

**BITUMINOUS SURFACE TREATMENTS, CRACK  
SEALING, HOT IN-PLACE ASPHALT RECYCLING**

**NAUGATUCK, CONNECTICUT**

**Contract No. 15-24**

**CONTRACT DOCUMENTS**

**PREPARED BY THE  
BOROUGH OF NAUGATUCK  
CONNECTICUT**

**August 2015**



# **BOROUGH OF NAUGATUCK**

## **INVITATION TO BID**

### **Borough of Naugatuck**

Sealed bids will be received by the Purchasing Agent, Town Hall, 229 Church Street, Naugatuck, CT 06770 on or before Monday, August 31, 2015 at 11:00 A.M. for supplying the Borough of Naugatuck with the following projects:

### **Contract No. 15-24; Bituminous Surface Treatments, Crack Sealing, Hot In-Place Asphalt Recycling**

The Contract Documents may be examined at the Office of the Purchasing Agent, Town Hall, 229 Church Street, Naugatuck, CT 06770.

Copies of the specifications may be obtained at the Office of the Purchasing Agent upon submission of a non-refundable plan deposit in the form of a check or money order payable to the Borough of Naugatuck in the amount of **\$50.00** per set. Specifications can also be obtained at no cost from the Borough of Naugatuck web site <http://www.naugatuck-ct.gov> All firms obtaining plans and specifications must submit contact information by e-mail to [whozer@naugatuck-ct.gov](mailto:whozer@naugatuck-ct.gov) Contact information must be submitted three days in advance of the bid opening to be considered.

Addenda if required shall be posted on the <http://www.naugatuck-ct.gov> web site. It is the bidder's responsibility to check the Town web site in advance of the bid opening to determine if any addenda have been issued.

The Borough of Naugatuck reserves the right to waive any informalities or to reject any or all bids.

No Bidder may withdraw his bid within (90) days after the actual date of the opening thereof.

## **SPECIFICATIONS**

### **STANDARD SPECIFICATIONS**

The material and construction methods for the work specified in this contract shall conform with the applicable provisions of the State of Connecticut, Department of Transportation specifications entitled “*STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION*”, Form 816, 2004, as revised by the Supplemental Specifications to date (otherwise referred to collectively as “ConnDOT form 816”) unless modified by the Special Provisions contained herein. “ConnDOT form 816” is hereby made part of this contract. Form 816 may be purchased from:

Connecticut Department of Transportation  
Manager of Contracts  
2800 Berlin Turnpike, Newington, Connecticut 06111

All references to Commissioner, Department, Engineer, and State anywhere within the Form 816 shall be interpreted to mean the Borough of Naugatuck or a duly authorized agent of the Borough. Any questions or ambiguity regarding any definitions shall be brought to the immediate attention of the Borough.

## INDEX TO CONTRACT DOCUMENTS

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**SECTION A**  
**INFORMATION FOR BIDDERS**

**SECTION A**

**INFORMATION FOR BIDDERS**

**Borough of Naugatuck**

**Contract No. 15-24; Bituminous Surface Treatments, Crack Sealing, Hot In-Place Asphalt Recycling**

1. Proposals Received

Sealed proposals for the Bituminous Surface Treatments, Crack Sealing, Hot In-Place Asphalt Recycling will be received by the Purchasing Office, Borough of Naugatuck, 229 Church Street, Naugatuck, CT 06770 until Monday, August 31, 2015 at 11:00 A.M. local time. Immediately following the bids will be publicly opened and read aloud.

2. Location and Description of Work

These specifications will provide a basis for the furnishing of all materials, equipment, labor, transportation, testing and other goods and services necessary to complete the following items:

Crack Sealing  
Micro-Surfacing  
Quick Set Slurry Seal  
Chip Seal  
Hot In-Place Asphalt Recycling

3. None

4. Plans and Specifications

Copies of the Specifications may be seen and obtained at the Purchasing Office, Borough of Naugatuck, 229 Church Street, Naugatuck, CT 06770

The construction contract for the **Contract No. 15-24; Bituminous Surface Treatments, Crack Sealing, Hot In-Place Asphalt Recycling**, will be entered into by the successful bidder and the Borough of Naugatuck. The State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 816, 2004 along with supplemental specifications contained herein will detail the general requirements for materials, methods of installation, measurement and basis of payment to be required in this project. Any references to the State of Connecticut, the Department, the commissioner, Engineer, or other terms indicating the State of Connecticut and her agents as party to the contract shall for this project mean the Borough of Naugatuck and her designated agents or employees.

Where insurance is required to be carried in the name of the State of Connecticut and the State of Connecticut is to be held harmless, this shall be done in the name of the Borough of Naugatuck and the Borough of Naugatuck shall be held harmless.

All requirements for material testing, certificates of the compliance, or material certifications shall be done as if this were a contract being entered into with the State of Connecticut.

It is the intent of this contract to maintain all standard requirements of Form 816 without attempting to redefine every term within the 816 to the Borough of Naugatuck.

The bidder shall, therefore, be aware that the Borough of Naugatuck and her agents shall inspect and administrate this contract, make contract interpretations, determine the acceptability of the work and approve requests for payments. The Contractor shall be responsible for the requirements stated in Form 816 and in the construction drawings.

#### 5. Addenda and Interpretations

No interpretations of the meaning of the Specifications, or other pre-bid documents will be made to any Bidder orally.

Every request for such interpretation shall be in writing, addressed to Mr. James Stewart, P.E., Borough of Naugatuck, Department of Public Works Office, 246 Rubber Ave. Naugatuck, CT 06770. To be given consideration, such requests must be received at least six (6) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications, which, if issued, will be mailed by certified mail with return receipt requested to all prospective Bidders, at the respective address furnished for such purposes, not later than four (4) days prior to the date fixed for the opening of bids. Failure of any Bidder to receive any such addendum or interpretations shall not relieve such Bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

#### 6. Familiarity of the Work

Each Bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the work as set forth in the Contract Documents. No allowance will be made to a Bidder because of lack of such examination or knowledge. The submission of a bid will be considered as conclusive evidence that the Bidder has made such examination.

The Owner assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project.

The Contractor agrees that he shall make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concessions, because of any interpretations or misunderstanding on his part of this Contract, or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

#### 7. None

#### 8. Estimate of Work

For bidding purposes, the work has been subdivided into unit price items. The quantities shown below are to be considered as approximate only. The Inspector does not expressly or by implication agree that the actual quantity(ies) will

correspond therewith, but reserves the right to increase or decrease the amount of any Item or portion of the work as may be deemed necessary.

#### 9. Qualification of Bidders

A Bidder shall be a contractor who is experienced in the construction of the projects of this type. The proposal shall contain adequate proof of the qualifications of the Bidder to perform, in a satisfactory manner and within the time specified, all the work covered by the Plans and Specifications. This proof shall be fully recorded on the pages titled "References", which shall become part of the Proposal.

#### 10. Disqualification of Bidders

More than one proposal from an individual, firm, partnership, corporation, or an association under the same, or different, names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Any or all proposals in which such Bidder is interested will be rejected if there is reason for believing that collusion exists among the Bidders; and all participants in such collusion will not be considered in future proposals for the same work. Proposals in which the prices are obviously unbalanced may be rejected. No Contract will be awarded except to competent Bidders capable of performing the class or work contemplated.

#### 11. Preparation of Proposals

The Proposal must be made upon the forms contained herein. The blank spaces in the Proposals must be filled in correctly where indicated. The Bidder must state, both in words and in numerals, written or printed in ink, the prices for which he proposes to do each Item of the work contemplated. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing, or printing, and shall not be used. The Bidder shall sign his Proposal correctly. If an individual makes the Proposal, his name and post office address must be shown. If made by a firm, partnership, or corporation, the Proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and must show the post office address of the firm, partnership, or corporation.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, this address, and name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to: Purchasing Office, Borough of Naugatuck, City Hall, 229 Church Street,

Naugatuck, CT 06770.

#### 12. Irregular Proposals

The Borough of Naugatuck reserves the right to reject any proposals if they show any omission, alteration of form, additions not called for, conditional bids, or irregularities of any kind.

#### 13. Proposal Guarantee

No proposal will be considered unless accompanied by a certified check in U.S. dollars, or bid bond using an insurance company licensed to do business in the State of Connecticut in an amount equal to at least Five thousand dollars payable to the order of the Borough of Naugatuck, said check or bid bond to be returned



to the Bidder unless forfeited as hereinafter stipulated. Such checks or bid bonds will be returned to all bidders within five (5) days after the execution of the Contract and the furnishing of the required security by the successful Bidder.

#### 14. Withdrawal of Proposals

If a Bidder wishes to withdraw his Proposal, he may do so before the time fixed for the opening of bids by communicating his purpose to the office of the Mayor. Upon such notice, the Proposal will be handed to him unopened.

#### 15. Execution of Contract

The party to whom the Contract is awarded, or his authorized representative, will be required to attend at the office of the Mayor, Borough of Naugatuck, with the sureties offered by him, or them, and a current certificate of Corporate good standing issued by the Office of the Secretary of State in which the corporation is incorporated, and execute the Contract within five (5) days from the date of the award. If the party entering into this contract is a corporation, a Corporate Resolution duly executed by the president and Secretary of the Corporation authorizing the Corporation to enter into this Contract shall be provided. In case of his failure or neglect to do so, the Owner may, at its opinion, determine that the Bidder has abandoned the Contract and thereupon the Proposal and acceptance shall be null and void, and bid security accompanying the Proposal shall be forfeited as liquidated damages to the Owner. If the party entering into this contract is a partnership, a partnership resolution duly executed by a majority of the general partners authorizing the partnership to enter into this contract shall be provided.

#### 16. Bonds

The successful Bidder, at the time of the execution of the Contract, shall furnish a Performance Bond in an amount at least equal to one hundred percent (100%) of the Contract prices as security for the faithful performance of this Contract and also a Payment bond in an amount not less than one hundred percent (100%) for the Contract prices as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract. All Bonds shall be in the forms prescribed by Law or Regulation and be acceptable to the Owner. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Connecticut. Bidder shall provide evidence that Surety Company is licensed to conduct business in the State of Connecticut. All sureties shall be in full force throughout the guarantee period and until the retainage is released.

#### 17. None

#### 18. Responsibility of the Contractor

Attention is hereby particularly directed to the provisions of the Contract and Specifications whereby the Contractor shall be responsible for any loss or damage that may happen in the work, or any part thereof, during its progress and also whereby the Contractor shall make good any defects for faults that may occur within one (1) year after date of final estimate. He shall indemnify and save harmless the Owner and Engineer from any damages or costs to which they may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performance of the work under this Contract.

#### 19. Insurance

Before execution of the Contract, the Bidder will be required to file with the Borough of Naugatuck a certificate of insurance. The certificate, executed by an insurance company satisfactory to the Borough of Naugatuck shall name the Borough of Naugatuck and the State as additional insured parties on the form furnished with these specifications. The "Certificate of Insurance" shall state that at a minimum, with respect to the contract, the bidder carries insurance in accordance with the requirements and stipulations listed below.

Unless requested otherwise by the Borough of Naugatuck, the Bidder and its insurer shall not assert the defense of governmental immunity in the adjustment of claims or in the defense of any claim or suit brought against the Borough of Naugatuck and the State. The Bidder shall assume and pay all cost and billing for premiums and audit charges earned and payable under the required insurance.

A. Workmen's Compensation Insurance: With respect to all operations the Bidder performs and all those performed for it by subcontractors, the Bidder shall carry workmen's compensation insurance in accordance with the requirements and the laws of the State.

B. Contractor's Public Liability and Property Damage Insurance: With respect to the Project operations the Bidder performs and also those performed for it by subcontractors, the Bidder shall carry regular Contractor's Public Liability Insurance. The insurance shall provide coverage for each accident or occurrence in the amount of \$1,000,000 for all damages resulting from (1) bodily injury to, or death of, persons and/or (2) injury to or destruction of property. Subject to that limit per accident or occurrence, the policy shall provide a total or aggregate coverage of \$2,000,000 for all damages during the policy period.

C. Automobile Liability Insurance: The operation of all motor vehicles, including those hired or borrowed, used in connection with the project, shall be covered by Automobile Liability Insurance. The insurance shall provide coverage for each accident or occurrence in the amount of \$500,000 for all damages resulting from (1) bodily injury to, or death of, persons and/or (2) injury to or destruction of property. If an insurance policy shows an aggregate limit as part of the automobile liability coverage, the aggregate limit must be at least \$1,000,000.

D. With respect to the project operations the Bidder performs and also those performed for it by subcontractors, the Bidder shall carry for and on behalf of the Borough of Naugatuck, and State, insurance which shall provide coverage for each accident or occurrence in the amount of \$1,000,000 for all damages resulting from (1) bodily injury to or death of person and/or (2) injury to or destruction of property. Subject to that limit per accident or occurrence, the policy shall provide a total or aggregate coverage of \$2,000,000 for all damages during the policy period.

E. None

F. None

G. Termination or change of Insurance: Each insurance policy shall be endorsed to provide that the insurance company shall notify the Borough of Naugatuck by certified mail at least thirty (30) days in advance of termination, or any change in the policy. No such change shall be made without prior written approval of the appropriate Official.

H. Claims: Each insurance policy shall state that the insurance company shall agree to investigate and defend the Borough of Naugatuck and State against all

damages, even if groundless.

I. Compensation: There shall be no direct compensation allowed the Bidder on account of any premium or other charge necessary to take out and keep in effect all insurance or bonds, but the cost thereof shall be considered included in the general cost of the work.

## 20. Care and Protection of Property

The Contractor shall take particular care to avoid damages to all private property and to private improvements within the Boroughs' right of way. He shall make good any damages to the satisfaction of the Inspector. There shall be no additional compensation for the repair or restoration of private property, or private improvements, within the Boroughs' right of way.

## 21. Sales Tax

Certain materials and supplies incorporated in the work of this project are exempt from Connecticut Sales Tax. The Bidder shall familiarize himself with current regulations of the State Tax Department. The tax on materials or supplies exempted by such regulations shall not be included as part of the bid. The Owner will furnish the successful Bidder a sales tax exemption number.

## 22. Compliance with Federal and State Regulations

The Contractor shall be responsible for full compliance with any Federal and/or State laws, regulations and standards, as applicable to any project fully or partially funded by State and/or Federal funding agency. This project is funded, in part, by the State and Federal government.

## 23. Permits

All licenses and permits for complying with any applicable Federal, State, and Municipal laws, codes and regulations in connection with the prosecution of the work shall be obtained by the Contractor, at no additional cost to the Owner.

## 24. None

## 25. Contractor's Right to Terminate Work

If the work should be stopped under an order of any court or other public authority, for a consecutive period of not less than thirty (30) days, through no act or fault of the Contractor or of anyone employed by him, then the Contractor may terminate this Contract and recover from the Owner payment for all work executed.

## 26. None

## 27. Power of Attorney

Attorneys-in-fact who sign contract bonds must file, with each bond, a certified and effectively dated copy of their power of attorney.

## 28. Right to Reject

The Owner reserves the right to reject any or all proposals or to accept any bid, should it deem it to be in the best interest of the Owner

**SECTION B**  
**PROPOSAL**

**SECTION B**  
**PROPOSAL**

The undersigned, as Bidder, declares that no person or persons, other than those named herein, are interested in this Proposal; that this Proposal is made without collusion with any person, firm or corporation; that he has carefully examined the location of the proposed work, the proposed Form of Contract, and the Contract Drawings therein referred to; that no person or persons acting in any official capacity for the Owner is directly or indirectly interested therein or in any portion of the profit thereof; and that he proposes and agrees, if this Proposal is accepted, to execute the Form of Contract with the Owner; to provide all necessary equipment, tools, and other means of construction, and to do all work and furnish all materials specified in the Contract, in the manner and time therein prescribed, and according to the requirements of the Borough of Naugatuck Inspector as therein set forth, and that he will take in full payment therefore, the following unit prices and lump sums, to wit:

The Bidder acknowledges receipt of the following addenda:

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_

The undersigned agrees that he shall execute the Contract within the ten (10) days after the date of award, and shall commence work within the ten (10) days after date of the Notice to Proceed and shall progress therewith to its entire completion within the time stipulated in the Contract.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of ninety (90) days after the scheduled closing time for receiving bids.

If this Proposal shall be accepted by the Owner and the undersigned shall fail to contract as aforesaid, and to give bonds in a sum equal to one hundred percent (100%) of the Contract price, as determined by the canvass of bids, and with surety or sureties satisfactory to the Owner within ten (10) days from the date of the award, then the Owner may, at its option, determine that the Bidder has abandoned the Contract: thereupon, the Proposal and acceptance shall be null and void, and the bid security, for not less than five percent (5%) of the amount of the bid, accompanying this Proposal, shall become the property of the said Owner as liquidated damages for the delay and additional expense to the Owner caused thereby if said Proposal shall be rejected, or if said Proposal shall be accepted and the Bidder shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Proposal) and shall furnish a Bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Proposal, the accompanying bid security shall be returned to the undersigned making bid.

The undersigned is aware that the Borough of Naugatuck may reject any and all bids in whole or in part; that the Borough may waive technical defects, irregularities and omissions; that the award will be based on the combination of items that will best serve the interest of the Borough; that the bid price does not include any taxes for which the

Borough is not liable; and that acceptance of the bid will establish no exclusive contract by which the Borough of Naugatuck will be required to purchase from the undersigned.

The undersigned claims without reservation that his/her bid is made without collusion with any other person, individual or corporation.

Bid Item quantities for unit price bid items are not guaranteed. Final payment will be based on actual installed quantities. Items not specifically identified for payment in the Bid Form shall be assumed to be included in the work effort of other bid items and shall not be paid or requested for payment separately.

<b>BOROUGH OF NAUGATUCK</b>
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**RANDOM CRACK SEALING  
BID CALCULATION**

**Bidders shall submit Bids for both Price per pound and provide Bids per street location. Payment will be made using the Price per pound for areas not covered by the attached table.**

**Polyester reinforced Asphalt Crack Sealing - Installed per specification**

Item	Quantity	Bid Price per Pound
Polyester reinforced Asphalt Crack Sealing - Installed per specification	< 2,500 Pounds/Day	\$
	> 2,500 Pounds/Day	\$

**Alternate #1 Modified A/C Crack Seal with Fiber Compound**

The Borough of Naugatuck shall require the contractor to submit shop drawings and specifications to be approved prior to starting work.

Item	Quantity	Bid Price per Pound
Modified A/C Crack Seal with Fiber Compound - Installed per specification	< 2,500 Pounds/Day	\$
	> 2,500 Pounds/Day	\$

**Alternate #2 Connecticut Approved Rubberized Asphalt**

The Borough of Naugatuck shall require the contractor to submit shop drawings and specifications to be approved prior to starting work.

Item	Quantity	Bid Price per Pound
Connecticut Approved Rubberized Asphalt	< 2,500 Pounds/Day	\$
	> 2,500 Pounds/Day	\$

Asphalt price adjustment per exhibit #5 shall be applied only at submission of invoice. Base average terminal price is \$450.00 per ton. There shall be no adjustment for the work on the attached street table bid.

**Borough of Naugatuck  
Random Crack Sealing - Street Bid Sheet  
Contract 15-24**

Street	From	To	Feet	Width	SY	Rubberized Asphalt		Polyester Reinforced Asphalt		Modified A/C W/ Fiber Compound	
						\$ /SY	Bid \$	\$ /SY	Bid \$	\$ /SY	Bid \$
City Hill Street	Union Street	City Brook Road	3966	27	11,898						
Tyler Hill Road			1027.55	30	3,425						
Sierra Ridge Road			957.66	30	3,192						
Applewood	Wooster Street	Tyler Hill Road	1047	30	3,490						
<b>Total</b>					<b>22,005</b>						
Maple Hill Road	Prospect Street	May Street	3454	25	9,594						
Silver Beech Drive			1366.76	30	4,556						
Pond Valley Road			339	30	1,130						
Pinewood Crossing Noth			483.44	30	1,611						
Pinewood Crossing South			367.91	30	1,226						
Horton Hill Road			5995	30	19,983						
<b>Total</b>					<b>38,101</b>						
					-						
Fawn Meado Drive			2678.28	30	8,928						
Wild Cherry Drive			334	30	1,113						
Apple Blossom Drive			711.85	30	2,373						
<b>Total</b>					<b>12,414</b>						
Ash Road			950.77	28	2,958						
Heritage Drive			1945.12	29	6,268						
Wedgewood Drive			2668.58	28	8,302						
Pilgrim Lan			421.08	29	1,357						
Tanglewood Lane			1202.69	28	3,742						
Allen Street			680.09	28	2,116						
Bridle Trail Drive			778.18	30	2,594						
<b>Total</b>					<b>27,336</b>						
Brookside Avenue			1354.15	30	4,514						
Noth Circle			173	30	577						
South Circle			173	39	750						
Melbourne Street			2218	22	5,422						
Parkman Place			531.64	30	1,772						
<b>Total</b>					<b>13,034</b>						



BOROUGH OF NAUGATUCK

**RANDOM CRACK SEALING  
BID CALCULATION- CONTINUED**

Company Name \_\_\_\_\_

Corporate Seal

Address \_\_\_\_\_

\_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

**BOROUGH OF NAUGATUCK**

**QUICK SET SLURRY & MICROSURFACING  
BID CALCULATION**

The following quantities are for determining the lowest qualified bidder, but may not reflect actual quantities due to availability of funding. The total bid prices will be calculated by adding the sum of the following quantities, multiplied by the unit bid prices. Asphalt price adjustment per exhibit #4 shall be applied only at submission of invoice. Base average terminal price for Liquid Binder PG64-22 FOB is \$450 per ton for purpose of bid.

The Town has the right to increase, decrease or eliminate any quantities.

<b>Item #</b>	<b>Item</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Total</b>
1	Type II Micro-surfacing	225 Tons	\$ Ton	\$
2	Type III Micro-surfacing	50 ton	\$ Ton	\$
3	Type II Quick Set Slurry	50 ton	\$ Ton	\$
	Tack Coat, in Place	1,000 gallons	\$ Gallon	\$

Company Name \_\_\_\_\_

Corporate Seal

Address \_\_\_\_\_  
\_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

**BOROUGH OF NAUGATUCK**

**HOT IN-PLACE ASPHALT RECYCLING  
BID CALCULATION**

The following quantities are for determining the lowest qualified bidder, but may not reflect actual quantities due to availability of funding. The total bid prices will be calculated by adding the sum of the following quantities, multiplied by the unit bid prices.

The Town has the right to increase, decrease or eliminate any quantities.

<b>Item #</b>	<b>Item</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Total</b>
1	HOT IN-PLACE ASPHALT RECYCLING	10,000	\$ SY	\$

Company Name \_\_\_\_\_

Corporate Seal

Address \_\_\_\_\_  
\_\_\_\_\_

Email \_\_\_\_\_

Telephone \_\_\_\_\_ Fax No. \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

**SECTION C**  
**REFERENCES/QUALIFICATIONS**

**SECTION C**

**REFERENCES/QUALIFICATIONS**

The Bidder is required to fill out the following form to enable the Owner to make inquiries and judge as to the Bidder's experience, skill, available financial resources, credit, and business standing.

1. Number of years the bidder has been in business as a General Contractor: \_\_\_\_\_

2. Has the Bidder ever failed complete work awarded; and if so, state where and why:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Does the Bidder plan to sublet any part of this work; and if so, give details:

\_\_\_\_\_

\_\_\_\_\_

4. List equipment Bidder owns that is available for this project:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. List equipment the Bidder plans to rent or purchase for this project:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Major Material Supplier: \_\_\_\_\_

\_\_\_\_\_  
Bidder

**BOROUGH OF NAUGATUCK**

**CONTRACTOR'S QUALIFICATION SUMMARY**

The bidder is required to submit this summary with his bid in order that the Borough of Naugatuck may properly evaluate the qualifications of the Contractor. Failure to submit this summary in proper form will be cause of rejection of the bid. The Contractor is required to have successfully completed five projects in the last three years with an aggregate total of 500,000 square yards or 7,500 tons of material.

List projects below:

<b>Owner's Name</b>	<b>Year Completed</b>	<b>Project Number</b>	<b>S.Y. or Tons</b>	<b>Person to Contact Name/Telephone</b>

**VENDOR NAME:** \_\_\_\_\_

**BOROUGH OF NAUGATUCK**

**CONTRACTOR'S QUALIFICATION SUMMARY**  
**Random Crack Sealing**

The bidder is required to submit this summary with his bid in order that the Borough of Naugatuck may properly evaluate the qualifications of the Contractor. Failure to submit this summary in proper form will be cause of rejection of the bid. The Contractor is required to have successfully completed, with the specified material, six projects within the last three years totaling a minimum 500,000 pounds.

<b>Owners Name</b>	<b>Year Completed</b>	<b>Project Number</b>	<b>Quantity Applied</b>	<b>Person to Contact Name/Telephone</b>

**Vendor Name:** \_\_\_\_\_

# **SECTION D**

## **BID BOND /SURETY GUARANTY**



**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned:

as Principal, and \_\_\_\_\_ as Surety are held and firmly bound unto Borough of Naugatuck hereinafter called the "Owner", in the penal sum of \_\_\_\_\_ Dollars, (\$\_\_\_\_\_) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying BID, dated \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_

NOW THEREFORE, if the Principal shall not withdraw said Bid within the time period specified therein after the opening of the same, or within any extended time period agreed to by the Principal, Surety and Owner, or, if no period be specified, within ninety (90) days after the said opening, and shall within the period specified thereof, or if no period be specified, within twenty (20) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Owner in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; then the above obligation shall be null and void and of no effect, otherwise to remain in full force or virtue.

Failure to comply with the aforementioned condition shall result in the forfeiture of this BID BOND as liquidated damages.

IN WITNESS WHEREOF, the above-bounded parties have executed this Instrument under their several seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, the name and corporate seal of each corporate party being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

No extension of time or other modification of the BID BOND shall be valid unless agreed to in writing by the parties to this Bond.

**BID BOND**  
(Page 2 of 2)

In presence of:

\_\_\_\_\_

\_\_\_\_\_  
(Individual Principal)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_

\_\_\_\_\_  
(Individual Principal)

\_\_\_\_\_  
(Business Address)

Attest:

\_\_\_\_\_

\_\_\_\_\_  
(Corporate Principal)

\_\_\_\_\_  
(Business Address)

By:

\_\_\_\_\_  
Affix  
Corporate  
Seal

Attest:

\_\_\_\_\_

\_\_\_\_\_  
(Corporate Surety)

\_\_\_\_\_  
(Business Address)

By:

\_\_\_\_\_  
Affix  
Corporate  
Seal

Countersigned

By: \_\_\_\_\_

\* Attorney-in Fact, State of \_\_\_\_\_

\* Power-of Attorney for person signing for Surety Company must be attached to Bond.

**SURETY GUARANTY FORM**

(To accompany Proposal)

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of \$1.00, lawful money of the United States, the receipt whereof is hereby acknowledged, paid the undersigned corporation, and for other valuable consideration, the \_\_\_\_\_  
\_\_\_\_\_ a

(Name of Surety Company)

corporation organized and existing under the laws of the State of \_\_\_\_\_ and licensed to do business in the State of Connecticut, certifies and agrees, that if the Contract for the Traffic Signal Installation at Rubber Ave and Andrew Ave is awarded to \_\_\_\_\_, the undersigned corporation will execute the

(Name of Bidder)

bond or bonds as required by the Contract Documents and will become Surety in the full amount of the Contract Price for the faithful performance of the Contract and for payment of all persons supplying labor or furnishing materials in connection therewith.

\_\_\_\_\_  
(Surety)

(To be accompanied by the usual proof of authority of officers of Surety Company to execute the same.)

# **SECTION E**

## **CONTRACT AGREEMENT AND CERTIFICATE AS TO CORPORATE PRINCIPAL**

**CONTRACT AND AGREEMENT**

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_ in the year 201

,  
Between the Borough of Naugatuck, with its principal office and place of business at 229 Church Street, Connecticut 06770, acting herein through it's Mayor and

\_\_\_\_\_, a \_\_\_\_\_, with an office and place of business at \_\_\_\_\_, hereinafter called the contractor.

WITNESSETH: That the parties to this agreement in consideration of the undertakings, promises, and agreements on the part of the other herein contained, hereby undertake, promise, and agree as follows:

**I Definitions**

The word "Owner" as used herein shall mean the Borough of Naugatuck, acting through its properly authorized representatives.

The words "as directed", "as required", "as permitted", "as allowed", or phrases of like effect or import, used herein shall mean that the direction, requirement, permission, or allowance of the Borough of Naugatuck Inspector is intended and similarly the words "approved", "reasonable", "suitable", "proper", "satisfactory", or words of like effect or import, unless otherwise particular specified herein, shall mean approved, reasonable, suitable, proper, or satisfactory in the judgement of the Borough of Naugatuck Inspector.

The word "Contractor" shall mean \_\_\_\_\_ or it's duly authorized agents.

**II Contract Includes**

The indices, headings and subheadings are for convenience only and do not form a part of the Contract Documents.

The Contractor shall, at his own sole cost and expense, furnish all labor, materials, and other services necessary for the completion of this Contract and shall complete and finish the same in the most thorough, workmanlike, and substantial manner, in every respect, to the satisfaction and approval of the Borough of Naugatuck Inspector, in the manner and within the time hereinafter limited, and in strict accordance with the Advertisement, Information for Bidders, Proposal, General Requirements, Detailed Specifications, and Addenda hereto attached, and the Contract Drawings herein referred to, (collectively the "contract documents"), which contract documents are hereby made a part of this Contract as fully as if the same were repeated at length herein.

Addendum No. \_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_ Dated: \_\_\_\_\_

### III Specifications and Contract Drawings Supplementary

The said Specifications and Contract Drawings are intended to supplement each other, and together constitute one complete set of Specifications and Contract Drawings, so that any work exhibited in the one and not in the other shall be executed just as if it had been set forth in both, in order that the work shall be completed in every respect according to the complete design or designs as decided and determined by the Borough of Naugatuck Inspector. Should anything be omitted from the Specifications and Contract Drawings, the Contractor shall promptly notify the Borough of Naugatuck Inspector. From time to time during the progress of the work, the Borough of Naugatuck Inspector will furnish such supplementary or working drawings as are necessary to show changes or define the work in more detail, and these also shall be considered as Contract Drawings. When discrepancies exist between the Contract Drawings and Specifications, the Specifications shall govern.

### IV Modifications

The Contractor, in entering into this Contract, understands that the Owner reserves the right to modify, to the extent herein provided, the arrangement, character, grade, or size of the work or appurtenances whenever, in the Owner's opinion, it shall be deemed necessary or advisable to do so. Minor changes in the work, not involving extra cost and consistent with the purposes of the work, may be made by verbal order, but no modifications involving extra work or material changes shall be made unless ordered in writing by the Borough of Naugatuck Inspector; and if the modification requires additional cost, a purchase order must be issued prior to work commencing. The Contractor shall and will accept such modifications when ordered in writing by the Owner through the Borough of Naugatuck Inspector, and the same shall not vitiate or void this Contract.

Any such modifications so made shall not, however, subject the Contractor to increased expense without equitable compensation, which shall be determined by the Borough of Naugatuck Inspector. If such modifications result in a decrease in the cost of work involved, and equitable deduction from the Contract price, to be determined by the Borough of Naugatuck Inspector, shall be made. The Borough of Naugatuck Inspector's determination of such additional compensation, or of any such deduction, shall be based upon the unit prices in the Contractor's bid, unless the modification involves work not included in such bids and then in the event, the modification shall be as set forth in Section XXVIII prior to the commencement of additional work. In no event shall any modification in the work shown on the Plans and Specifications be made unless the nature and extent thereof has first been certified by the Borough of Naugatuck Inspector in writing and sent to the Contractor.

### V Correction of Errors and Omissions

The Plans and Specifications forming part of this Contract are intended to be explanatory of each other, but should any discrepancy appear, or misunderstanding arise, as to the import of anything contained in either, the explanation and decision of the Borough of Naugatuck Inspector shall be final and binding on the Contractor; and all directions and explanations required, to complete and make effective any of the provisions of the Contract and Specifications, shall be given by the Borough of Naugatuck Inspector. Corrections of errors and omissions in the Drawings or Specifications may be made by the Borough of Naugatuck Inspector when such corrections are necessary for the proper fulfillment of the Contract Documents as construed by the Borough of Naugatuck Inspector. The effect of such corrections shall date from the time that the Borough of Naugatuck Inspector gives due notice thereof to the Contractor.

## VI Borough of Naugatuck Inspector's Decision

All work under this Contract shall be done to the satisfaction of the Borough of Naugatuck Inspector, who shall determine the amount, quality, acceptability, and fitness of the several items of work and materials which are to be paid for hereunder. He also shall decide all questions which may arise as to the fulfillment of the terms of the Contract, Plans and Specifications. The determination of the Borough of Naugatuck Inspector in all such matters shall be final and binding upon the parties thereto.

## VII Inspection of Work

It is agreed that the Owner may, at its pleasure, appoint and employ, at its own expense, such persons as may be necessary, who are to act as Borough of Naugatuck Inspectors, inspections, or agents, for the purpose of determining, in the Borough's interest, that the materials furnished and the work done, as the work progresses, conforms to the requirements of the Contract Documents. Such persons shall have unrestricted access to all parts of the work and to other places at and where the preparation of the materials and other parts of the work to be done under this Contract are carried on and conducted. They shall be given, by the Contractor, all facilities and assistance required to carry out their work of inspection.

It is not the function of the Borough of Naugatuck Inspector to supervise or direct the manner in which the work to be done under this Contract is carried on or conducted. The Borough of Naugatuck Inspector is not responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents.

The Borough of Naugatuck Inspector shall have authority to reject and shall reject any work or material, or any part thereof, which does not, in his opinion, conform to the Contract Drawings, working drawings, Specifications, and Contract, and it shall be permissible for him to do so at any time during the progress of the work.

No work shall be done except in the presence of the Borough of Naugatuck Inspector or his assistants. No material of any kind shall be used upon the work until it has been inspected and accepted by the Borough of Naugatuck Inspector. Any materials or workmanship found at any time to be defective, or not of the quality or character required by the Contract Drawings and Specifications, shall be remedied at once regardless of previous inspection.

Such inspection shall not relieve the Contractor from any obligation to perform said work strictly in accordance with the Contract Drawings and Specifications, and work not so constructed shall be removed and made good by the Contractor at this own expense and free of all expense to the Owner, whenever so ordered by the Owner, without reference to any previous oversight or error in inspection.

## VIII Address of Contractor

The address in the Proposal, upon which this Contract is based, shall be the place. The delivering at the above-named place of any such notice, letter, or other communication where notices, letters or other communications to the Contractor may be mailed or delivered, from the Borough to the Contractor, the date of said service shall be the date of such delivery. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice,

letter, or other communication upon the Contractor personally.

#### IX Obligation of the Contractor

The Contractor shall, at his own expense, provide any and all manner of supervisor, insurance, taxes, labor, materials, apparatus, scaffolding, appliances, tools, machinery, power, transportation, and whatever else may be required of every description necessary to do and complete the work and shall be solely answerable for the same and for the safe, proper, and lawful construction, maintenance, and use thereof. The Contractor shall cover and protect the work from damage and shall make good all injury to the same occurring before completion of this Contract. The Contractor shall employ only competent workmen and shall provide experienced superintendents and foremen on each part of the work.

The Contractor shall, at its own expense, wherever necessary or required, maintain fences, provide watchmen, maintain lights, place additional timber and braces, and take such other precautions as may be necessary to protect life, property, and structures, vehicles and pedestrians and shall be liable for all damages, occasioned in any way by his act or neglect or that of this agent, employees, or workmen. He shall provide access at all times to private property.

#### X Occupational Safety and Health Act

The applicable sections of the Occupational Safety and Health Act of 1970 (Williams-Steiger Act) shall apply and be made a part of this Contract. The Contractor's attention is particularly directed to the record keeping requirements of this Act.

#### XI Nondiscrimination in Employment

The Contractor agrees and warrants that, in the performance of this Contract, he will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, sex, religion, or national origin in any manner prohibited by State, Federal, County or Municipal law.

#### XII Personal Attention and Competent Workmen

The Contractor shall give his personal attention constantly to the faithful prosecution of the work and shall be present, either in person or by a duly authorized representative, on the site of the work continually during its progress to receive directions or instructions from the Borough of Naugatuck Inspector. The Contractor shall employ at the site, during the performance of the work, a competent superintendent or foreman who shall be satisfactory to the Borough of Naugatuck Inspector and who shall not be changed, except with the consent of the Borough of Naugatuck Inspector, unless he shall cease to be an employee of the Contractor. Such superintendent or foreman shall represent and have full authority to act for the Contractor in his absence, and all directions and instructions given such superintendent or foreman shall be as binding as if given to the Contractor.

The Contractor shall employ only competent, skillful men to do the work, and whenever the Borough of Naugatuck Inspector shall notify the Contract in writing that any man on the work is, in his opinion, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such man shall be discharged from the work and shall not again be employed on it, except with the consent of the Borough of Naugatuck Inspector.

#### XIII Public Safeguards



The Contractor agrees to conduct the work at all times in such a manner that public travel shall not be inconvenienced needlessly nor shall it be wholly obstructed at any point.

#### XIV Materials and Workmanship

It is the intent of the Specifications to describe fully and definitely the character of materials and workmanship furnished regarding all ordinary features and to require first-class work and materials in all particulars. For any unexpected features arising during the progress of the work and not fully covered herein, the Specifications shall be interpreted by the Borough of Naugatuck Inspector to require first class work and materials in all respects, and such interpretation shall be accepted by the Contractor.

#### XV Materials and Manufactured Articles

All materials and workmanship shall be subject to the approval of the Borough of Naugatuck Inspector and shall be in conformity with approved modern practice.

Unless otherwise specifically provided for in the Specifications, all materials incorporated in the work shall be new, of standard and first-class quality, and of the best workmanship and design. No inferior, or low grade, material will be either approved or accepted, and all work of assembly and construction must be done in a neat, first-class, and workmanlike manner.

#### XVI Unnoticed Defects

The inspection of the work and materials by the Borough of Naugatuck Inspector shall not relieve the Contractor of any of his obligations to fulfill this Contract, as herein described, and defective work shall be made good and unsuitable materials shall be rejected, notwithstanding that such work and materials had been previously overlooked by the Borough of Naugatuck Inspector and accepted or estimated for payment. If the work, or any part thereof, shall be found defective at any time before final acceptance of the whole work, the Contractor shall forthwith make good such defects, in a manner satisfactory to the Borough of Naugatuck Inspector.

#### XVII Care and Protection of Work

From the commencement of the work until the completion of the same, the Contractor shall be solely responsible for the care of the work covered by the Contract and for the materials delivered at the site intended to be used in the work; and all injury, damage, or loss of the same, from whatever cause, shall be made good at his expense before the final estimate is made. He shall provide suitable means of protection for all materials intended to be used in the work and for all work in progress as well as for completed work. He shall take all necessary precautions to prevent injury or damage to the work under construction by flood, freezing or inclement weather at any and all times. The methods used for this purpose shall be subject to the approval of the Borough of Naugatuck Inspector, but shall not relieve the Contractor from liability for inadequate protection of the work or materials.

#### XVIII Assignment of Contract

The Contractor shall have no right or power to assign this Contract, in whole or in part, nor to assign any right arising, or moneys due or to grow due thereunder, without prior written approval of the Owner.

#### XIX Subcontracting

The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors. The Contractor shall not award the work to a subcontractor(s) without prior written approval of the Owner. The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

#### XIX Subcontracting (continued)

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of these Contract Documents, insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of these Contract Documents.

Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

#### XX Liability of Contractor for Employees

Each and every employee of the Contractor and each and every of his subcontractors engaged in the said work shall, for all purposes, be deemed and taken to be the exclusive servants of the Contractor and not for any purpose or in any manner in the employment of the Owner. The Contractor shall, in no manner, be relieved from responsibility or liability on account of any fault or delay in the execution of the said work, or any part thereof, by any such employee, or any such subcontractor, or any material men, whatsoever.

#### XXI Coordination With Other Contractors and Utilities

During the progress of the work, existing utilities may be found to be in close proximity to or in conflict with the work being installed. The Contractor shall make every effort to identify and locate these utilities before working in the area. If it is known or found that these utilities exist the Contractor shall contact the appropriate utility and alert them to the situation. Should an existing utility be found to be in close proximity to the work the Contractor shall take all the necessary precautions to protect the utilities and his work. Should existing utilities be found to conflict with the work the Contractor shall arrange with the utility company for their adjustment. No additional compensation will be made for delays, inconvenience or damage sustained by the Contractor due to interference from the above-noted utility appurtenances or the operation of locating, installing or moving them or the inability of others to perform their work in a timely manner.

#### XXII Permits, Laws, Codes, Ordinances and Insurance

The Contractor shall keep himself fully informed of all existing and current codes, ordinances, and regulations and Municipal, County, State or National laws in any way limiting or controlling the actions or operations of those engaged upon the work or affecting the materials supplied to or by them. He shall, at all times, observe and comply with all such valid and legally binding ordinances, laws, and regulations and shall protect and indemnify the Owner and its representatives and agents against any claim or liability arising from, or based on, any violation of the same. He shall obtain and pay for all necessary permits and pay all fees required in connection with the Contract. Contractor shall provide the types and amounts of insurance as set forth in Section 19, Information of Bidders and maintain in effect. He shall take out and carry appropriate employer's liability insurance and public liability insurance.

#### XXIII Patent Rights

The Contractor shall indemnify and save harmless the Owner and its officers, agents, and representatives from all claims for damages arising from the infringements, or alleged infringements, of any Letters Patent or patent rights covering any material, appliance, or device used in or upon the work or any part thereof.

#### XXIII Patent Rights (continued)

All royalties for patents or patent infringement claims, that might be involved in the construction or use of the work, shall be included in the Contract amount; and the Contractor shall satisfy all demands that may be made at any time for such and shall be liable for any damage or claims for patent infringements; and the Contractor shall, at his own expense, defend any and all suits or proceedings that may be instituted against the Owner for infringement, or alleged infringement, of any patent or patents involved, or alleged to be involved, in the work; and in case of any award for damages, the said Contractor shall pay such award.

#### XXIV Defense of Suits

The Contractor shall indemnify and hold harmless the Owner and its consultants, agents and employees from and against all claims, damages, losses, and expenses, including, but not limited to, attorney fees, ("indemnification expense") arising out of or resulting from the performance of the work or arising out of or resulting from the Contract Documents, including, without limitation, all indemnification expense regarding personal injury or death and/or damage to real or personal property or motor vehicles.

In claims against any person or entity indemnified under this section by an employee or the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

#### XXV Claims for Labor and Materials

The Contractor shall indemnify and save harmless the Owner from all claims expenses and for judgments regarding labor done or materials furnished under this Contract, or any alterations or modifications thereof, including without limitation, reasonable Attorney's fees. Contractor shall furnish the Owner with a Mechanic's Lien Waiver from all persons who have done work, or furnished materials under this Contract. In case such waiver is not furnished, an amount necessary or sufficient, within the discretion of the Owner, to meet the claims of the persons aforesaid, shall be retained, as herein specified, from the money due the Contractor under this Contract until the liabilities aforesaid shall be fully discharged or satisfactorily secured.

#### XXVI Completion of Work by Owner

If the work to be done under this Contract shall be abandoned by the Contractor; or if this Contract shall be assigned, or the work sublet by him, otherwise than as herein specified; or if at any time the Owner shall be of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed; or if the Contractor is willfully violating any of the conditions or covenants of this Contract, or of the Specifications, or is executing the same in bad faith or not in accordance with the terms thereof; or if the work be not fully completed within the time named in this Contract for its completion, or within the time to which the completion of the Contract may be extended by the Owner, the Owner may notify the Contractor to discontinue all work, or any part thereof under his Contract, by a written notice to be served upon the Contractor as herein provided.

The Contractor shall, within five (5) days of the service of said written notice, discontinue

the work, or such part thereof, and the Owner shall thereupon have the power to contract for the completion of the Contract, in the manner prescribed by law; or to place such and so many persons as it may be deemed advisable, by contract or otherwise, to work, and complete the work herein described, or such part thereof; or to take possession of and use any of the materials, plant, tools, equipment, supplies, and property of every kind provided by the Contractor for the purpose of his work; and to procure other materials and equipment for the completion of the same; and to charge the expense of said labor, materials and equipment to the Contractor.

The expense so charged shall be deducted and paid by the Owner out of such moneys as may be due, or may at any time thereafter grow due to the Contractor under and by virtue of this Contract, or any art thereof; and in case such expense shall exceed the amount which would have

#### XXVI Completion of Work by Owner (continued)

been payable under the Contract, if the same had been completed by the Contractor, the Contractor or his surety shall pay the amount of such excess to the Owner within five (5) days of written demand therefore; and in case such expense shall be less than the amount which would have been payable under this Contract, if the same had been completed by the Contractor, the owner shall pay such difference to the Contractor within five (5) days of written demand.

#### XXVII Partial and Final Estimates

On, or about, the last day of the month, the Borough of Naugatuck Inspector shall make an approximate estimate of the value of the work done and of the materials incorporated into the work.

The Owner will pay the Contractor, within 30 days of receipt of an estimate, ninety-five percent (95%) of the total estimated value of the work done, as estimated by the Borough of Naugatuck Inspector less previous payments. Partial payments will not be made whenever the amounts of the estimate or estimates of work done since the last previous estimate are less than \$2,000.00.

The Borough of Naugatuck Inspector shall, as soon as practicable after the completion of work, make a final certificate of the entire amount of the work done under this Contract, and the value thereof, and the Owner shall, within thirty (30) days after such final estimate is approved, pay the entire sum so found to be due hereunder, after deducting there from all previous payments and also all percentages and deductions to be retained under any of the provisions of this Contract.

Before payment of each estimate, the Contractor shall provide the Owner with a mechanic's lien waiver from the Contractor and all persons who have done work or furnished materials under this Contract.

#### XXVIII Extra Work

The Contractor shall and will do any and all work and furnish any and all materials not herein provided for which, in the opinion of the Borough of Naugatuck Inspector, may be found necessary or advisable for the proper completion of the work or the purposes thereof, or any modifications or alternations thereto.

All extra work and materials shall be ordered in writing by the Borough of Naugatuck Inspector, and in no case will any work or materials in excess of the amount shown in the Plans and Specifications be paid for unless so ordered. Additionally, if the extra work requires additional cost, a purchase order must be issued prior to work commencing. No claim for delay shall be made as a result of this process. No voucher, claim or charge against the Borough shall be paid, nor is the Borough liable for any voucher, claim or charge unless a purchase order is issued. The Contractor further agrees that he shall accept, as full compensation for such extra

work and materials, the unit price bid, in the case of Items covered by unit prices in the Proposal, and no more; and for such Items as are not covered by a unit price, he shall accept as full compensation:

1. an agreed on lump sum price, or
2. the reasonable cost, as determined by the Borough of Naugatuck Inspector, of all necessary labor, including insurance and payroll taxes, equipment rental, and materials, plus fifteen percent (15%) which covers supervision, the use of tools and plant, and other overhead expenses and profit.

The equipment rental charge shall be at prevailing rates usually paid locally but shall in no case exceed the amount prorated on the basis of the monthly equipment rental rates compiled by the Associated Equipment Distributors.

When extra work is performed by an approved subcontractor, the Contractor shall be entitled to five percent (5%) of the direct cost of the subcontractor's work to cover his overhead expenses and profit.

The Contractor agrees to prosecute such extra work with all reasonable diligence and to employ thereon competent men. The Contractor shall give the Borough of Naugatuck Inspector access to all accounts, bills, payrolls, and vouchers relating to extra work not covered by unit prices, and he agrees that he shall have no claim for compensation for such extra work in the case of items not covered by unit prices, unless a statement in writing of the actual cost of the same, fully itemized as to labor and materials, is presented to the Borough of Naugatuck Inspector before the fifteenth (15th) day of the month following that during which each specific order was complied with by him.

#### XXIX Payment

The Owner, in consideration of the faithful performance by the Contractor of all and singular his covenants, promises, and agreements contained herein, agrees to pay the Contractor for the full completion by him of the work embraced in this Contract, in the manner and within the time herein specified and limited, and to the satisfaction and approval of the Borough of Naugatuck Inspector, the prices stipulated in the said Proposal hereto attached, such payment to be made at the times and in the manner and upon the conditions herein expressly provided. The Owner also agrees to pay in addition such amounts as may be agreed upon for modifications and for extra work.

#### XXX Guarantee

The Contractor guarantees that the work done under this Contract and the materials furnished by him and used in the construction of the same are free from defects or flaws. The guarantee is for a term of one (1) year from, and after, the date upon which the final estimate of the Borough of Naugatuck Inspector is formally approved by the Owner. It is hereby agreed and understood that this guarantee shall not include making any repairs made necessary by any cause or causes other than defective materials furnished by, or defective work done by, the Contractor.

#### XXXI Repairs for One (1) Year

The said party of the second part further agrees that the said Owner shall be and is hereby authorized to retain, out of the monies payable to the said Contractor under this Agreement, the sum of two percent (2%) of the amount of the Contract and to expend the same, in the manner hereinafter provided for, in making said repairs on the work as may be required by the Contractor's guarantee under Article XXX.

### XXXI Repairs for One (1) Year (continued)

And it is further agree that if, at any time during the period of one (1) year from the date of the final estimate of the work herein contracted for, any part of the work done under this Contract shall be deemed by the Borough of Naugatuck Inspector to require repairing under the aforesaid Contractor's guarantee, then the said Owner shall notify the said Contractor to make the repairs so required at no expense to the Owner.

Such replacements, or repairs, shall be undertaken by the Contractor within twenty-four (24) hours after service of notice. If the Contractor unnecessarily delays or fails to make the ordered replacements or repairs within the time specified, or if any replacements or repairs are of such nature as not to allow for the time delay incident to the service of a notice, then the Owner will have the right to make such replacements or repairs, and the expenses thereof shall be paid by the Contractor.

And the Borough hereby agrees that upon the expiration of the said period of one (1) year, provided that the work at the time shall be in good order, the Contractor shall be entitled to receive the whole or such part of the sum last aforesaid as may remain after the expense of making said repairs, in the manner aforesaid, shall have been paid therefrom, but if the said expense is in excess of the sum of two percent (2%) retained, the Contractor shall pay to the Owner the amount of the excess.

It is, however, agreed that the Borough may apply or keep the sum so retained for payment of other claims arising under the provisions of the contract document.

### XXXII Rate of Progress and Time of Completion

The Contractor shall commence work within ten (10) calendar days of the date of the Notice to Proceed. The rate of progress shall be such that the whole work shall be performed and the grounds cleared up in accordance with the Contract and Specifications within one hundred eighty (180) calendar days unless extensions of time shall be made for the reasons, and in the manner, stated under Article XXXIII, "Extension of Time".

The above calendar days includes time for the Contractor to obtain approval of a Erosion and Sediment Control Plan, as applicable.

### XXXIII Extension of Time

The Contractor expressly covenants and agrees that, in undertaking to complete the work within the time mentioned, he has taken into consideration, and made allowance for, all of the ordinary delays and hindrances incidental to such work, whether growing out of delays in securing materials or workmen or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any changes, additions, or omissions therein ordered in writing by the Borough of Naugatuck Inspector, or by fire, lightning, earthquake, tornado, cyclone, riot, insurrection, or war, or by the abandonment of the work by the workman engaged therein through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay, or default of any other contractor of the Owner, then the Contractor may, within five (5) days after the occurrence of the delay for which he claims allowance, notify the Borough of Naugatuck Inspector thereof in writing, and thereupon, and not otherwise, the Contractor shall be allowed such additional time for the completion of the work as the Borough of Naugatuck Inspector, in his discretion, shall award in writing, and his decision shall be final and conclusive upon the parties.

#### XXXIV Damages for Failure to Complete on Time

The Contractor shall pay to the Owner for each and every calendar day (including Saturdays, Sundays, and holidays) that he shall be in default in completing the entire work in the time stipulated in Article XXXII, or within the extension of time he may be granted as provided in Article XXXIII, the sum of Two Hundred Dollars (\$200.00) per day. This sum is hereby agreed upon not as a penalty but as liquidated damages which Owner will suffer by reason of such default, time being of the essence of the Contract and a material consideration thereof. The Owner shall have the right to deduct the amount of any such damages from any monies due the Contractor under this Contract.

#### XXXV No Waiver of Rights

No certificate given or payment made under this Contract, except the final certificate or final payment, shall be evidence of the performance of the Contract either wholly or in part, and no payment shall be construed to be an acceptance of defective work or improper materials. No act of the Owner or of the Borough of Naugatuck Inspector, or of any representatives of either of them in inspecting the work, nor any extension of time for the completion of the work, shall be regarded or taken as an acceptance of such work, or any part thereof, or materials used therein or thereof, either wholly or in part; but such acceptance shall be evidenced only by the final certificate of the Borough of Naugatuck Inspector.

Before any final certification shall be allowed, the Contractor shall be required, and he hereby agrees, to sign and attest on said certificate a statement that he accepts the same in full payment and settlement of all claims on account of work done and material furnished under this Contract, and furthermore, that all claims for materials provided or labor performed have been paid and satisfied in full. No waiver of any breach of this Contract by the Owner or anyone acting for it, or on its behalf, shall be held as a waiver of any other or subsequent breach thereof.

#### XXXVI Mandatory Negotiation

Contractor and the Owner agree that they will attempt to negotiate in good faith any dispute of any nature arising under this contract. The parties shall negotiate in good faith at not less than two negotiation sessions prior to seeking any resolution of any dispute under the provisions of arbitration paragraph of this contract. Each party shall have the right to legal representation at any such negotiation session.

#### XXXVII Arbitration

Any dispute or question arising under the provisions of this contract which has not been resolved under the mandatory negotiation paragraph of this contract shall be determined by arbitration. Arbitration proceedings shall occur at a neutral location in Waterbury, Connecticut, and shall be conducted in accordance with the rules then applicable of the American Arbitration Association. Arbitration shall proceed before a pane of one arbitrator to be selected by American Arbitration Association. The decision of the Arbitrator shall be final and may be entered in any court having jurisdiction thereof. Each party shall pay one-half of all costs and expenses of such arbitration.

#### XXXVIII Owner's Right to Use

The Owner reserves the right to use or occupy any portion of the work considered by the Borough of Naugatuck Inspector as ready for use or occupancy. Such use or occupancy shall not

be held, in any way, as final acceptance of the work or any portion thereof, or as a waiver of any portion of this Contract.

#### XXXIX Verification of Data

The quantities of work to be done and the materials to be furnished under this Contract, as given in the accompanying "Information for Bidders" and on the Proposal form, are approximate estimates for the purpose of comparing bids on a uniform basis. Neither the Owner nor the Borough of Naugatuck Inspector are to be held responsible for the data or information given relative to said quantities or that given on the Plans relative to existing conditions. The Contractor has judged for himself as to such quantities and as to other circumstances affecting the cost of the performance of this Contract, and he shall not at any time assert that there was any misunderstanding in regard to the character or amount of work to be done and materials and labor to be furnished.

#### XXXX Contractor's Wage Certification Form

If applicable the Contractor or his authorized agent will be required to sign the Contractor's Wage Certification Form at the time of Contract execution.

#### XXXXI Verbal Statements Not Binding

It is understood and agreed that the written terms and provisions of this Agreement shall supersede all prior verbal statements of the Borough of Naugatuck Inspector or other representatives of the Owner, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in anyway whatsoever, the written Agreement.

#### XXXXII Final Estimate Constitutes Release

It is agreed that acceptance by the Contractor of the last payment made, under the provisions of Article XXVII, shall operate as and shall be a release to the Owner, and every agent thereof, from all claims and liability to Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of the Owner or of any agent thereof, except any claim against the Owner for the remainder, if any, of the amounts kept or retained by the Owner as percentages or deductions.

No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract.

#### XXXXIII Delays or Termination by Governmental Authorities

Notwithstanding any other provision(s) of this contract, the parties agree that in the event of a stop work order from the State Department of Transportation, Department of Environmental Protection, or any other State or Federal agency, no additional compensation will be made by Owner to Contractor for delays, inconvenience or damage sustained by Contractor due to such order, including, without limitation, damages for loss of use of equipment or idle equipment. Similarly, in the event of a termination of the project by the State DOT, DEP or any other State or Federal agency, no additional compensation will be made by Owner to Contractor for the termination, or for any delay, inconvenience or damage sustained by Contractor due to such termination, including, without limitation, damages for loss of use of equipment or idle equipment. In the event of such termination, the Borough of Naugatuck Inspector shall prepare a final certificate for the entire amount of work done up to the effective date of termination. The provisions of Sections XXX (Guarantee) and XXXI (Repair) shall apply to all work completed as of the effective date of any stop Work order, as if the effective date was the date upon which the final estimate of the Borough of Naugatuck Inspector is formally approved by the Borough.



XXXXIV Validity of Agreement

The provision of this Agreement shall be binding upon the Parties and their respective successor or assigns.

IN WITNESS WHEREOF, the said parties hereto have caused this instrument to be signed by their respective duly constituted officers, attested, and sealed pursuant to proper resolutions.

Signed and sealed  
in the presence of

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Borough of Naugatuck  
Mayor

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(Duly Authorized)  
Contractor

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_ certify that I am the \_\_\_\_\_ of the Corporation named as Contractor in the within bond; that \_\_\_\_\_, who signed the said bond on behalf of the Contractor was then \_\_\_\_\_ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by authority of this governing body.

(Corporate

Seal)

\_\_\_\_\_

Title

\_\_\_\_\_

# **SECTION F**

## **PERFORMANCE BOND**

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal and  
(Corporation, Partnership, or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_ Dollars,  
\$(\_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and  
truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these  
presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a  
certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_, a  
copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the  
undertakings, covenants, terms, conditions, and agreements of said contract during the original  
term thereof, an any extensions thereof which may be granted by the OWNER, with or without  
notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and  
demands incurred under such contract, and shall fully indemnify and save harmless the OWNER  
from all costs and damages which may suffer by reason of failure to do so, and shall reimburse  
and repay the OWNER all outlay and expense which the OWNER may incur in making good any  
default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in anyway affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts each one of Which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

By \_\_\_\_\_ Principal \_\_\_\_\_(s)

(SEAL)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Surety

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

(SEAL)

\_\_\_\_\_  
Witness as to Surety

By \_\_\_\_\_ Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTES: Date of BOND must not be prior to date of Contract.  
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

# **SECTION G**

## **PAYMENT BOND**

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal and  
(Corporation, Partnership, or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of

\_\_\_\_\_ Dollars, \$(\_\_\_\_\_)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, an any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any

default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in anyway affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

By \_\_\_\_\_ Principal \_\_\_\_\_(s)

(SEAL)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Surety

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

(SEAL)

\_\_\_\_\_  
Witness as to Surety

By \_\_\_\_\_ Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTES:      Date of BOND must not be prior to date of Contract.  
                 If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.



# **SECTION H**

## **Specifications**

### **Pavement Preservation incorporating Crack Sealing, Micro-Surfacing & Quick Set Slurry Sealing**

This bid covers the Borough of Naugatuck's requirements for crack sealing, micro-surfacing and quick set slurry sealing which may be necessary in preparation for paving during the one year period commencing on the date of award. Upon the mutual consent of successful bidder and the Borough of Naugatuck, award may be extended. The Town reserves the right to award by item, or part thereof, groups of items of the bid and award contracts to one or more bidders submitting identical proposals. The work performed will be mainly on public streets and/or parking lots.

The contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract, or any portion thereof, or of his work provided for therein, or of his right, title or interest therein, to any person, firm, partnership or corporation.

Work that commences in one location must be completed before work is to commence at another location within the Town unless exception is granted by the Director of Public Works. Once commenced, Contractor is to continue work until his total paving contract is completed. If this work is to be interrupted by the contractor, written request for approval must be submitted to the Director of Public Works. The Borough of Naugatuck requests that each bid be accompanied by a certified bid security check.

#### **WARRANTY:**

If at any time within one year after the date of the final inspection, any unfaithful or defective work should appear, which in the opinion of the Town is due to inferior materials or workmanship, the Contractor warrants to do whatever is necessary to remedy the defects immediately without cost to the Town. The Town will notify the Contractor in writing of the defects immediately without cost to the Town. The Town will notify the Contractor in writing of the defects and the repairs to be made, and the contractor will begin repairs within a mutually agreed time frame.

#### **DESCRIPTION:**

Crack sealing material, equipment and procedure shall conform to specification attached and identified as exhibit #1.

Micro-surfacing and slurry seal shall meet or exceed all criteria for said products as published by The International Slurry Surfacing Association (ISSA) and shall be subject to testing according to all pertinent AASHTO and ASTM procedures.

**ENGINEERING:**

General: Before work commences, the contractor shall submit to the Town a signed mix design covering the specific material to be used on the project. This design shall be performed by an independent qualified laboratory at the expense of the contractor. Once the materials are approved, no substitution will be permitted unless first tested and approved by the laboratory preparing the mix design and the Town.

Mix Design: The qualified laboratory shall develop the job mix design and present certified test results to the Town and the contractor for approval. Compatibility of the aggregate and emulsion shall be verified by the mix design. All component materials used in the mix design shall be representative of the material proposed by the contractor for use on the project.

Specifications: The Engineer shall approve the mix design and all microsurfacing and quick set slurry materials and methods prior to use. The component materials shall be within the following limits:

Residual Asphalt	6% to 13% by dry weight of aggregate
Mineral Additive	0.5% to 3% by dry weight of aggregate
Latex Modifier	Minimum 3%, based on weight of A.C.
Field Control Additive	As required to provide the specific properties.
 Water	 As required to produce consistency

Aggregate: The mineral aggregate used shall be of the type and grade specified for micro-surfacing or quick set slurry seal. The aggregate shall be manufactured crushed stone as granite, slag, limestone, chat, or other high quality aggregate or combination thereof. Aggregate source shall be identified on bid calculation page.

Recommended Gradations:

Screen Size	Type II % Passing	Type III % Passing
3/8ö	100	100
#4	90-100	70-90
#8	65-90	45-70
#16	45-70	28-50
#30	30-50	19-34
#50	18-30	12-25

#100	10-21	7-18
#200	5-15	4-12

Application Rate:

Type II Microsurfacing, when required shall have a minimum combined application rate for both courses of **32 pounds per square yard.**

Type III Microsurfacing when required shall have a minimum combined application rate for both courses of **40 pounds per square yard.**

Type II Slurry sealing when required shall have a minimum application rate for its single course of **16 pounds per square yard.**

The contractor shall furnish evidence to determine the actual application rate is used. The Engineer shall approve of the method of measurement that will be used.

#### **FINISHED SURFACE:**

Finish any 30 s.y. of surface area to have a uniform texture and:

1. No more than four tear marks greater than 5.0 in. wide and/or 4.0 in. long
2. No tear marks greater than 1.0 in. wide and 3.0 in. long
3. No transverse ripples or longitudinal streaks of 2.0 in. or more in depth, measured with a 10 foot straight edge.

#### **SURFACE FRICTION:**

Provide a uniform surface with a minimum average skid number, measured by ASTM 274 at 40 mph, of 45. The Department's Division of Research will perform the skid test(s) using a continuous testing method over each lane of Micro-surfacing. The Engineer shall notify the Division of Research section once the Micro-surfacing has been placed. The skid test for final approval shall be conducted at least seven (7) calendar days after the Micro-surfacing is open to traffic.

If the average speed of 40 mph cannot be attained, the values obtained will speed-corrected as follows.

For every one (1) mph in average speed below 40 mph, the acceptable skid number will be increased by one-half ( $\frac{1}{2}$ ) of a skid number. For example, if the average maximum speed for a skid test is 35 mph, the acceptable average skid number will be 47.5

#### **EQUIPMENT:**

General: The contractor shall own and have available two continuous feed-continuous flow micro-surfacing machines so as to ensure optimum production and quality of product. All equipment, tools and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product. All motor vehicles and equipment will conform to local, State and Federal motor vehicle requirements.

Mixing Equipment: The material shall be mixed by a micro-surfacing mixing machine which shall be a continuous feed-continuous flow self propelled micro-surfacing machine able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral and field control additives and water to a revolving multi-blade twin shafted mixer and discharge the mixed product on a continuous flow basis. The machine shall have sufficient storage capacity for aggregate, emulsified asphalt, mineral and field control additives and water to maintain an adequate supply to the proportioning controls.

Proportioning Devices: Individual volume or weight controls for proportioning each material to be added to the mix, i.e., aggregate, emulsified asphalt, mineral and field control additives and water shall be provided and properly marked. These proportioning devices are usually revolution counters or similar devices and are used in material calibration and determining the materials output at any time.

Emulsion Pump: The emulsion pump shall be heated positive displacement type.

Spreading Equipment: The surfacing mixture shall be spread uniformly by means of a mechanical type spreader box attached to the mixer, equipped with paddles to agitate and spread the materials throughout the box. A front seal shall be provided to insure no loss of the mixture at the road contact point. The rear seal shall act as final strike off and shall be adjustable. The mixture shall be spread to fill cracks and minor surface irregularities and leave a uniform skid resistance application of material on the surface. The spreader box and rear strike off shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike off. The longitudinal joint where two passes join shall be neat appearing, uniform and lapped. All excess materials shall be removed from the job site prior to opening the road. The spreader box shall have suitable means provided to side shift the box to compensate for variations in pavement width and longitudinal alignment.

Auxiliary Equipment: Suitable surface cleaning equipment, hand tools and any support equipment shall be provided as necessary to perform the work.

Machine Calibration: Each mixing unit to be used in performance of the work shall be calibrated prior to construction, or previous calibration documentation covering the exact materials to be used may be acceptable provided they were made during the calendar year. The documentation shall include the individual calibration of each material at various settings, which can be related to the machine metering devices.

Weather Limitations: The material shall be spread only when the road surface and atmospheric temperatures are at least 45 degrees F and rising and the weather is not foggy or rainy and there is no forecast of temperatures below 32 degrees F within 48 hours from the time of placement of the mixture.

## **SURFACE PREPARATION:**

General: Areas to be resurfaced shall be swept clean by Town Forces prior to arrival of contractor's equipment. It shall be incumbent upon the contractor to verify the cleanliness of the roadway and accomplish any and all additional hand sweeping or blowing of debris immediately before the application process. Stone and concrete curbing, catch basins, manholes, valve boxes and other service entrances will be protected from the surfacing material. Manhole and utility covers shall be located and marked by Town and contractor's personnel.

Cracks In Surface: If required by the Engineer, the contractor will pre-treat the cracks in the surface with a crack sealer prior to the application of the micro-surfacing. Crack sealing will be paid for per pound for the item Crack Seal (8.51 lbs. = 1 gallon).

Tack Coat: If required by the Engineer, the contractor shall apply a tack coat consisting of one part emulsified asphalt and two parts water with a distributor at .10-.15 gallons per square yard. This emulsified asphalt should be emulsion grade. It is recommended that a tack coat always be applied to a concrete or brick surface. Tack coat will be paid per gallon of tack coat used.

## **STOCKPILE:**

Precautions shall be taken to insure that stockpiles do not become contaminated. The mineral aggregate shall be screened prior to being weighed for job site delivery. This weight shall be done by means of scale approved by the Engineer. The Borough of Naugatuck cannot guarantee location of storage area for stock-pile.

## **APPLICATION:**

General: The surface should be pre-wetted by fogging ahead of the spreader box when required by local conditions. The rate of application of the fog spray shall be adjusted during the day to suit temperatures., surface texture, humidity and dryness of the pavement surface.

The micro-surfacing or quick set slurry mixture shall be of the desired consistency upon leaving the mixer and no additional materials should be added. A sufficient amount of material shall be carried in all parts of the spreader at all times so that a complete coverage is obtained. Overloading of the spreader shall be avoided. No lumping, balling or unmixed aggregate shall be permitted.

No streaks, such as those caused by oversized aggregate, will be left in the finished surface. If excessive oversize develops, the job will be stopped until the contractor proves to the Engineer that the situation has been corrected.

Joints: No excessive build up, uncovered areas or unsightly appearances shall be permitted on longitudinal or transverse joints. The contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the project. When possible, longitudinal joints shall be placed on lane lines. Half passed and odd widths passes will be used only in minimum amounts. If half passed are used, they shall not be last pass of any paved area.

Mix Stability: The micro-surfacing or quick set slurry mixture shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogenous during the following mixing and spreading. It shall be free of excess water or emulsion and free of the emulsion and aggregate fines from the coarser aggregate.

Hand Work: Areas which cannot be reached with the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand worked shall be lightly dampened prior to mix placement. Care shall be exercised to leave no unsightly appearance from hand work.

The same type of finish as applied by the spreader box shall be required. Handwork shall be completed at the time of the machine applying process.

Lines: Care shall be taken to insure straight lines along shoulders and surfacing material to be placed against curbs without damage to or marring face of curbs. No runoff on these areas will be permitted. Lines at intersections will be kept straight to provide a good appearance.

Rolling: If required by the Engineer, specified areas shall be rolled by self-propelled 10 ton pneumatic roller with a tire pressure of 50 PSI and equipped with a water spray system.

## **QUALITY CONTROL:**

Materials: The contractor will take samples of the aggregate and asphalt emulsion to be used in the project at the Engineer's discretion. Gradation and sand equivalent tests will be run on the aggregate and residual asphalt content test on the emulsion. Test results will be compared to specifications. Tests will be run by a qualified laboratory at the expense of the contractor.

Micro-surfacing and Quick Set Slurry Mixture: Samples of the mixture should be taken directly from the mixing unit. Consistency and residual asphalt content tests may be made on the sample and compared to the specifications. Tests will be run by a qualified laboratory as requested by the Engineer at the expense of the contractor. A minimum of one test for each 50,000 square yards is required, but not to exceed two. Each test will consist of three individual samples or as directed by the Engineer.

## **TEST:**

A single test is the result of testing three (3) individual samples taken of a material or mix at the same time. If a test result indicates that two of the three samples of the mix from the same machine fail, the use of the machine shall be suspended. It will be the responsibility of the contractor, at his own expense, to prove to the Engineer that the problems have been corrected and that the machine is working properly. No payment will be made for unsatisfactory material. However, materials, off specifications, and allowed by Engineer to remain in place will be paid for at an adjusted rate of 50%.

## **METHOD OF MEASUREMENT:**

Aggregate: The quantity of aggregate used in the accepted portions of the work shall be measured by net ticket weight of each individual load of aggregate shipped to the project from the

approved scale. The weight of mineral additive used shall be calculated and included in the total aggregate weight.

Emulsion: The quantity of emulsion used in the accepted portion of the work shall be measured by gallons or tons of material based on the accepted load tickets issued from the manufacturer. At the completion of the project any unused emulsion shall be weighed back and that quantity deducted from the accepted emulsion quantity delivered.

#### **MAINTENANCE AND PROTECTION OF TRAFFIC:**

The Contractor shall be responsible to provide all Traffic signage require for the project as directed. The Borough shall provide uniformed police officers.

#### **BASIS OF PAYMENT:**

The accepted quantity of mixture used in the ðMicro-surfacing and Quick Set Slurryö will be paid for at the contract unit price per US ton of material specified. The unit price shown in the contract shall be full compensation for all materials including; emulsion, modifiers, mineral additive, labor, tools, equipment, and all other incidentals necessary to complete the work.

#### **PERFORMANCE WARRANTY:**

All work to be completed 30 days after notice to proceed or as required by the Highway Superintendent. The Contractor must furnish the following warranty after completion of the work and prior to final payment:

The contractor hereby warrants that all workmanship and all materials furnished under the contract comply fully with requirements of these Micro-surfacing and Quick Set Slurry specifications for a period of one year.

#### **WARRANTY WORK:**

The **BOROUGH OF NAUGATUCK** will:

1. Monitor warranted pavement to determine Micro-surfacing performance.
2. Perform all tests and/or observations.
3. Provide access to all test results.
4. Notify the contractor in writing of any required warranty work.
5. Perform necessary emergency work, including but not limited to, sweeping or pothole repairs. The Borough of Naugatuck will determine if the problem requires immediate attention. The Contractor will be notified of work performed by the Borough of Naugatuck and the nature of the problem. Repairs performed by the Borough of Naugatuck, that are local to one small area and determined to be not related to the Micro-surfacing, will not affect the warranty as applied to the remaining section(s) of Micro-surfacing.

The **CONTRACTOR** will:

1. Perform all warranty work at NO cost to the Borough of Naugatuck. This includes but is not limited to supplying all material and labor for traffic control, removal of defective materials, and performing all warranty work. As long as written notification is provided within the one-year (1) warranty period, the Contractor is obligated to perform warranty work even if the work extends beyond the warranty period.
2. Provide certification that the materials and mixture meet or exceed the requirements used for the original construction.
3. Complete all warranty work of repairs, permanent replacement, traffic control, and pavement markings in accordance with the restrictions specified in the original traffic control plans.
4. Repair areas that do not meet the performance criteria within thirty calendar days of written notification by the Borough of Naugatuck. Submit the proposed repair procedure, before performing any repairs, to the Borough of Naugatuck, DPW ó Highway Division for review and approval.
5. Bear the expense of all work, resulting from a defect in the Micro-surfacing that is required to maintain the road in safe operable condition until the contractor arrives to perform the necessary repairs. Work performed by the Borough of Naugatuck will not affect the contractor's responsibility to perform the required permanent repairs under the warranty.
6. Perform all required repairs, including replacement, to meet the construction requirements. Use only Micro-surfacing for permanent repairs. Permanent repairs shall be accomplished by applying a full lane width pass over a minimum lineal length of 100 feet or as directed by the Engineer or his designee.
7. Replace temporary repairs with permanent repairs as soon as weather allows.
8. Replace entirely any 400-yard lane segment that has repairs or defects exceeding a total of 5 percent of the area. The minimum unit of measurement for repairs or defects shall be one square foot as described in the Strategic Highway Research Program Distress Identification Manual, SHRP-P-338, 1993.



## EXHIBIT 1

### RANDOM CRACK SEALING BY POLYESTER REINFORCED ASPHALT METHOD

#### 1. Scope of Work

The work covered by this section of the specification consists of furnishing all plant, labor equipment and materials necessary to perform all operations in connection with the cleaning and sealing of construction and random cracks in bituminous concrete pavements, including vegetation removal.

#### 2. Material

Crack Sealer shall be an asphalt-fiber compound designed especially for improving strength and performance of the parent asphalt sealant.

(a) Asphalt sealant shall be PG64-22 binder with a penetration of 75-100.

(b) Fiber reinforcing materials shall be short-length polyester fiber having the following properties.

Length	7mm
Diameter	0.0008 inch plus or minus .0001 inch
Specific Gravity	1.32 to 1.40
Melt Temperature	480 degrees F. minimum
Ignition Temperature	1000 degrees F. minimum
Tensile Strength	75000 PSI plus or minus 5000 PSI
Break Elongation	33% plus or minus 9% they are fully drawn

Asphalt-fiber compound shall be mixed at a rate of 5-8% fiber weight to weight of asphalt cement. This compound having the same chemical base provides compatibility and excellent bond strengths. The fiber function is to redistribute high stress and strain concentrations that are imposed on the sealant by thermal sources, traffic loading, etc.

#### 3. Equipment

Equipment used in the performance of the work required by this section of the specification shall be subject to the engineer and maintained in a satisfactory working condition at all times.

(a) Air Compressor: Air compressor shall be capable of furnishing not less than 150 cubic feet of air per minute at not less than 90 lbs. per square inch pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

(b) Hand tools shall consist of brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to accomplish this work.

(c) Melting Kettle & Extruder: The unit used to melt the joint sealing compound shall be double boiler, indirect fired type. The space between the inner and outer shell shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 600 degrees F. The kettle shall be equipped with a satisfactory means of agitating the sealant and stirring with mechanically operated paddles and/or by a continuous circulating gear pump attached to the thermostatic control calibrated between 200 degrees F. and 550 degrees F.

(d) Air wands with operator shall be incorporated with 150 cubic foot compressor to clean cracks immediately before filling with polyester reinforced asphalt material.

(e) Extruder shall be able to fill cracks with two wands. Each wand shall have removable heads so that variable width over-band from 2 to 4 inches may be installed.

(f) All equipment shall be truck mounted and capable of extruding six thousand pounds per day.

#### 4. Preparation of cracks

(a) Debris removal: All cracks shall be blown clean by high pressure air. All old material and other debris removed from the cracks shall be removed from pavement surface immediately by means of power sweepers or hand brooms or air brooms.

(b) Vegetation: When cracks show evidence of vegetation, it shall be removed and sterilized by use of propane torch unit eliminating all vegetation, dirt, moisture and seeds.

(c) General: No crack sealing material shall be applied in wet cracks or where frost, snow or ice is present nor when ambient temperature is below 35 degrees F.

#### 5. Preparation and placement of sealer

Joint sealing material shall be heated and applied at a temperature specified by the manufacturer and approved by their engineer. Minimum application temperature shall be 290 degrees F.

Sealer shall be delivered to the pavement surface through a pressure hose line and applicator shoe. The shoe width and sealer over banding area shall vary from 2ö - 4ö dependent on severity of cracks. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over cracks to prevent sealer pickup.

#### 6. Workmanship

All workmanship shall be of the highest quality, and excess or spilled sealer shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involved will not be accepted, and will be corrected and/or replaced as required by the engineer in charge.

7. Performance

It is the intention of the Public Agency not to award a contract for this work under this or any other proposal if the bidder cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work and that he has sufficient capital and equipment to enable him to prosecute the work successfully and to complete it within the time named in the contract. The Contractor must submit with his bid proposal a list of six (6) jobs which he has successfully completed, giving the name, address, phone number, and contact person, of these projects so they can be investigated prior to the award of the contract.

Manufacturer's certificate of material compliance will be furnished to the Owner certifying conformance to the above material specifications.

Bidder must own, operate, and supply from a regional approved Department of Transportation facility.

8. Measurement of payment

Measurement for this bid unit shall be by the pound and shall be the actual number of pounds of polyester asphalt material applied to the pavement. Payment shall be at the unit price bid in the proposal and shall be complete payment for the entire item including furnishing, preparation and placing of materials including labor and equipment to be used on this project. Daily certified scale tickets will be provided to the owner documenting the number of pounds applied. The owner reserves the right to verify product weight twice daily using locally available certified truck scales, the cost of which shall be borne by the bidder. (Pounds only)

9. Traffic Control

Flagmen and all necessary signage and neighborhood notification of intended work shall be the responsibility of the Borough of Naugatuck DPW.

## **EXHIBIT 2**

### **Chip Seal—20% Rubber SPECIFICATIONS**

#### **General:**

The Contractor shall furnish all tools, labor, materials, equipment, traffic control, construction signs, speed/road condition advisory signs and incidentals necessary to perform all work outlined in the bid.

The Borough reserves the right to **eliminate** from the Contract any the above items of work or **cancel** the Contract in the event it deems to be in the best interest of the Town.

The application dates shall be selected between June 1 and September 30 of each year.

All materials will conform to the State of Connecticut and the Borough standards.

#### **LIQUID ASPHALT MEASUREMENT:**

The material shall be measured by weight and converted to gallons. Material delivery slips shall be collected and totaled daily to monitor gallons placed.

#### **PRICE ESCALATIONS:**

To compensate for liquid asphalt price fluctuations, the following procedures hereby made a part of this contract to determine the actual cost to be paid per square yard of chipseal in place.

The price adjustment will be based on the variance in price for asphalt cement component only from the Base Price to the Period Price. It shall not include transportation or other charges. The Period Price will be determined by the weekly report from the Asphalt Weekly Monitor furnished by Poten & Partners, Inc. under the "East Coast Market" New England, New Haven, Connecticut area, F.O.B.

manufacturer's terminal. The Asphalt price is available on the Department of Transportation web site at: <http://www.ct.gov/dot/asphaltadjustment>. The website is updated weekly on Wednesdays. The base price will be based on \$450.00 per ton

The price adjustment, as herein provided, upwards or downwards, will be made on each date the work is performed based on the difference between the Period Price and the Base Price for that day for liquid asphalt cement.

The Contractor will prepare invoices by providing the square yard cost based on the amount of gallons of emulsion applied for the day, demonstrating the square yard price adjustment, increase or decrease (+/-), and separate of the square yard bid price. For basis of payment adjustments, use the following calculation:

**Period Price – Base Price = \$(x), divided by 235 (gallons of AC per ton) x .8 (asphalt content minus rubber) x .60 (application rate of asphalt) = \$(x) sq. yd.**

The Contractor will include the date of the Period Price posted for the day that is invoiced for verification purposes.

**ASPHALT BINDER:**

Asphalt Binder for the (20%) asphaltórubber mixture shall be PG 58-28 or PG 64-28, complying with the requirements of appropriate state or local specifications. The grade selected shall be based on laboratory testing by the asphalt-rubber supplier.

**ANTI-STRIPPING AGENT:**

If required by the job-mix formula to produce appropriate water resistance, an anti-stripping agent that is heat stable and approved for use by the manufacturer shall be incorporated into the asphalt rubber material at the dosage required by the job-mix formula (up to 1.0% by weight of asphalt). It shall be added to the asphalt binder prior to blending with the granulated rubber.

**RUBBER:**

The granulated rubber shall be vulcanized rubber from the ambient temperature processing of scrap, pneumatic tires. The granulated rubber shall meet the following gradations: No substitutions will be accepted.

<u>Sieve Size</u>	<u>% Passing</u>
#10	100
#16	90 ó 100
#30	25 ó 75
#80	0 ó 25

The use of rubber of multiple types from multiple sources is acceptable provided that the overall blend of rubber meets the gradation requirements. The length of the individual rubber particles shall not exceed 1/8ö. The rubber shall be accepted by certification from the rubber supplier.

**AGGREGATE:**

The Aggregate shall be 3/8ö and conform to the requirement of appropriate state or local specifications for crushed stone. Crushed gravel stone will not be permitted. Percentage of wear as determined by the Los Angeles Abrasion Test (AASHTO-T96) shall be a maximum of 30. The aggregate shall be pre-heated to a temperature between 200° F and 300° F, and be pre-coated with 0.4% to 0.8% (by weight of aggregate) of PG 58-28 or PG 64-28 AC-20 asphalt binder prior to application. These results shall conform to the grading specified in this section. The final shape of the stone shall be approved by the Borough before shipment will begin.

<u>Fine Aggregate Grading</u> <u>Passing Sieve Size</u>	<u>% Passing ó Nominal Size</u> <u>3/8ö</u>
5/8ö	100 %
1/2ö	100%
3/8ö	80ó 100%
#4	0 ó 25%
#8	0 ó 5%
#50	0 ó 2%
#200	0 ó 2%

The Contractor shall also make sure stone is free of dirt, clay and dust.

### **MATERIALS TESTING:**

A minimum of 30 days prior to construction the contractor shall send a representative sample of the asphalt binder and the aggregate proposed for use to the asphalt ó rubber supplier for testing. Testing for stripping and asphalt content to determine and assure that the appropriate characteristics are achieved when blended with the granulated rubber will be performed.

### **ASPHALT-RUBBER MIXING AND REACTION**

The percent of rubber shall be 20 +/- 3% as indicated by the mixture design for specific project requirements by weight of total mixture, that is, by total weight of asphalt binder, plus granulated rubber. The exact granulated rubber content shall be determined by the mix design submitted by the asphalt-rubber supplier based on laboratory testing.

The temperature of the asphalt shall be between 350°F and 425°F, at the time of addition of the granulated reclaimed rubber. The asphalt and rubber shall be combined and mixed together in a blender unit and reacted in the distributor for a period of time as required by the mix design. The temperature of the asphalt-rubber mixture shall be above 325°F, during the reaction period.

### **JOB DELAYS:**

When a job delay occurs after full reaction, the asphalt-rubber may be allowed to cool. The asphalt-rubber shall be reheated slowly just prior to application, but not to a temperature exceeding 375°F. An additional quantity of granulated rubber or additive not exceeding 3% by volume of the hot asphalt- rubber mixture may be added after reheating.

### **VISCOSITY:**

Viscosities shall be run, by the asphalt-rubber supplier, on each blended load of asphalt-rubber using a Haake-type field viscometer. The viscosity of the final product shall be in the range of 1,000 to 3,500 centipoise.

### **MECHANICAL BLENDER:**

A mechanical blender for proper proportioning and thorough mixing of the asphalt-cement and granulated rubber is required. This unit shall be equipped with: an asphalt totaling meter (liters or gallons per minute); a positive displacement auger to feed the rubber properly to mixing chamber at specified rate; and static motionless mixer. Blender will have a separate asphalt binder feed pump and finished product pump to maximize production. Blender shall be capable of providing 100% proportional mix at any given time during the blending cycle and documentation from the manufacturer, supporting this, shall be submitted to the awarding authority if requested.

### **ASPHALT DISTRIBUTOR:**

On projects exceeding 35 tons, of liquid asphalt rubber, at least two pressure-type bituminous distributor trucks in good condition will be required. The distributor shall be equipped with an internal heating device capable of heating the material evenly up to 425°F; an internal mixing unit capable of maintaining a proper mixture of asphalt cement and granulated rubber; have adequate pump capacity to maintain a high rate of circulation in the tank and to spray the asphalt-rubber at a viscosity of 1,000 to 3,500 centipoise; have adequate pressure devices and suitable manifolds to provide constant positive cut-off to prevent dripping from nozzles. Distributor shall be equipped with an electronically controlled computerized compensation unit for controlling application rates at various width and speed changes. The application unit shall have electronic controls and a digital read out installed and operated from the inside of the cab of the distributor. The distribution bar on the distributor shall be fully circulating. Any distributor that produces a streaked or irregular distribution of the material shall be promptly repaired or removed from the project.

Distributor equipment shall include a tachometer, pressure gauges, volume measuring devices, and a thermometer for reading temperature of tank contents. Controls for spray bar shall be located in cab of truck, for controlling width and rate of spray of product. It shall be so constructed that uniform applications may be made at the specified rate per square yard with a tolerance of plus or minus 0.05 gallon per square yard

A operator shall accompany the distributor and ride in a position so that all spray bar nozzles are in his full view and readily accessible for unplugging.

### **AGGREGATE CHIPSPREADER:**

The aggregate spreader shall be hydrostatically driven and self propelled. It must be equipped with a hydraulically controlled variable adjustable head that is capable of spreading stone in widths from 4.5 to 18 feet. The spreader shall be mounted on pneumatic tires, and shall apply the stone on the road surface in a manner that ensures that the tires do not contact the road surface until after the stone has been applied. The unit shall be equipped with an electronic radar type sensor used to measure ground speed and will automatically adjust the stone application rate depending on width of application and the speed of the chip spreader. It shall have the ability to apply stone on any grade from 0 to 6%. The spreader shall be equipped with an integral hopper with a

minimum capacity of 5 tons, of stone which shall be filled by trucks in a manner which ensures that the truck tires never come in contact with asphalt treated road surfaces until the stone has been properly applied. To maintain constant stone application, a self-locking truck hitch will permit towing of aggregate trucks without stopping the chip spreader. It will be capable of maintaining positive engagement over irregular terrain.

#### **HAULING EQUIPMENT:**

Trucks for hauling cover material shall be rear discharge conveyor-fed or olive bottom trucks and shall be equipped with a device to lock onto the hitch at the rear of the chip spreader to prevent aggregate spillage.

Sufficient hauling vehicles will be available to ensure continuous operation of the distributor and chip spreader.

Operators of all trucks requiring CDL licensing shall be enrolled in a FHWA approved Drug and Alcohol Testing Program.

#### **ROLLERS TO BE USED:**

Two (2) self-propelled, multiple wheel, pneumatic-tired rollers shall be used and shall weigh between 7 and 12 tons, each roller shall have a total compacting width of at least 56 inches, have a minimum tire pressure of 60 psi, and be equipped with a watering system.

One (1) self-propelled, 2 axle (tandem) steel-wheel roller shall be used and shall weigh between 8 and 12 tons, and be equipped with scrapers, wetting pads and watering system. Combination pneumatic steel drum-type rollers are acceptable, as one unit only.

#### **CONSTRUCTION OPERATIONS:**

##### **CHANGE IN WORK:**

Without invalidating the Agreement, the Owner may, at any time, order additions, deletions, or revisions in the work. These will be authorized by Change Orders. Upon receipt of a Change Order, the Contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the contract price or an extension or shortening of the contract time, an equitable adjustment will be made.

The Engineer or Owner may authorize minor changes or alteration in the work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the Contractor believes that any minor change or alteration authorized by the Engineer entitles him to an increase in the contract price, he may make a claim.



Additional work performed by the Contractor without authorization of a Change Order will not entitle him to an increase in the contract price or an extension of the contract time, except in the case of an emergency as provided in these conditions.

It is the Contractor's responsibility to notify his Surety Company of any change affecting the general scope of the work or change in the contract price. The amount of the applicable Bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the Owner.

#### **CHANGE ORDERS:**

The value of any work covered by a Change Order shall be determined in one of the following ways:

Where the work involved is covered by unit prices contained in the Contract Documents, application of unit prices to the quantities of the items involved shall be made. If the above method is agreed upon, the value shall be determined by the Engineer on the basis of costs and a percentage for overhead and profit. Costs shall only include labor, materials, equipment, and other incidentals directly related to the work involved. In such case, the Contractor will submit in form prescribed by the Engineer, an itemized cost breakdown together with supporting data.

The amount of credit to be allowed by the Contractor to the Owner for any such change which results in a net decrease in cost, will be the amount of the actual net decrease as determined by the Engineer. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

#### **PREPARATION OF EXISTING SURFACES BY MUNICIPALITY:**

The Borough shall repair potholes, other areas of pavement failure, and major depressions in the existing pavement surface. The Borough may place a leveling course on planed, milled or existing surface, if required.

Immediately prior to application of asphalt-rubber, the surface shall be thoroughly cleaned by the Borough by sweeping. If non-weather delays postpone application, it shall be the Contractor's responsibility to re-sweep.

#### **APPLICATION:**

The asphalt-rubber mixture shall be applied at a rate of 20% at a temperature of 338°F to 419°F, at a rate of 0.50 to 0.65 gallons per square yard. Exact rate to be determined by the aggregate gradation, traffic volume and pavement condition.

Longitude joints shall be reasonably true to line and parallel to centerline. Where any construction joint occurs or around facilities such as catch basins, sanitary or storm sewer

manholes and utility gates, the edges shall be broomed back and blended so there are no gaps and the elevations are the same, free from ridges and depressions. Longitudinal joints shall be overlapped from 4 to 6 inches. The contractor will provide personnel to cover and uncover catch basins, manhole and utility covers within the scope of work made of material capable of withstanding the application of asphalt-rubber and aggregate over it.

During application, adequate provision shall be made to prevent marring and discoloration of adjacent pavements, structures, vehicles, foliage or personal property.

#### **APPLICATION OF AGGREGATE:**

The application of aggregate shall follow as close as possible behind the application of hot asphalt-rubber which shall not be spread further in advance of the aggregate spread that can be immediately covered. Construction equipment or other vehicles shall not drive on the uncovered asphalt-rubber. The hot-precoated aggregate shall be spread uniformly by a selfpropelled spreader at a rate of spread directed by the Town, generally between 30 to 40 pounds per square yard. Any deficient areas shall be covered with additional material.

#### **ROLLING:**

A minimum of (3) rollers shall be used for aggregate compaction into the hot asphalt-rubber. Two rollers must be pneumatic-tired and one must be steel-wheel. Rolling shall commence immediately following spread of aggregate. There shall be at least three coverages by the pneumatic-tired rollers to embed the aggregate particles firmly into the asphalt-rubber. A coverage shall be as many passes as are necessary to cover the entire width being spread with a pass being one movement of a roller will follow. Water shall be applied to the tires or wheels as required to limit sticking of the asphalt-rubber and aggregate to the rollers.

#### **SWEEPING:**

When the maximum amount of aggregate has been embedded into the asphalt-rubber and the pavement has cooled, all loose material shall be swept or otherwise removed. This will be done at a time and in a manner, which will not displace any embedded aggregate or damage the asphalt-rubber. **Adjacent streets and streets used to transport pretreated stone to and from the jobsite and the stockpile will be swept, to remove loose stones from them on a daily basis, by the end of each work day.** Post sweeping is the responsibility of the contractor.

#### **TRAFFIC CONTROL:**

Contractor will provide All traffic control signage and devices required to maintain traffic flow for local, emergency, and at least one-way traffic to all vehicles satisfactory to the Borough's Police Department. Contractor to maintain at least one way traffic at all times

during operations. The Borough will provide uniformed police officers as required for the project.

During construction and 24 hours following construction, vehicle speed should be posted to a maximum of 15 miles per hour. Signage shall be posted during application of the seal and construction advisory signing will be in place to advise motorists of construction. The contractor will supply all road construction and speed or loose stone advisory signs per the MUTCD during the application process.

**QUALITY CONTROL AND INSPECTION:**

Close supervision and inspection Borough by qualified personnel shall be maintained to insure that the rates of application and amount of rolling are being adhered to.

**WEATHER:**

The minimum air temperature shall be 60° Fahrenheit and rising with no rain predicted. Work shall not go forward if standing water is present. Work shall not begin if it is a better than 50% chance of rain for the day.

**SUSPENSION OF WORK:**

The Borough, through its representative, shall have full authority to suspend operations for all situations that would affect the outcome of the finished product. These situations shall include but not be limited to:

- Poorly maintained or insufficient equipment.
- Unprofessional work or employees.
- Poor or predicted weather conditions.
- Pavement is wet or has standing water

Method of Measurement

Chip sealô 20% Rubber will be measured for payment by the number of square yards of surface area installed and accepted.

Basis of Payment

This work will be paid for at the contract unit price per square yard for Chip sealô 20% Ruber which price shall include all materials, equipment, tools, labor, traffic control, including but not limited to traffic signs, barricades, cones, certified flagmen, and work incidental thereto.

Pay Item

Pay Unit

Chip Sealô 20% Rubber

**EXHIBIT 3**

## SPECIFICATIONS FOR

### HOT IN-PLACE ASPHALT RECYCLING

#### HEATER SCARIFICATION OF EXISTING ASPHALT PAVEMENT

##### 1.0 DESCRIPTION:

This item shall be part of a multi-step process of asphalt surface rehabilitation that consists of softening the existing flexible pavement with heat and thoroughly stirring spinning or tumbling the mixture, applying an asphalt rejuvenator, milling/remixing, reshaping and compacting the hot in-place recycled surface. Installing a surface treatment or overlay is a separate and/or concurrent function of this work.

##### 2.0 EQUIPMENT REQUIREMENTS:

A. Preheaters: The preheating machines shall be two self-contained machines specifically designed to heat the upper layers of the existing asphaltic pavements. The preheating machines shall be self-propelled and completely self-contained units 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 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. 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.

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 vibratory 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.

### 3.0 CONSTRUCTION REQUIREMENTS:

A. Pavement Preparations: 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 the contractor to do the same. The Contractor is required to provide traffic control.

B. Heating, Scarifying, Leveling, and Rejuvenating: The existing asphaltic material shall be heated, scarified and mixed to a minimum depth of one (1") inch. Under no circumstances shall the scarifying teeth penetrate into the existing base.

B. 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

- C. Overlay: The application of the final wearing surface consisting of either 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 METHOD OF MEASUREMENT

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

5.0 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 heating, scarifying, application of rejuvenating agent, milling/remixing, and compaction will be made at the price bid per square yard.

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 oldö 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.

TEST	ASTM METHOD	ERA-5	ERA-25P		
		MIN.	MAX	MIN.	MAX
Viscosity, Saybold Furol @ 25 C, sec.	D244	15	85	15	85

Storage Stability Test, 1 Day	D244	ó	1.0	ó	1.0
Sieve Test, Retained on No. 20 Sieve Percent	D244	ó	0.1	ó	0.1
Cement Mixing, Test Percent	D244	ó	2.0	ó	2.0
Residue by Evaporation Percent	D244	65	ó	65	ó
Tests on Residue Viscosity @ 60 C cst	D2170	200	800	1000	5000
Torsional Recovery			20	ó	
Base Recycling Agent (ie. Prior to emulsification)	D4552		RA-5	RA-25	



EXHIBIT 4

LIQUID BITUMINOUS MATERIALS SPECIFICATION  
(Micro-surfacing) (Quick Set Slurry Seal)

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**ASPHALT PRICE ADJUSTMENTS:**

1. Asphalt price adjustments allowed will be based on \$450 per ton average of the F.O.B. terminal price per ton of unmodified PG 64-22 binder without anti-stripping agent (base average F.O.B. terminal price).

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

2. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20<sup>th</sup> of each month, hereafter known as the "Adjustment Date", starting at time of submission of bid. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month (i.e., May 1, 2007) following the adjustment date.

3. The unit prices of bituminous materials purchased based on this specification will be subject to adjustment based on the following formula:

New Average FOB Terminal Price	-	Base Bid Average Terminal Price	x	Total Allowable Petroleum % Type II = 9.0 Type III = 7.5 Slurry = 13.5	=	Price Adjustment (Per US Ton)
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NEW MONTHLY AVERAGE F.O.B TERMINAL PRICE:

The average F.O.B terminal price for unmodified PG 64-22 binder without anti-stripping agent as determined by the Department of Transportation Standard Specification, or certified F.O.B. tickets.

BASE AVERAGE F.O.B TERMINAL PRICE

The average F.O.B. terminal price of unmodified PG 64-22 binder without anti-stripping agent as determined by the Department of Transportation as of bid submission date.

TOTAL ALLOWABLE PETROLEUM:

The percentage of total allowable petroleum for each item is as follows:

**GROUP 31506 – LIQUID BITUMINOUS MATERIALS SPECIFICATION  
(Micro-surfacing) (Quick Set Slurry Seal)**

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Item #	Item	Asphalt %	Petroleum Allowance	Total Allowable Petroleum %
1	Micro Type II	9.0 %	0	9.0 %
2	Micro Type III	7.5 %	0	7.5 %
3	Slurry	13.5 %	0	13.5 %

Asphalt price adjustment will not be allowed for materials, which do not have an asphalt cement base.

**EXAMPLE:**

Items #1

Base Avg. Price = \$309.00

New Avg. Price = \$319.00

Total Allowable Petroleum = 9.0% (Micro Type II ó Item 1)

$\$319.00 \text{ ó } 309.00 \times .09 = \$0.9 \text{ per US Ton}$

Positive Price Adjustment number shall be added to original per Ton Bid Price

Negative Price Adjustment number shall be subtracted from original per Ton Bid Price.

**EXHIBIT 5**

**LIQUID BITUMINOUS MATERIALS (Crack Sealing)  
SPECIFICATION**

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**ASPHALT PRICE ADJUSTMENTS: PG64-22 + FIBERS**

1. Asphalt price adjustments allowed will be based on the \$450.00 per ton of the F.O.B. terminal price per ton of unmodified PG 64-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined based on price of pre-approved primary sources of performance graded binder.

NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

2. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20<sup>th</sup> of each month, hereafter known as the "Adjustment Date", starting at time of submission of bid. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month (i.e., May 1, 2007) following the adjustment date.

3. The unit prices of bituminous materials purchased from any award based on this specification will be subject to adjustment based on the following formula:

$$\boxed{\begin{array}{l} \text{New Average FOB} \\ \text{Terminal Price/Ton} \end{array}} - \boxed{\begin{array}{l} \text{Base Bid} \\ \text{Average} \\ \text{Terminal} \\ \text{Price/Ton} \end{array}} \times \boxed{\begin{array}{l} \text{Total Allowable Petroleum \%} \\ \text{Crack Sealing (95\%)} \end{array}} = \boxed{\begin{array}{l} \text{Price Adjustment} \\ \text{(Per US Ton)} \end{array}}$$

**NEW MONTHLY AVERAGE F.O.B TERMINAL PRICE:**

The average F.O.B terminal price for unmodified PG 64-22 binder without anti-stripping agent as determined by the Department of Transportation Standard Specification, or certified F.O.B. tickets.

**BASE AVERAGE F.O.B TERMINAL PRICE**

The average F.O.B. terminal price of unmodified PG 64-22 binder without anti-stripping agent as determined by the Department of Transportation as of bid submission date.

**TOTAL ALLOWABLE PETROLEUM:**

The percentage of total allowable petroleum for each item is as follows:

PG64-22 (Item #4)	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
	95%	0	95%

Asphalt price adjustments will not be allowed for materials, which do not have an asphalt cement base.

EXAMPLE:

Item PG64-22 + Fibers

New Avg. Price	Base Avg. Price	Total allowable	Price Adjustment
<u>\$319.00/Ton</u> -	<u>\$309.00/Ton</u>	Petroleum Crack	(per pound)
2,000		Sealing 95%	

Positive Price Adjustment number shall be added to original per pound Bid Price.

Negative Price Adjustment number shall be subtracted from original per pound Bid Price.

**Price adjustment shall not apply to the street Table bids provided.**