#100	0.15	5-10	5-10	5-10
#200	0.075	5-7	5-7	5-7
%PGB		4.9-5.3	4.8-5.2	4.8-5.2

Note: All aggregate percentages are based on the total weight of aggregate.

ASPHALT BINDER

Use the appropriate Performance Graded asphalt binder for the project geographical location and design traffic level.

MEASUREMENT

Work prescribed by this item will be measured by the square yard surface area. Square yard calculations will be based on dimensions determine from measurements of the actual area textured as authorized.

Pavement marking abrading shall be paid for by the linear foot, for areas authorized for abrading.

PAYMENT

The work performed as prescribed by this item, measured as provided under the MEASUREMENT will be paid for at the unit price bid per square yard. The asphalt emulsion (CRS-1 or approved substitute) shall be eligible for Asphalt Price Adjustment as provided in Item 3, Liquid Asphalt Materials, The hot mix asphalt material shall be eligible for Asphalt Price Adjustment as provided in Item 2, Hot Mix Asphalt. Measurement and payment will be limited to the longitudinal length and width of which there is a definite texture present.

The price bid per square yard shall include all labor, materials, equipment, all testing, labor, fuel and necessary supplies for surface treating various public highways in accordance with the attached specifications.

The price bid for pavement marking abrading shall include all labor, materials, and equipment required to abrade the existing pavement markings and to properly maintain and protect traffic.

BID FORM

COMPANY NAME: _____

PAVER PLACED SURFACE TREATMENT

The undersigned bidder has carefully examined the specifications for Paver Placed Surface Treatment and agrees to furnish and supply all the materials, equipment, tools and labor necessary to properly install the product requested, in strict conformance with the detailed specifications attached. No deviations, amendments or alternative methods of application or installation of the product or specifications will be considered.

Bidders are requested to submit prices per square yard for the Three (3) types listed. The square yard range is for total square yards constructed on any single project or work site.

Payments shall be made for requested services or materials measured in Customary US units.

<u>SQUARE YARD RANGE</u> per project or site	Type A <u>1/4 inch</u>	Type B <u>3/8 inch</u>	Type C <u>1/2 inch</u>
5,000 to 15,000 S.Y.	\$ _____	\$ _____	\$ _____
15,001 to 30,000 S.Y.	\$ _____	\$ _____	\$ _____
30,001 S.Y. Plus	\$ _____	\$ _____	\$ _____

Abrading existing pavement markings \$ _____ /linear foot

Attached Bid Checklist, Signature/Non-Collusive Page, and Iran Notice must be signed to complete the bid.

BID CHECKLIST

The documents required to complete this bid are indicated below.

(X) Insurance Certificates See Exhibit A, Pages F-G

(X) Iran Notice See Pages 10i – 10j

_____ We have reviewed and have submitted the items required under the Mandatory Submission Requirements.

_____ The Bid Page(s), Signature/Non-Collusive Page, and Iran Notice are completed and included.

_____ Deviations are noted and explained.

_____ Insurance Certificates are enclosed if required.

WAIVER OF IMMUNITY/NON-COLLUSIVE BIDDING CERTIFICATE PURSUANT TO SECTION 103-D OF THE NEW YORK STATE GENERAL MUNICIPAL LAW

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organizations, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.
2. Unless otherwise required by law, the prices which have been quoted in this bid have not knowingly been disclosed by the bidder and will not knowingly be disclosed by the bidder, directly or indirectly, prior to opening, to any bidder or to any competitor.
3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

A bid shall not be considered for award nor shall any award be made where 1,2, and 3 above have not been complied with; provided, however, that in any case the bidder cannot make to foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons thereof. Where 1, 2, and 3 above have not been complied with, the bid shall not be considered for any award nor shall any award be made unless the head of the Purchasing Unit to the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customer of proposed or pending publications of new or revised price lists for such items, or has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of paragraph "A" above.

B. Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, local law, and where such bid contains the certification referred to in paragraph "A" of this section, shall be deemed to have been authorized by the Board of Directors of the bidder, and such authorization shall be deemed to include the submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

SIGNATURE PAGE ON REVERSE MUST BE SIGNED TO COMPLETE THE BID.

SIGNATURE PAGE

The undersigned proposes to furnish products or services to specifications included in this bid document, at the price(s) set forth, as required to meet the County's needs. Any deviation to the specifications must be noted on the bid form and fully explained or the deviations will not be considered part of the bid.

Deviations: Yes _____ No _____

By signing below I am certifying that I fully understand the complete requirements of the bid and agree to the non-collusive certification on the reverse of this page and additional documents as specified on the bid checklist. Bidder hereby acknowledges receipt of all addenda pertaining to this bid which are made part of the original bid specifications.

_____ COMPANY NAME

_____ ADDRESS (Principal Office)

_____ CITY, STATE, ZIP CODE

_____ AREA CODE/TELEPHONE NUMBER

_____ FAX NUMBER

_____ AUTHORIZED SIGNATURE

_____ PRINTED NAME

_____ TITLE

_____ DATE

_____ ADDRESS (Local Office)

_____ CITY, STATE, ZIP CODE

_____ AREA CODE/TELEPHONE NUMBER

_____ FAX NUMBER

_____ E-MAIL ADDRESS

Check One: Corporation _____ Partnership _____ Individual _____

Incorporated under the laws of the State of: _____

Federal Identification # _____

State if authorized to do business in the State of New York: Yes _____ No _____

Names and Addresses of Partners:

Iranian Energy Sector Divestment

Contractor hereby represents that said Contractor is in compliance with New York State General Municipal Law Section 103-g entitled “Iranian Energy Sector Divestment”, in that said Contractor has not:

- a. Provided goods and services of \$20 Million or more in the energy sector of Iran including but not limited to the provision of oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran; or
- b. Acted as a financial institution and extended \$20 Million or more in credit to another person for forty-five days or more, if that person’s intent was to use the credit to provide goods or services in the energy sector in Iran.

Any Contractor who has undertaken any of the above and is identified on a list created pursuant to Section 165-a (3)(b) of the New York State Finance Law as a person engaging in investment activities in Iran, shall not be deemed a responsible Bidder pursuant to Section 103 of the New York State General Municipal Law.

Except as otherwise specifically provided herein, every Contractor submitting a bid in response to this Request for Bids must certify and affirm the following under penalties of perjury:

- a. “By submission of this bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each Bidder is not on the list created pursuant to NYS Finance Law Section 165-a (3)(b).”

Jefferson County will accept this statement electronically in accordance with the provisions of Section 103 of the General Municipal Law.

Except as otherwise specifically provided herein, any Bid that is submitted without having complied with subdivision (a) above, shall not be considered for award. In any case where the Bidder cannot make the certification as set forth in subdivision (a) above, the Bidder shall so state and shall furnish with the bid a signed statement setting forth in detail the reasons therefore. The County reserves its rights, in accordance with General Municipal Law Section 103-g to award the Bid to any Bidder who cannot make certification, on a case-by-case basis under the following circumstances.

1. The investment activities in Iran were made before April 12, 2012, the investment activities in Iran have not been expanded or renewed after April 12, 2012, and the Bidder has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
2. The County of Jefferson has made a determination that the goods or services are necessary for the County to perform its functions and that, absent such an exemption, the County of Jefferson would be unable to obtain the goods or services for which the Bid is offered. Such a determination shall be made by the County in writing and shall be a public document.

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Attachment
Certification Pursuant to Section 103-g
of the New York State
General Municipal Law

- A. By submission of this bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each Bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the New York State Finance Law.
- B. A Bid shall not be considered for award, nor shall any award be made where the condition set forth in Paragraph A above has not been complied with; provided, however, that in any case the Bidder cannot make the foregoing certification set forth in Paragraph A above, the Bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where Paragraph A above cannot be complied with, the Purchasing Unit to the political subdivision, public department, agency or official thereof to whom the bid is made, or his designee, may award a bid, on a case by case basis under the following circumstances:
1. The investment activities in Iran were made before April 12, 2012, the investment activities in Iran have not been expanded or renewed after April 12, 2012, and the Bidder has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
 2. The political subdivision makes a determination that the goods or services are necessary for the political subdivision to perform its functions and that, absent such an exemption, the political subdivision would be unable to obtain the goods and services for which the contract is offered. Such a determination shall be made in writing and shall be a public document.

Signature

Title

Date

Company Name