

#2021h-3e - ASPHALT SURFACE RECYCLING
OF EXISTING PAVED SURFACES (HEAT PLANING)

DETAILED SPECIFICATIONS

1.0 DESCRIPTION

This item shall be part of a multi-step process of asphalt surface rehabilitation consisting of softening the existing flexible pavement with heat and thoroughly stirring, spinning or tumbling the mixture; applying an asphalt plasticizing or rejuvenating agent; and reshaping and compacting the scarified surface in preparation for installation a surface treatment or overlay.

2.0 EQUIPMENT REQUIREMENTS

The equipment for this operation shall consist of a "train" of equipment with the following elements: Preheater; Heater-Scarifier; Scarifying unit; Spraying Unit; Miller / Remixer Unit; Screed and initial Compactor unit. The design and function of each unit is described below.

A. Preheater: The preheating machine shall be one self-contained machine specifically designed to heat the upper layers of the existing asphaltic pavements. The preheating machine shall be a self-propelled and completely self-contained unit capable of operating at speeds from ten (10') feet to twenty-five (25') feet per minute while uniformly heating the existing surface of the asphalt.

The heating unit shall consist of multi-rows of burners of a type specifically designed for and capable of producing 48 million BTUH; LPG will be used for the heating fuel in compliance with the standards of the State=s Air Pollution Control Laws. The BTUH production rate is based upon heating twelve (12') feet wide. Burners shall be located on the front of the heater boxes spaced no more than ten (10") inches apart to achieve proper heat penetration at the required temperature while causing no injury due to overheating the asphaltic surface.

The entire burner assembly shall be designed so that it may be raised or lowered by a single control and capable of articulation. The burner assembly shall be adjustable in width from eight (8') feet to fourteen (14') feet. The entire heating unit shall be enclosed and vented to contain the heat and prevent damage to plant material or any structures along the roadway. Each unit shall be equipped with an on board 500 gallon water system to be used to adequately reduce the temperature of the exhaust in the venting system thereby preventing desiccation of trees and shrubs by evapotranspiration due to high heat. Hand hoses with adjustable nozzles will be placed on each unit to allow for prewetting of specific plants or objects.

B. Heater-Scarifier: The heater-scarifier machine shall be one self-contained machine specifically designed to reprocess upper layers of existing asphalt pavements. The heater-scarifier machine shall be a self-propelled and completely self-contained unit capable of operating at speeds of ten (10') to twenty-five (25') feet per minute while uniformly heating, scarifying, applying rejuvenator, mixing, and screeding the existing pavement to a minimum depth of one (1") to one and one-half (1-1/2") inches at a minimum temperature of 250 degrees Fahrenheit. The wheel base shall not be less than eighteen (18') feet and the total weight shall not be less than 35,000 pounds.

The heating unit shall consist of multi-rows of burners of a type specifically designed for and capable of producing 48 million BTUH; LPG will be used for the heating fuel in compliance with the standards the State=s Air Pollution Control Laws. The BTUH production rate is based upon heating twelve (12') feet wide. Burners shall be located on the front of the heater boxes spaced no more than ten (10") inches apart to achieve proper heat penetration at the required temperature while causing no injury due to overheating the asphaltic surface.

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The entire burner assembly shall be so designed so that it may be raised or lowered by a single control and capable of articulation. The burner assembly shall be adjustable in width from eight (8') feet to fourteen (14') feet. The entire heating unit shall be enclosed and vented to contain the heat and prevent damage to plant material or any structures along the roadway.

All equipment shall conform to Federal, State and local DOT and Fire Marshall Regulations, and laws relative to the transportation of LPG.

C. Scarifying Unit: The scarifying unit consists of no less than two rows of spring loaded, carbide tip teeth adjustable in width from eight (8') to fourteen (14') feet in increments to one (1") inch and construction in one (1') foot sections to conform to the pavement contour to insure penetration of the teeth and prevent damage to utility structures.

D. Spraying Unit: Immediately behind the teeth of the scarifying unit, an application of a polymer modified rejuvenator shall be applied to the newly remixed area. Nozzle size on the spray bar and pump shall be a combination that will deliver the approved rate of application according to the forward speed of the machine in conjunction with discretion of Highway Superintendent. The tank on the machine shall be heated, and the heating unit on the storage tank for rejuvenator shall be thermostatically controlled to maintain an even specified temperature.

In addition to the above, it will be required that the spraying unit on the machine be equipped with an electronic, digital measuring system (computer) to constantly monitor the quantity of rejuvenating agent being applied. This device will be calibrated to show gallons used to the nearest tenth.

E. Mill/Remixer Unit: Immediately following the application of the recycling agent, a dual-drum enclosed mill shall mill the heated asphalt to the depth of the heat thoroughly mixing the rejuvenating agent with the scarified and milled material. This mill/remixer system shall be an integral part of the scarifying machine and shall be located between the spraying system, which applies the rejuvenator, and the screed. This mill/remixer system shall be fully hydraulically operated and shall be able to work at variable speeds from 0 to 60 rpm, and shall be retractable from 14.6 ft. to 8.6 ft. wide. This mill shall also be able to break in the center to allow for quarter point and crown control.

No heater scarification can take place without this unit present and in operating condition.

F. Screed and Initial Compaction Unit:

1. Screed: The hot Scarified material shall be uniformly distributed to the desired longitudinal and transverse section by the use of a heated, augered screed. The screed must be equipped with an adjustable crown control, and each end of the screed must have handwheel adjusting screws for providing the desired longitudinal and transverse section.
2. Compaction Unit: Immediate compaction shall take place with rolling equipment of sufficient type and size to compact the recycled bituminous material to the required density. Normally this can be accomplished with the application of an eight (8) to twelve (12) ton vibratory roller. State specifications for bituminous concrete surfaces shall apply.

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3.0 CONSTRUCTION REQUIREMENTS

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. Pavement Preparation: The entire area to be resurfaced shall be cleaned of all deleterious material. If required, the owner shall broom clean the area prior to commencement of work or specify that the contractor do the same. The Owner is required to provide traffic control.

C: Heating, Scarifying, Leveling and Rejuvenation: The existing asphaltic material shall be heated, scarified and mixed to a minimum depth of one inch. Under no circumstances shall the scarifying teeth penetrate into the existing base.

The heated polymer modified rejuvenator shall be applied immediately following the scarifying teeth. The polymer modified rejuvenator is specifically formulated for use with the hot in-place recycling, and therefore, shall not be substituted.

The hot scarified material shall then be mill/remixed immediately following the application of the recycling agent to eliminate premature compaction of the hot recycled asphalt resulting in final differential compaction and to the desired longitudinal and transverse section by the use of an attached, heated, augured screed. Directly behind the screed process shall be an 8 to 12 ton roller for compaction

D. Overlay: The application of the final wearing surface consisting of hot mix asphalt pavements, nova-chip, micro-paving, or chip seals follow after a prescribed interval or delay. These materials are applied with conventional equipment in conformance with standard construction methods. NOTE: Surface treatment not included in unit price (work to be done by others).

At all manholes, valve boxes, etc., the finished grade of the heater-scarifying process shall be transitioned to blend into the existing grade.

4.0 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.

5.0 METHOD OF MEASUREMENT

Asphalt recycling performed and application of rejuvenating agent shall be measured by the square yard.

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6.0 BASIS OF PAYMENT

Prices shall include all labor, equipment, materials, fuels, supplies, rejuvenating agent, mobilization, bond and insurance required to complete the above item. Payment for the heater, scarifying, screeding and application of rejuvenating agent will be made at the price bid per square yard. Price bid will include traffic control.

Rejuvenating Agent (RA-5; or RA-25 or approved substitute) shall be eligible for Asphalt Price Adjustment as provided in Item 3, Liquid Asphalt Materials.

Payment shall be made for completing this item according to plans and specifications under the following items:

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
Item A	Asphalt Surface Recycling with Roller, Operator & Traffic Control	Per Square Yard

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SPECIFICATIONS FOR EMULSIFIED RECYCLING AGENTS

These specifications cover emulsified recycling agents to be used in cold mix recycling or hot in-place recycling. The final acceptance of these materials shall be based on their performance to (a) restore the aged asphalt characteristics to a consistency level appropriate for construction purposes, (b) restore the aged asphalt to its optimal chemical characteristics for durability, (c) provide sufficient additional binder to coat new aggregate that is added to the recycled mixture, and (d) provide sufficient additional binder to satisfy mixture design requirements.

Note: All samples shall be shipped and stored in clean, airtight, sealed wide mouth jars or bottles made of plastic. The specific gravity of the emulsified recycling agent shall be reported for each shipment. The rejuvenating agent for hot in-place asphalt recycling shall be Koch Pavement Solutions product ERA-25P or approved equivalent.

TEST	ASTM		MIN.	MAX	ERA-5 ERA-25P	
	METHOD				MIN.	MAX
Viscosity, Saybold Furol @ 25 C, sec.	D244	15	85	15	85	
Storage Stability Test, 1 Day	D244	-	1.0	-	1.0	
Sieve Test, Retained on No. 20 Sieve Percent	D244	-	0.1	-	0.1	
Cement Mixing, Test Percent	D244	-	2.0	-	2.0	
Residue by Evaporation Percent	D244	65	-	65	-	
Tests on Residue Viscosity @ 60 C cst	D2170		200	800	1000	5000
Torsional Recovery			20	-		
Base Recycling Agent (ie. Prior) to emulsification	D4552		RA-5	RA-25		

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BID FORM

COMPANY NAME: _____

**ASPHALT SURFACE RECYCLING OF EXISTING PAVED SURFACES
HEAT PLANING**

Item #	Description	Price	Unit
Item A	Asphalt Surface Recycling with Roller, Operator & Traffic Control	\$ _____	per SY

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

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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 8h-8i
- ___ 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 (c) 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.

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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:

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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