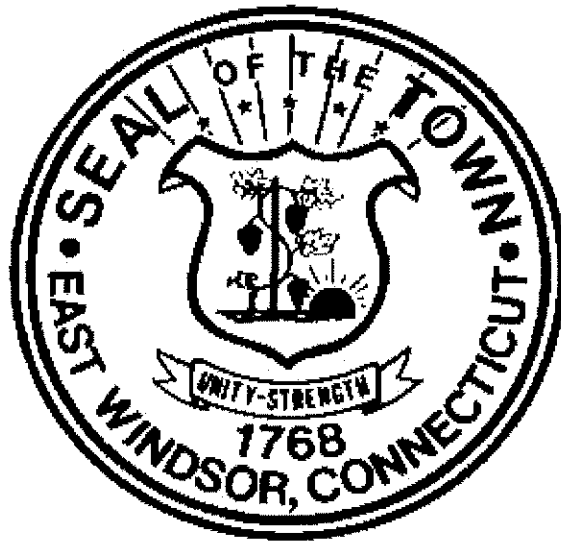


# **CONTRACT DOCUMENTS**

For

## **PAVEMENT RESTORATION 2023**



TOWN OF EAST WINDSOR  
DEPARTMENT OF PUBLIC WORKS  
6 WOOLAM ROAD  
EAST WINDSOR, CONNECTICUT

Bids will be received until 1:00 p.m. on Monday, April 24, 2023 in the office of the First Selectman, Town Hall, 11 Rye Street, Broad Brook, CT 06016

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TOWN OF EAST WINDSOR  
DEPARTMENT OF PUBLIC WORKS  
EAST WINDSOR, CONNECTICUT

**INVITATION TO BID**

Sealed bids for the PAVEMENT RESTORATION 2023 project shall be accepted at the Office of the First Selectman, Town Hall 11 Rye St, Broad Brook, Connecticut until 1:00 p.m., Prevailing Local Time Monday, April 24, 2023, at which time said bids shall be opened and the results posted on the Town website.

In general work to be performed under this contract shall be for roadway milling, roadway reclamation, pavement removal, curb removal, pavement patching, adjusting and replacing utility manhole covers and gate boxes as needed, curbing placement, pavement shimming, placement of new pavement, pavement markings, paving driveway entrances, restoring lawn areas and associated work in various areas throughout the Town. Superpave is to be used for the road pavement. This bid shall establish unit pricing for the items described above.

Electronic copies of the Contract Documents may be obtained from the Town website - East Windsor CT | ([eastwindsor-ct.gov](http://eastwindsor-ct.gov)). The documents will be posted under the Invitations to Bid. Contract documents may also be requested via email by contacting the Town Engineer at [lnorton@eastwindsorct.com](mailto:lnorton@eastwindsorct.com).

The Town of East Windsor, Connecticut reserves the right to reject any or all bids submitted in response to this Invitation to Bid. The Town reserves the right to waive any informality, defect or irregularity in any or all Bids if such action is in the best interests of the Town.

---

Jason E. Bowsza  
First Selectman

## INSTRUCTIONS TO BIDDERS

1. GENERAL: Sealed proposals will be received by the First Selectman of the Town of East Windsor, Connecticut at the Town Hall for work as outlined in the "Invitation to Bid."
2. BIDS: All Bids must be submitted on forms supplied by the Town and shall be subject to all requirements of the Contract Documents, including these "Instructions to Bidders." All Bids must be complete and regular in every respect and no interlineations, excisions or special conditions shall be made or included in the Bid Form by the Bidders.

**The Bid Proposal, Non-Collusion Affidavit, Bid Bond, Qualifications of Bidders and Qualifications of Subcontractors shall be completed and enclosed in a sealed envelope clearly marked as shown below:**

### BID – PAVEMENT RESTORATION 2023

Also include the Name of Bidder, and date and time of Bid Opening, in order to guard against premature opening of the Bid. The Town may consider as irregular any Bid on which there is an alteration of, or departure from, the Bid Form hereto attached and may reject same. If the Contract is awarded, it will be awarded by the Town of East Windsor to the lowest responsible and qualified Bidder as determined by the Town.

3. ADDENDA AND INTERPRETATIONS: Any request from prospective Bidder for interpretation of the meaning of Contract Drawings, Specifications, or other Contract Documents shall be made, in writing, to the Town Engineer, Town Hall, East Windsor, Connecticut, and to be given consideration, **must be received at least four (4) days prior to date fixed for opening of proposals.** Interpretations will be made in the form of written Addenda to Contract Documents, which Addenda shall become a part of the Contract. Not later than two (2) days prior to date fixed for opening of proposals, written addenda will be posted on line and/or mailed, e-mailed or faxed to all persons who obtain Contract Documents. Failure of any Bidder to receive such Addenda shall not relieve Bidder from any obligation under his proposal as submitted.
4. CONTRACT PROVISIONS: At the date fixed for opening of Bids, it will be presumed that each Bidder has satisfied himself as to actual conditions, requirements and quantities of work, and has read and become thoroughly familiar with Contract Documents including Contract Drawings, Specifications and Addenda if applicable.
5. NON-COLLUSION AFFIDAVIT: The Non Collusion Affidavit must be completed, notarized and attached to all Bid Proposals. If the Bid is being submitted by a joint venture, a separate Non-Collusion Affidavit must be submitted by each of the joint venture parties. Failure to do so may result in rejection of the bid(s).
6. BID BOND: The Bid must be accompanied by a Bid Bond which shall be not less than **ten (10) percent of the amount of the Grand Total of All Bid Prices, with Prevailing Wage Rates in the Proposal.** Bid Bond shall be prepared in the form of the sample Bid Bond hereto attached, duly executed by the Bidder as principal and having a surety thereon which shall be acceptable by the Town. Certified checks or bank drafts will be accepted. Bid securities will be returned to all except the three lowest bidders within ten days, Saturdays, Sundays, and legal holidays excluded after opening of bids, and the remaining securities of the bidders will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if all bids are rejected.

7. **POWER OF ATTORNEY:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.
8. **BIDDER'S QUALIFICATIONS:** The Town of East Windsor may make such investigation as deemed necessary to determine the ability of the Bidder to discharge his Contract. The Bidder shall furnish the Town with all such information and data for similar projects, as may be required for the purpose. The Town reserves the right to reject any Bid if the Bidder fails to satisfactorily convince the Town that he is properly qualified by experience and technical and financial facilities to carry out the obligation of the Contract and to satisfactorily complete the work called for herein. Conditional Bids will not be accepted.

In judging the lowest responsible and qualified bidder, the Town shall consider the quality of work performed by the Contractor in the past, the Contractor's dependability, and his ability to perform the work in accordance with these specifications. The Town reserves the right to reject any or all Bids whenever it deems it to be in the best interest of the Town.

9. **BID QUANTITIES AND PRICES:** Most quantities stated in the bid proposal are reasonable estimates of the quantities expected for the project. The Bid Quantities and Bid Prices on the Proposal sheets are used to determine the low bidder and the value of the Bid Bond. Pay Items with an asterisk (\*) are items that may not be needed and have low Bid Quantities to provide a Bid Price should the Town determine that the item is needed. Payments will be based on the actual quantities installed and approved. Each unit price stated in the bid proposal shall include its prorata share of overhead and profit. Should conditions make it necessary to alter quantities or delete items, no extra compensation for overhead or profit will be allowed. Any bid not conforming to this provision may be rejected as informal.
10. **REJECTION OF BIDS:** The Town also reserves the right to reject any and all Bids, for any reason the Town deems advisable, and to award the Contract to any of the Contractors bidding on work regardless of the amount of Bid. It is intended that the Contract will be awarded to the lowest responsible and qualified Bidder (or Bidders) possessing skill, ability and integrity necessary to faithfully perform the work as determined by the Town.
11. **AWARD OF CONTRACTS:** The Contract will be awarded to the lowest responsible and qualified bidder, as determined by the Town, submitting the lowest mathematically correct Grand Total of All Base Bid and Alternate Bid Prices, with Prevailing Wage Rates on the Proposal and complying with the conditions of these Contract Documents.

In judging the lowest responsible and qualified bidder, the Town shall consider the quality of work performed by the Contractor in the past, the Contractor's dependability, and his technical and financial ability to perform the work in accordance with these specifications. The Town reserves the right to reject any or all Bids whenever it deems it to be in the best interest of the Town.

The Bidder to whom the award is made will be notified at the earliest possible date. The successful Bidder shall execute and deliver to the Town, within ten (10) business days of the date of the Notice of Award, an Agreement in the form included in the Contract Documents, in such number as the Town may require.

The successful Bidder shall also provide, in triplicate, within ten (10) business days of the date of the Notice of Award, by a company satisfactory to the Town, a Labor and Material (Payment) Bond and a Performance Bond, each equal to 100 percent of the mathematically correct Grand Total of All Bid Prices with Prevailing Wage Rates on the Proposal. Surety Bonds shall be in accordance with sample forms attached to Contract Documents. The successful Bidder shall also submit a schedule to complete this work by the Time of Completion shown below within 2 weeks of the Notice of Award date.

12. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO THE CONTRACT: The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within ten (10) business days after he has received the Notice of Award, shall forfeit to the Owner, as liquidated damages for such failure or refusal, and not as a penalty, the security deposited with his bid provided that the amount of the security which becomes the property of the Owner shall not exceed the difference between his bid price and the bid price of the next lowest responsible bidder.
13. SUBSURFACE CONDITIONS: All information given on Drawings which will be used under this Contract relating to subsurface conditions and existing pipes and other structures or obstructions are provided to the Bidders for information only and for the convenience of the Bidders. The Town does not warrant the accuracy or completeness of such information and expressly disclaims all warranties to such information. By submitting a Bid, the Bidders expressly acknowledge the nature of any subsurface information provided and expressly waive any claims or damages of any kind or nature against the Town, its agents, independent contractors and the employees of them.
14. WITHDRAWAL OF BIDS: No bidder may withdraw their bid **for 30 days**, Saturdays, Sundays and Holidays excluded after the bid opens. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder.
15. BID ITEMS: The Town reserves the right to alter quantities or delete bid items or portion of bid items for any reason deemed advisable and to be in the best interests of the Town. Deletions and alterations shall not be considered as a waiver of any other conditions of the Contract nor to invalidate any provisions thereof. The Contractor shall accept payment in full at the contract price for actual quantities of work performed.
16. CONSTRUCTION shall not commence until weather conditions permit, as determined by the Town Engineer. The contract shall be completed within the times of completion stated in contract documents, commencing at time of Notice to Proceed.
17. TIME OF COMPLETION: The Bidder must agree to fully complete all the work described in the Special Conditions of these contract documents to the satisfaction of the Town by September 1, 2023. The successful Bidder shall submit a schedule for completing this work within two weeks of the date of the Notice of Award for review and approval by the Town. The Bidder must agree that a milled pavement surface or reclaimed road surface will not be exposed to traffic for more than 14 calendar days. **The Contract shall stay in force for twelve (12) months from the date it is signed and executed. The Contract may be extended one (1) year by mutual consent of the Contractor and the Town.**



18. **FAILURE TO COMPLETE WORK:** In the event that a Contract is issued and that firm is unable to perform the duties contracted within the timeframe given to the contracted firm, the Town of East Windsor has the right to utilize the next lowest bidder or seek another contractor who can get the work done, within the stated timeframe.

The Contractor will begin work within (2) weeks after the Notice to Proceed Date and work diligently and continuously, without interruption, until the project is completed to the Town's satisfaction. The Contractor shall submit a written request to the Town for approval of any interruption in work that has been scheduled, for any reason, of greater than 5 consecutive work days. This request shall state the duration and reason for the requested work interruption. Should the contractor not submit such a request, or should it not be approved by the Town and work is interrupted, the Town shall consider the Contractor to have stopped work and may terminate the contract and/or seek other means to complete the work as may be available.

19. **WORK SCHEDULE AND NOTIFICATION:** Each work day (excluding weekend days and holidays) the Contractor shall notify the Town of the work to be done on the next work day. The Contractor must notify the Town at least 24 hours in advance of any change in the work schedule and of any day on which the Contractor will not be able to work and include a valid reason, approved by the Town, as to why the Contractor is not able to work in Town.

20. **LIQUIDATED DAMAGES:** The Bidder's attention is directed to Article 33 of the General Conditions. The Bidder must agree to pay as liquidated damages, and not as a penalty, the amount of five hundred dollars (\$500.00) for each consecutive calendar day that the Contractor does not provide at least 24 hours advance notice (excluding weekend days and holidays) of any change in the work schedule or any day that the Contractor is not able to work in Town in accordance with the General Conditions. The Bidder must agree to pay as liquidated damages, and not as a penalty, the amount of five hundred dollars (\$500.00) for each consecutive calendar day that a milled or reclaimed road surface is exposed to traffic without new pavement for more than 14 calendar days in accordance with the General Conditions. The Bidder must agree to pay as liquidated damages, and not as a penalty, the amount of five hundred dollars (\$500.00) for each consecutive calendar day that the Contractor does not complete all the work to the Town's satisfaction, beyond the September 1, 2023, completion date stated above in accordance with the General Conditions. The Bidder (Contractor) agrees that said sum shall be deducted from monies due the Contractor under the Contract, or, if no money is due the Contractor, the Contractor hereby agrees to pay to the Owner as liquidated damages, and not by way of penalty, such total sum as shall be due for such delay.

21. **LAWS AND REGULATIONS:** The Bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of this work shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

22. **NON-DISCRIMINATION IN EMPLOYMENT:** Contracts for work under this proposal will obligate the contractors and subcontractors not to discriminate in employment practice.

23. The Bidder selected by the Town for this project may be required to submit a signed statement as to whether they have previously performed work subject to the President's Executive Order No. 11246, or any preceding similar Executive Order.
24. **WAGES AND SALARIES:** Attention of Bidders is particularly called to the requirements concerning the payment of not less than the prevailing State of Connecticut wage and salary rates specified in the Contract Documents if the total contract price is \$100,000 or more. If the total contract price is less than \$100,000, prevailing State of Connecticut Wage Rates should not be used. The conditions of employment with respect to certain categories and classifications of employees, will determine wage rates.

The rates of pay set forth are the minimal to be paid during the life of the Contract. It is, therefore, the responsibility of Bidders to inform themselves as to local labor conditions, such as the length of workday and workweek, overtime compensation, health and welfare contributions, labor supply and prospective changes or adjustments of rates.

## **INTENT OF CONTRACT**

The Town of East Windsor is seeking a contract for

### **PAVEMENT RESTORATION 2023**

In general, this bid shall establish unit pricing for roadway milling, pavement reclamation, curb removal, pavement patching, adjusting, and replacing as needed utility manholes and gate boxes, curbing, pavement shimming, placement of new pavement, paving driveway entrances, pavement markings, traffic loop detectors, restoring lawn areas and associated work at locations listed in the Special Conditions and shown on the attached map. Superpave is to be used for the road pavement.

This Contract is intended to describe a complete process with all standard equipment and materials as described in the detailed specifications and seeks to achieve competitive bids for similar services from various vendors.

# PAVEMENT RESTORATION 2023 PROPOSAL

4/1/2023

Having carefully examined the "Instruction to Bidders" and the provisions and conditions attached hereto for the PAVEMENT RESTORATION 2023, the undersigned proposes the unit prices as indicated below, subject to and in accordance with the specifications and conditions contained in the Contract Documents, Invitation to Bid, Instructions to Bidders, General Conditions, Special Conditions and Technical Provisions, which are made part of this proposal.

The unit prices quoted shall include all materials, equipment, labor, supervision, overhead items, protection and precautions and all other incidental costs necessary for construction as specifically identified for each item in the Measurement and Payment Section and/or the Technical Provisions. The mathematically correct Grand Total of All Base Bid and Alternate Bid Prices, representing the actual sum of all Bid Prices on all the Proposals sheets, will be used in determining the low bidder.

The Bid Quantities and Bid Prices on the Proposal sheets are used to determine the low bidder and the value of the Bid Bond. Pay Items with an asterisk (\*) are items that may not be needed and have low Bid Quantities to provide a Bid Price should the Town determine that the item is needed. Payments will be based on the actual quantities installed and approved.

Item No.	Pay Item	Pay Unit	Unit Cost WITH Prevailing Wage Rates (\$)	Bid Quantity	Bid Price WITH Prevailing Wage Rates (\$)
1	HMA S0.5	TON		1050	
2	HMA S0.375	TON		3840	
3	HMA S0.25 Shim Course *	TON		200	
4	Road Excavation - Earth Excavation *	C.Y.		1000	
5	Bituminous Concrete Driveway	S.Y.		250	
6	Bituminous Concrete Lip Curbing, Machine & Hand Laid *	L.F.		200	
7	Bituminous Concrete Curbing Removal & Disposal	L.F.		3400	
8	Bituminous Concrete Slope Curbing, Machine & Hand Laid	L.F.		3400	
9	Formation of Subgrade *	S.Y.		3000	
10	Furnishing and Placing Topsoil	S.Y.		10,000	
11	Loop Detector Saw Cut*	L.F.		30	
12	Pavement Fine Milling of Hot Mix Asphalt (HMA) (0 to 4 inches)	S.Y.		37,604	
13	Pavement Marking - Line Striping (4" Yellow & 4" White)	L.F.		2140	
14	Pavement Marking - Other	S.F.		100	
15	Pavement Patching - Permanent (2" Thick Pavement) *	S.Y.		500	
16	Pavement Patching - Permanent (4" Thick Pavement) *	S.Y.		500	
17	Pavement Reclamation (with No Stone) (9" to 13" deep) *	S.Y.		100	
18	Pavement Saw Cut and Hot Seal	L.F.		350	
19	Processed Aggregate Base *	TON		100	
20	Road Excavation - Test Pit *	EA.		6	
21	Fine Grading for Paving	S.Y.		12475	
SUBTOTAL OF BID PRICES PAGE P-1					

# PAVEMENT RESTORATION 2023 PROPOSAL

**4/1/2023**

[illegible]

## NON-COLLUSION AFFIDAVIT

This entire document should be completed, notarized and attached to your Bid Proposal. Failure to do so may result in the rejection of your Bid.

If the subject bid is being submitted by a joint venture, a separate Non-Collusion Affidavit must be submitted by each of the Joint Ventures.

### TOWN OF EAST WINDSOR PROJECT:

### PAVEMENT RESTORATION 2023

The undersigned, being duly sworn, states that (a) she/he is authorized to make this affidavit on behalf of the bidder, and (b) the bidder has not directly or indirectly entered into any agreements, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with the subject bid. I understand that false statements made herein may be subject to criminal prosecution.

\_\_\_\_\_  
Name of Bidder (i.e. Person or Organization)

\_\_\_\_\_  
Signature and Title of Official

\_\_\_\_\_  
Typed/Printed Name of Official

Subscribed and sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_, 2023

\_\_\_\_\_  
Notary Public/Commissioner of the Superior Court

My Commission Expires \_\_\_\_\_

## QUALIFICATIONS OF BIDDER

The Bidder is required to submit on the following pages the information required in regard to his qualifications for the work.

- A. Previous experience (number of years)\_\_\_\_\_.
- B. The location, character, cost, date and names of engineers or officials of similar work previously constructed by the undersigned for the last 5 years are as follows:  
(By supplying this information, the Bidder authorizes the Town to contact such persons for purposes of a reference check)

- C. The equipment which will be available for performing the work under this contract is as follows:

Own equipment:

Rented Equipment:

D. The financial resources of the undersigned to show his financial ability are as follows (provide financial statements, credit references and banking references):

E. Please identify all contracts within the last 5 years that the Bidder has failed to complete. If there have been no contracts which the bidder has failed to complete, including those in which a surety has participated, the bidder shall definitely so state.

F. Please identify all arbitration or litigation proceedings in which the Bidder is currently involved in and has been involved for the last 5 years and briefly describe the nature and result of the proceedings.

Name of Bidder\_\_\_\_\_

Address\_\_\_\_\_

\_\_\_\_\_



F. Bidder shall submit information on this sheet indicating Municipalities for whom Bidder has executed similar work without deterioration directly related to improper techniques, for a minimum period of three years. Failure to complete this sheet may be cause for rejection of bid.

1. Municipality Name: \_\_\_\_\_  
Location (City, State): \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Year Work Performed: \_\_\_\_\_
  
2. Municipality Name: \_\_\_\_\_  
Location (City, State): \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Year Work Performed: \_\_\_\_\_
  
3. Municipality Name: \_\_\_\_\_  
Location (City, State): \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Year Work Performed: \_\_\_\_\_
  
4. Municipality Name: \_\_\_\_\_  
Location (City, State): \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Year Work Performed: \_\_\_\_\_
  
5. Municipality Name: \_\_\_\_\_  
Location (City, State): \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Year Work Performed: \_\_\_\_\_

## QUALIFICATIONS OF SUBCONTRACTORS

The Bidder is required to submit on the following information required in regard to Subcontractors.

- A. Approximate listing of Subcontractors which may perform work included under this project and their area of involvement:
- B. The location, character, cost, date and names of engineers or officials of similar work previously constructed by the subcontractors as listed above:

Name of Bidder \_\_\_\_\_

Address \_\_\_\_\_

**Figure 1**

Bond No. \_\_\_\_\_

## **BID BOND**

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

\_\_\_\_\_  
As PRINCIPAL, and

\_\_\_\_\_ as SURETY are held  
firmly bound unto the Town of East Windsor, Connecticut hereinafter called the "Town",  
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 CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has been  
submitted the Accompanying Bid, dated \_\_\_\_\_,  
for the project known as,

### **PAVEMENT RESTORATION 2023**

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within thirty (30) days after the said opening and shall within the period specified therefor, or if no period be specified within ten (10) days after the prescribed forms are presented to him for the signature, enter into a written Contract with the Town 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 for payment of labor and materials and proper fulfillment of such Contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such contract shall pay the Town the difference between the amount specified in said Bid and the amount for which the Town may procure the required work or supplies or both; if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

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

In the presence of

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

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_  
(Partnership) (SEAL)

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

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

Attest:

\_\_\_\_\_

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

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

Corp.

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

\_\_\_\_\_  
Seal

\_\_\_\_\_

\_\_\_\_\_

Attest:

\_\_\_\_\_

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

By: Affix Corp.

\_\_\_\_\_  
Seal

\_\_\_\_\_

Countersigned

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

\_\_\_\_\_  
(Power-of-Attorney for person signing for Surety Company must be attached to bond.)

Bond No. \_\_\_\_\_

## LABOR AND MATERIAL PAYMENT BOND

Note: This bond is issued simultaneously with another bond in favor of the Town of East Windsor, Connecticut conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS:

That \_\_\_\_\_

As Principal, hereinafter called Principal, and \_\_\_\_\_

\_\_\_\_\_, as Surety, hereinafter called Surety, are held and firmly bound unto the Town of East Windsor, Connecticut, claimants as hereinbelow defined, in the amount of \_\_\_\_\_ Dollars \$ \_\_\_\_\_), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated \_\_\_\_\_ entered into a Contract with the Town for

### **PAVEMENT RESTORATION 2023**

Made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall pay for all labor and materials furnished to himself or his subcontractors for use in the prosecution of the work, and used therein, then, this obligation shall be void; otherwise it is to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Section 49-41, 49-42 and 49-43 of the 1958 Revision of the General Statutes and the 1961 Supplement thereto, of the State of Connecticut, and the rights and liabilities hereunder shall be determined and limited by said sections to the same extent as if they were copies at length herein.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

In the presence of:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_(SEAL)  
(Principal)

BY: \_\_\_\_\_

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

BY: \_\_\_\_\_

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

In the presence of

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

\_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_(SEAL)  
(Partnership)

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

Attest:

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

\_\_\_\_\_

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

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

By: \_\_\_\_\_ Affix  
Corp  
Seal

\_\_\_\_\_

Attest:

\_\_\_\_\_

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

By: \_\_\_\_\_ Affix  
Corp  
Seal

\_\_\_\_\_

Countersigned

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

\_\_\_\_\_  
(Power-of-Attorney for person signing for Surety Company must be attached to bond.)

(ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION)

State of \_\_\_\_\_)

SS:

, \_\_\_\_\_

County of \_\_\_\_\_)

On this \_\_\_\_\_ day of \_\_\_\_\_ before me personally came  
and appeared \_\_\_\_\_ to me know, who, being by me duly  
sworn, did depose and say that he resided at \_\_\_\_\_  
that he is the \_\_\_\_\_ of \_\_\_\_\_

\_\_\_\_\_, the corporation described in and which executed the foregoing  
instrument; that he knows the seal of said corporation; that one of the impressions affixed  
to said instrument is an impression of such seal; that it was so affixed by order of the  
directors of said corporation, and he signed his name thereto by like order.

\_\_\_\_\_  
Notary Public

(SEAL)

(ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP)

State of \_\_\_\_\_)

SS:

, \_\_\_\_\_

County of \_\_\_\_\_)

On this \_\_\_\_\_ day of \_\_\_\_\_ before me personally came and  
appeared \_\_\_\_\_ to me known and known to me to be  
one of the members of the firm of \_\_\_\_\_,  
described in and who executed the foregoing instrument and he acknowledged to me  
that he executed the same as and for the act and deed of said firm.

\_\_\_\_\_  
Notary Public

(SEAL)

(ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL)

State of \_\_\_\_\_)

SS.

County of \_\_\_\_\_)

, \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_ before me personally came and appeared \_\_\_\_\_ to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledge that he executed the same.

\_\_\_\_\_  
Notary Public

(SEAL)



**PERFORMANCE BOND**

Bond No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS:

That \_\_\_\_\_ as  
Principal, Hereinafter called Principal, and \_\_\_\_\_  
as Surety, hereinafter called Surety are held and firmly bound unto the Town of East  
Windsor, Connecticut, as Obligee, hereinafter called Town, in the amount of  
\_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_), for the payment whereof Principal and Surety bind  
themselves, their heirs, executors, administrators, successors and assigns, jointly and  
severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated \_\_\_\_\_ entered  
into a Contract with the town for the project known as

**PAVEMENT RESTORATION 2023**

which Contract is by reference made a part hereof, and is hereinafter referred to as the  
Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if  
Principal shall promptly and faithfully perform said Contract then this obligation shall be  
null and void, otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by  
the Town.

Whenever Principal shall be, and declared by the Town to be in default under the Contract, the Town having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions; or,
2. Obtain a bid or bids for submission to the Town for completing the Contract in accordance with its terms and conditions, and upon determination by the Town and Surety of the lowest possible bidder, arrange for a Contract between such bidder and the Town, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not the exceeding, including, other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The terms "balance of the Contract price", as used in this paragraph, shall mean the total amount payable by the Town to Principal under the Contract and any amendments thereto, less the amount properly paid by the Town to the Principal.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Town named herein or the heirs, executors, administrators or successors of Town.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

In the Presence of:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_(SEAL)  
(Principal)

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

\_\_\_\_\_(SEAL)

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

## **AGREEMENT**

THIS AGREEMENT, made this the \_\_\_\_\_ day of \_\_\_\_\_, 2023  
by and between the Town of East Windsor, acting herein through its First Selectman,  
hereinafter called "Owner," and \_\_\_\_\_,  
a Corporation of the City of \_\_\_\_\_, County of \_\_\_\_\_ and  
State of Connecticut, hereinafter called the "Contractor."

WITNESSETH: That for, and in consideration of, the payments and agreements  
hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR  
hereby agrees with the OWNER to commence and complete the Project described as  
follows:

### **PAVEMENT RESTORATION 2023**

hereinafter called the PROJECT, for the unit prices quoted and all extra work in  
connection therewith, under the terms as stated in the Proposal attached hereto of the  
Contract; and at his (its or their) own proper cost, equipment, tools, superintendence,  
labor, insurance, and other accessories and services necessary to complete the said  
Project in accordance with the conditions and prices stated in the Proposal and the  
Contract Documents described as follows:

### **PAVEMENT RESTORATION 2023**

The Contractor hereby agrees to commence work under this Contract on or  
before a date to be specified in a written "Notice to Proceed" of the Owner and to fully  
complete the project within the timeframes indicated in the Instruction to Bidders "Time  
of Completion".

The Owner agrees to pay the Contractor in current funds for the performance of  
the Contract, subject to additions and deductions, as provided in the Contract  
Documents, and to make payments on account thereof as provided in the Contract  
Documents.

The Owner reserves its rights to additional damages for any other breach of  
Contract or failure of performance.

The Contractor agrees to carry liability, workers compensation and such other  
insurance as may be required by the Contract Documents and to the satisfaction of the  
Owner and shall provide Owner with evidence of same.

IN WITNESS WHEREOF, the parties to these presents have executed this AGREEMENT in the year and day first above mentioned.

(SEAL)

ATTEST:

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
Town of East Windsor  
(Owner)

\_\_\_\_\_  
(Witness)

By: \_\_\_\_\_  
Jason E. Bowsza  
First Selectman

(SEAL)

\_\_\_\_\_  
(Contractor)

\_\_\_\_\_  
Representative

By: \_\_\_\_\_  
(Representative)

\_\_\_\_\_

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

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

\_\_\_\_\_

CORPORATE SEAL

CORPORATION OFFICERS:

President \_\_\_\_\_

Treasurer: \_\_\_\_\_

General Manager \_\_\_\_\_

PARTNERSHIP:

1. \_\_\_\_\_

\_\_\_\_\_  
Residence Address

2. \_\_\_\_\_

\_\_\_\_\_  
Residence Address

3. \_\_\_\_\_

\_\_\_\_\_  
Residence Address

INDIVIDUAL:

Name \_\_\_\_\_

\_\_\_\_\_  
(Residential address if different than business address)

## NOTICE OF AWARD

TO: \_\_\_\_\_

### PROJECT DESCRIPTION: **PAVEMENT RESTORATION 2023**

In response to your Bid submitted on \_\_\_\_\_, for the above-described work, you are hereby notified that your Bid has been accepted for the unit prices quoted.

You are required by the Information for Bidders to execute the Agreement for this project and furnish the required Contractors Performance Bond, Payment Bond, Certificates of Insurance and Work Schedule within ten (10) business days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said Bonds and other documents within ten (10) business days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2023.

TOWN OF EAST WINDSOR

By \_\_\_\_\_  
Jason E. Bowsza  
First Selectman

### ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged by \_\_\_\_\_

this \_\_\_\_\_ day of \_\_\_\_\_, 2023.

By \_\_\_\_\_  
(Please Print)

Title \_\_\_\_\_

## NOTICE TO PROCEED

NOTICE TO PROCEED DATE: \_\_\_\_\_

TO:  
(Contractor)

PROJECT:

**PAVEMENT RESTORATION 2023**

You are hereby notified to commence work for the project in accordance with the Agreement dated \_\_\_\_\_, 2023, on or before \_\_\_\_\_, 2023, and you are to complete the work as indicated in the Instructions to Bidders, section, "Time of Completion".

TOWN OF EAST WINDSOR  
(Owner)

By: \_\_\_\_\_  
Jason E. Bowsza  
First Selectman

## ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by

this \_\_\_\_\_ day of \_\_\_\_\_, 2023.

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

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

## CHANGE ORDER

CONTRACT NAME: **PAVEMENT RESTORATION2023**

CHANGE ORDER NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_

OWNER: Town of East Windsor, 11 Rye Street, Broad Brook, CT

CONTRACTOR: \_\_\_\_\_

CHANGE: \_\_\_\_\_

COSTS:

CONTRACT PRICE.: \$ \_\_\_\_\_

PREVIOUS ADJUSTMENT: \$ \_\_\_\_\_

PREVIOUS ADJUSTED CONTRACT PRICE: \$ \_\_\_\_\_

INCREASE: \$ \_\_\_\_\_

DECREASE: \$ \_\_\_\_\_

ADJUSTED CONTRACT PRICE: \$ \_\_\_\_\_

APPROVALS:

TOWN ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
DIR of PUBLIC WORKS Leonard J. Norton, P.E.

FIRST SELECTMAN: \_\_\_\_\_ DATE: \_\_\_\_\_  
Jason E. Bowsza

CONTRACTOR: \_\_\_\_\_ DATE: \_\_\_\_\_



**TOWN OF EAST WINDSOR  
PAVEMENT RESTORATION 2023  
SPECIAL CONDITIONS**

1. This contract is for PAVEMENT RESTORATION 2023 for improvements to existing drainage facilities and roadway pavement restorations of existing roads and associated work. The Bid Quantities and the Bid Prices on the Proposal sheets are for the purpose of determining the value of the bid bond and to determine the low bidder. Payments will be based on the actual quantities installed and approved.
2. The work is to be done at the locations and in the order as directed by the Town. The roads with work locations are listed in Groups below and the locations are shown on the map in the appendix. The Town may add or delete work locations and the Town may vary the length of any work location. Superpave is to be used for the road and parking lot pavements.

Group A

Azalea Court, Wagner Lane, Pease Road (paved portion), Stiles Road and Prospect Hill Terrace. Fine mill to base material, approximately 3". Remove any curbs. Install temporary erosion controls as necessary. Repair or replace catch basin tops as required. Fine grade road base for paving. Place a 1 ½" thick HMA S0.5 binder course. Install new curbs on the binder course. Place a 1 ½" thick HMA S0.375 finish pavement course on the binder. Repair or replace driveway aprons as necessary. Install topsoil behind the curb and adjacent to any new pavement, hydroseed with grass seed, fertilizer and mulch to establish turf grass. Paint white stop bars. Place hot seal on all joints.

Group B

Fieldstone Road, Joseph Farm Road, North Water Street and Stoughton Road. Fine mill pavement 2" – 2 ½" deep on all roads. Remove any broken curbs and sweep the roads clean of any dust and debris. Install temporary erosion controls as necessary. Repair or replace catch basin tops as required. Permanently patch all defective pavement areas as marked by the Town. Place a ¾" – 1" thick HMA S0.25 shim pavement course with tack coat to provide cross slope in areas as determined by the Town. Replace curbs with tack coat in areas as directed by the Town. Place a 2" thick HMA S0.375 finish pavement course with tack coat as directed by the Town. Install topsoil behind the curb and adjacent to any new pavement, hydroseed with grass seed, fertilizer and mulch to establish turf grass. Paint white stop bars. Place hot seal on all joints.

On all roads paint the exposed edges of catch basins, manholes and gate boxes with orange or pink paint. Mark each catch basin with at least one **reflectorized drum (not a cone)** until the finish surface pavement is placed. On all roads replace asphalt driveway aprons as directed by the Town; restore the disturbed grass areas behind the new curbs with topsoil and turf; place pavement markings and line striping as directed by the Town.

3. All work, including paving and rolling, shall be completed each day by sunset,

4. There shall be no night work on this project unless explicitly permitted by the Town.
5. Town crews and/or the Town's drainage contractor may do some work at any of the above work locations including, but not limited to, replacing catch basin tops, drainage repairs, replacing manhole frames and covers, traffic control and restoring disturbed roadside areas with topsoil and turf establishment. The estimated quantities on the Bid Proposal sheets reflect the quantities that the Town expects the Contractor to perform and not the Town crews.
6. Upon Notice of Award, the Contractor shall submit an executed agreement, required bonds, certificate of insurance and schedule of work.
7. Subsurface information, which may be contained in Contract Documents, has been developed from the best available records, the accuracy of which cannot be guaranteed. If, in the course of construction, conditions are found which result in changes of alignment (vertical or horizontal) and/or delays necessitating the rescheduling of the Contractor's operation, such changes in alignment (vertical or horizontal) or rescheduling of operations shall not constitute the basis of a claim for extra payment. It is anticipated that the contractor, in the preparation of his bid, will provide for contingencies, which may confront him throughout the execution of the work.
8. Conflicting utilities or utilities damaged in the course of the work are the responsibility of the contractor and incidental to the price of the work.
9. The Contractor shall provide all signs, barricades, concrete barriers, orange cones and barrels conforming to the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) for delineation of job site and/or travel lanes for pedestrian and vehicular traffic. The placement of such signs, barricades, and other traffic control devices will be as specified by the Town and the current edition of the MUTCD.
10. Suitable access and egress to all buildings, business and residence driveways, intersecting roads and residences shall be made available at all times.
11. The portions of road where the work site is located may not be closed to thru traffic unless expressly approved by the East Windsor Town Engineer and Police Department. At least one travel lane shall be passable at all times for emergency vehicles and the motoring public. Emergency vehicles must be able to pass through the work site at all times, even if the road is closed to through traffic. No more than half of the roadway shall be cut or blocked at a time. The Police Department is to be contacted as to road closing restrictions.
12. The Contractor may submit an alternate route and detour plan for review and approval by East Windsor Police Department and the Town Engineer. The Town may require these signs to be moved as needed to adjust the alternate route and minimize disturbance to affected streets. There shall be no extra payment to install or move these signs.
13. The Contractor shall also submit a proposal for securing the road site during nonworking hours subject to approval by East Windsor Police Department and the Town Engineer.
14. All materials required to do this project shall be new materials (unless otherwise approved by the Town Engineer) and will be the contractor's responsibility to provide. Any materials required to make repairs to facilities broken by the Contractor during the installation process will be supplied by and paid for by the contractor. The contractor is responsible for supplying all equipment, tools and labor needed for this project.

15. All materials being used on the job are subject to testing as described in Article 14 of the General Conditions and the Technical Provisions. The Contractor is responsible for QC testing at the time of paving and is also responsible for cutting pavement core samples for QA testing as directed by the Town (see Technical Provisions for Bituminous Concrete). These testing costs shall be paid by the Contractor.
16. All construction activities, materials and methods shall conform to the plans, details, specifications, special provisions for this project, or as approved by the Town Engineer.
17. All unspecified construction shall be in conformance with the "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction" Form 818, as amended (referred to in specifications as Form 818).
18. Where there is a conflict between different specifications, the stricter specification shall be applied, or as directed by the Town Engineer.
19. Workmanship determined to be below the standards herein specified will not be accepted nor paid for until corrected and/or replaced as required by the Town Engineer or his designated representative. It is the intent of the Town of East Windsor that the work specified herein be awarded only to a company having experienced personnel and the proper equipment.
20. As per the General Conditions, retainage shall be withheld for one year after completion of the work. This is to ensure that the work was done properly. Any repairs necessary within that time frame are the responsibility of the Contractor. If repairs are not made, the Town will make the repairs and deduct the amount of those repairs from the monies owed the Contractor.
21. A pre-construction meeting will be held with the East Windsor Public Works Department prior to the "Notice to Proceed". The Contractor shall have present at the meeting those individuals responsible for administration of the contract and those responsible for construction.
22. The Contractor shall make, check and be responsible for all measurements and dimensions necessary for the proper construction of the work and prevention of misfittings in the work.
23. The Contractor shall add processed aggregate or pavement milling ramps to provide access for driveways and over sidewalks if needed. These ramps shall not be measured for payment and the cost for the ramps shall be included in the unit prices for the bid items. .
24. Within roads the Contractor will provide a road surface, which can be traveled upon, during the hours and weekends he is not working. At the direction of the Engineer this surface will be temporarily paved with bituminous concrete pavement and will be smooth with no potholes or bumps greater than 1-1/2 inch deviation.
25. Excavations will be safely covered at night, weekends, holidays and any time that there is no work activity at the site with the contractor's personnel present.
26. Equipment shall not be left on roadway at nights, weekends, holidays or other non-working days. In extreme situations where it cannot be avoided, the Public Works and Police Departments shall be notified for permission and if granted equipment left on roadway will be barricaded with well-lighted barricades.

27. Flagmen shall be on the job site at all times that men and/or equipment are working in the road, including lunch hours and coffee breaks. Flagmen are to be dedicated to only flagging duties while equipment is on the road.
28. Traffic control and flagmen requirements shall be in accordance with the plans, these specifications and the Manual on Uniform Traffic Control Devices.
29. The Contractor shall place barrels on and paint with fluorescent orange paint the edges of any exposed structures until flush with pavement.
30. The Contractor shall place a barrel at the end of all sidewalk ramps that have a lip of more than ½ inch.
31. The Contractor shall make provisions for stockpiling of materials off the road. If private property is to be utilized, written permission from owner must be obtained prior to storage and a copy of that submitted to the Town Engineer. A plan of restoration of that property shall also be submitted and restoration shall be at no cost to the Town.
32. All construction debris, including but not limited to bituminous material, surplus or unsuitable material, or structures must be removed from the site and disposed of in an approved manner, at a dump site that can legally accept this material. Town of East Windsor does not have a dumpsite. All costs shall be the Contractor's responsibility.
33. The Contractor will be responsible for all construction staking, including offset stakes to preserve curb lines. This shall be performed at no additional cost to the Town.
34. Normal construction hours are weekdays, excluding Town of East Windsor holidays, 7:00 a.m. to 5:00 p.m. Work may be done on Saturdays, with written approval of the Town.
35. No heavy equipment, or motorized/electric power equipment (such as leaf blowers or pavement saws or small compactors) shall be started or run in or adjacent to residential areas prior to 7:00 a.m.
36. The Contractor is responsible for obtaining Town of East Windsor Street Excavation Permits for work project location, as per current Town Street Excavation Permit Requirements. The fees for these permits shall be waived.
37. For any sanitary sewer work the Contractor is responsible for obtaining Town of East Windsor Drain Layer's Permits for sanitary drainage work for each project location, as per current East Windsor WPCA Standards and Guidelines for Sanitary Sewer Construction. The fees for these permits shall be waived.
38. The Contractor shall familiarize himself with each work site before commencing with construction. The Contractor shall notify the Town if differing site conditions exist.
39. Any change to the horizontal or vertical location of, materials or methods of construction from the approved plans shall be approved by the Town Engineer or his designee prior to construction.
40. Construction shall be in compliance with all OSHA requirements.
41. Any mailboxes, paper boxes or other items that have had to be relocated because of construction will be reset properly back to their original location and condition daily and the cost shall be included in the Contractor's unit prices. Any relocated item that is broken will be replaced at the Contractor's expense.

42. The adjusting of utility gate boxes, valves and manhole frames shall be coordinated with and meet the requirements of the appropriate utility companies and shall conform to the Technical Provision for "Utility Structure Top Adjustments" or the requirements of the utility.
43. Existing sanitary sewer laterals and footing drains must be kept in continuous use.
44. If an existing storm sewer is to be repaired, replaced or extended, it is a working line and must be operational (continue to function) during evenings and weekends as well as any other non-working hours.
45. Any lateral connection to reinforced concrete storm pipe shall be made with a hole core bored into the pipe. The hole shall be smooth inside pipe after core is complete. The completed connection shall be mortared. Alternate connection materials or methods may be approved by the Town Engineer.
46. The Contractor is responsible for maintaining a neat work area at the construction site. This shall include but not be limited to picking up and neatly piling tools, materials and equipment, daily clean-up and dust control, sweeping and removal of dirt and debris, and maintaining unobstructed access for vehicles and pedestrians as required. The Engineer will direct the contractor as necessary in this responsibility.
47. **WAGE REGULATION:** This bid contains State Wage Scales as provided by the Connecticut Labor Department. Chapter 558 of the Connecticut General Statutes establishes Connecticut's Labor regulations which contractors must adhere to. All provisions outlined in these regulations will prevail throughout the life of the contract, including submission of certified payrolls at the end of each workweek, as noted below. This provision will be strictly enforced by the Town.
- PREVAILING WAGE RATES:** This contract contains a proposal for prevailing wage rates and pricing should be based on the current prevailing wage rates.
48. The Contractor shall provide a construction schedule of work for approval by the Engineer after the Notice of Award date for this project.
49. The Contractor shall be responsible for repairing any damages and erosion to pavement edges and roadside areas due to stormwater runoff or other causes while a road is milled and shimmed, before final pavement and curbing is installed.

## **GENERAL CONDITIONS**

### **ARTICLE 1. Definitions**

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings which shall be applicable to both the singular and plural thereof:

#### **Agreement**

The written agreement ("Agreement") between the Town of East Windsor and the Contractor covering the work to be performed, including the Contractor's bid and the bonds. The written Agreement is intended to be the complete and exclusive agreement between the above parties covering the work to be performed, including the Contractor's bid and the bonds.

#### **A.A.S.H.O.**

American Association of State Highway Officials

#### **A.C.I.**

American Concrete Institute

#### **A.S.T.M.**

American Society for Testing and Materials

#### **A.W.W.A.**

American Water Works Association

#### **Bid**

The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

#### **Bidder**

Any person, firm or corporation submitting a Bid for the Work.

#### **Bonds**

Bid, performance and payment bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

#### **Change Order**

A written order to the Contractor signed by the First Selectman authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

### Contract Documents

The Agreement, Invitation to Bid, Bid Proposal, Specifications, Drawings, Maps, Technical Specifications, Special Conditions, General Conditions, Addenda (whether issued prior to opening of Bids or execution of the Agreement) and Modifications.

### Contract Law

The Agreement shall be construed according to Laws of the State of Connecticut and applicable ordinances and regulations of the Town of East Windsor.

### Contract Price

The total monies payable to the Contractor under the Contract Documents.

### Contract Time

The numbers of days or the dates stated in the Agreement to complete the Work so that it is ready for its intended use and eligible for final payment as evidenced by ENGINEER'S written recommendation of final payment.

### CONTRACTOR

The person, firm or corporation with whom the Town of East Windsor has executed the Agreement.

### DIRECTOR OF PUBLIC WORKS

Wherever in the Contract Documents the words "Director of Public Works" are used it shall be understood as referring to the Director of Public Works of the Town of East Windsor active personally or through any assistants authorized in writing for such acts by the Director of Public Works.

### Drawings

The drawings and plans which show the character and scope of the work to be performed and which have been prepared or approved by the Engineer and are referred to in the Contract Documents.

### ENGINEER

Whenever in the Contract Documents the word "Engineer" is used it shall be understood as referring to the Town Engineer of the Town of East Windsor acting personally or through any assistants authorized in writing for such acts by the Engineer.

The terms "as permitted," "as required," "as directed," or words of like effect shall mean that the permissions, requirements, or direction of the Engineer is intended. The words "approved", "acceptable," "satisfactory," or words of like import shall mean approved by, or acceptable to, or satisfactory to the Engineer; and the words "necessary," "suitable," "equal," or words of like import shall mean necessary, suitable, or equal in the opinion of the Engineer.

### Form 818

Shall refer to the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction Form 818, dated 2023, and any and all approved changes to the form in effect at the time the Agreement is executed by the Contractor and the Town of East Windsor.

### Inspector

The authorized representative of the Town of East Windsor who is assigned to the Project or any parts thereof.

### Liens

Liens, charges, security interests or encumbrances upon real property or personal property

### Modification

(a) A written amendment of the Contract Document signed by both parties; (b) a Change Order; (c) a written clarification of interpretation issued by the Engineer; or (d) a written order for a minor change or alteration in the work issued by the Engineer. A modification may only be issued after execution of the Agreement.

### Project

The entire construction to be performed as provided in the Contract Documents.

### Shop Drawings

All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

### Specifications

The technical provisions for the Work.

### Subcontractor

An individual, firm or corporation having a direct contract with the Contractor or any other Subcontractor for the performance of a part of the Work for the Project.

### Town

The Town of East Windsor, Connecticut.

### First Selectman

The Chief Executive Officer of the Town of East Windsor Connecticut.



## Work

Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, including the furnishing of all labor, materials, equipment, services and other incidentals.

### ARTICLE 2. Progress And Submission Schedules; Preconstruction Conference; Time Of Starting The Work

- (a) Within ten days after notice of the Agreement, the Contractor will submit to the Town Engineer for approval, a critical path method schedule indicating the starting and completion dates of the various portions of the Work. Such schedule shall be updated monthly and is a condition to the Town's obligation to pay the Contractor. The schedule shall identify and indicate the submission of all required shop drawings and product data required by the contract documents and indicate the time allowed by the Contract Documents for approval or disapproval of same by the Town or Engineer. The Contractor acknowledges that the Town owns any float indicated in the Contractor's schedule.
- (b) Before starting the Work, a conference will be held to review the above schedules, to establish procedures for handling Shop Drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the Project.
- (c) The Contractor will start the Work on the date on which the Agreement is executed and delivered, or on such other date, if any, as may be specified in the Agreement. However, at the time of the execution and delivery of the Agreement the Owner may give the Contractor a written notice to proceed, stating a different date on which it is expected that the Contractor will start the Work, but such date shall not be more than thirty days after the date of execution and delivery of the Agreement.
- (d) The Contract Time shall commence to run on the date when the Work is to start as provided in the above paragraph.

### ARTICLE 3. Correlation. Interpretation And Intent Of Contract Documents

- (a) It is the intent of the Specifications and the Drawings and other documents to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the Town and the Contractor. They may be altered only by a Modification.
- (b) The Contract Documents are complimentary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, he will call it to the Engineer's attention in writing before proceeding with the Work affected thereby. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Specifications, Drawings. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. Any work that may reasonably be inferred from the Specifications or Drawings as

being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. The Contractor assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, the locality, and local conditions that may in any manner affect the Work to be done.

ARTICLE 4. Copies Of Documents and Record Documents

- (a) The Town will furnish the Contractor up to ten copies of the Specifications and Drawings. Additional copies will be furnished, upon request, at the cost of reproduction.
- (b) The Contractor will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to the Town of East Windsor upon completion of the Project.

ARTICLE 5. Separate Contracts

The Town may award other contracts in the vicinity of the Work which may proceed simultaneously with the execution of this Agreement. The Contractor shall perform his Work, so as not to cause interference with the work of other contractors. The Contractor shall cooperate with the Town's separate contractors.

ARTICLE 6. Subcontracts

- (a) Prior to the execution and delivery of the Agreement, the successful Bidder will submit to the Engineer for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for those portions of the Work as to which the identity of the Subcontractors and other persons and organizations must be submitted as specified in the Contract Documents. Prior to the execution and delivery of the Agreement, the Engineer will notify the successful Bidder in writing if the Engineer after due investigation has reasonable objection to any Subcontractor, person or organization on such list. The failure of the Engineer to make objection to any Subcontractor, person or organization on the list prior to the execution and delivery of the Agreement shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor person or organization shall not constitute a waiver of any right of the Engineer to reject defective work, material or equipment not in conformance with the requirements of the Contract Documents.
- (b) The Contractor will be fully responsible for all acts and omissions of his SubContractors and of persons directly or indirectly employed by them and persons for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor and the Town or any obligation on the part of the Town to pay or to see to the payment of any monies due any Subcontractor except as may otherwise be required by law.

- (c) The Contractor agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents. Every Subcontractor, by undertaking to perform any of the Work, will thereby automatically be deemed to be bound by such terms and conditions.
- (d) All subcontractors shall name the Town as an additional insured under the same terms as set forth in Article 35.

#### ARTICLE 7. Materials, Equipment And Labor; Or Equal Clause

- (a) The Contractor will provide and pay for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.
- (b) All materials and equipment shall be in a new and unused condition.
- (c) Wherever in these Contract Documents a particular brand, make of material, device or equipment is shown or specified such brand, make of materials, device or equipment shall be regarded as the standard of quality and performance, unless specified to be a sole source. Where such items are specified, this shall not be interpreted to preclude the furnishing of items other than those specified where the quality, use and serviceability of the substitute is adjudged by the Engineer to be the same as or exceed that of the standard.
- (d) The terms "or approval equal," "equal to," "similar and equal to" and the like are equivalent in each case to the same words accompanied by the phrase "in the opinion of the Engineer."
- (e) All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise specifically provided in the Contract Documents.

#### ARTICLE 8. Wage Rates

The wages paid on an hourly basis to any mechanic, laborer or workmen employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in Section 31-53 of the General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any Contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each pay day.

It is the Contractor's responsibility to be aware of and to pay the prevailing wage and welfare payments, if and as required by State Statute.

The Contractor shall comply with the provisions of Section 1 of Public Act 85-355 of the June 16, 1985, session of the Connecticut General Assembly, and all applicable statutes and provisions of the Connecticut General Assembly.

ARTICLE 9. Patent Fees And Royalties

The Contractor will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. The Contractor shall defend, indemnify, and hold harmless the Town and anyone directly or indirectly employed by the Town from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

ARTICLE 10. Permits, Laws And Regulations

- (a) The Contractor will secure and pay for all construction permits and licenses.
- (b) The Contractor will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the Specifications or Drawings are at variance therewith, the Contractor will give the Engineer prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, The Contractor shall bear all costs arising therefrom.

ARTICLE 11. Availability Of Lands; Physical And Subsurface Conditions

The Town will provide, as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the Contractor. Easements for permanent structures of permanent changes in existing facilities will be secured and paid for by the Town, unless otherwise specified in the Contract Documents. If the Contractor believes that any delay in the Town's furnishing these lands or providing such easements entitles him to an extension of the Contract Time, he may make a claim therefor as provided hereafter. The Contractor will provide all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment at the Contractor's sole cost and expense.

Subsurface information which may be contained in these Contract Documents has been developed from the best available records, the accuracy of which cannot be guaranteed and is expressly disclaimed. If, in the course of construction, conditions are found which result in changes or alignment and/or delays necessitating the rescheduling of the Contractor's operation, such changes in alignment or rescheduling of operations shall not constitute the basis of a claim for extra payment and the Contractor expressly waives any claim for damages of any kind. The Contractor shall provide for contingencies which may confront the Contractor throughout the execution of the Work.

ARTICLE 12. Engineer's Control

- (a) In the performance of the Work, the Contractor shall perform all Work to the satisfaction of the Engineer, consistent with the requirement of the Contract Documents. The Engineer shall determine the amount, quality, acceptability and fitness of all parts of the Work, shall interpret the Contract Documents and Change Orders and shall decide all other questions in connection with the Work.

- (b) The enumeration herein or elsewhere in the Contract Documents of particular instances in which the opinion, judgment, discretion or determination of the Engineer shall control or in which Work shall be performed to the Engineer's satisfaction or subject to his approval or inspection, shall not imply that only matters similar to those enumerated shall be so governed and performed, but without exception all the Work shall be governed and so performed.

#### ARTICLE 13. Authority And Duties Of Inspectors

Inspectors employed by the Town shall be authorized to inspect all Work done and material furnished. Such inspection may extend to all or any part of the Work, and to the preparation or manufacture of the materials to be used. In case of any dispute arising between the Contractor and the Inspector as to materials furnished or the manner of performing the Work, the Inspector shall have authority to reject materials or suspend the Work until the question at issue can be referred to and decided by the Engineer. The Inspector shall not be authorized to revoke, alter, enlarge, relax or release any requirements of the Contract Documents, nor to approve or to accept any portion of the Work, nor issue instructions contrary to the Contract Documents. The Inspector shall in no case act as foreman or perform other duties for the Contractor or interfere with the management of the Work by the Contractor. Any advice which the Inspector may give the Contractor shall in no circumstance be construed as binding the Town in any way nor releasing the Contractor from fulfillment of the terms of the Agreement.

#### ARTICLE 14. Tests And Inspections

- (a) If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness therefor. The Contractor will furnish the Engineer the required certificates of inspection, testing or approval. All such tests will be in accordance with the methods prescribed by the American Society for Testing and Materials, or such other applicable organization as may be required by law or the Contract Documents. If any such Work required so to be inspected, tested or approved is covered up without written approval or consent of the Engineer, it must, if directed by the Engineer, be uncovered for observation at the Contractor's expense. The cost of all such inspections, tests and approval shall be borne by the Contractor unless otherwise provided.
- (b) Any Work, which fails to meet the requirements of any such test, inspection or approval and any Work which meets the requirements of any such test or approval but does not meet the requirements of the Contract Documents shall be considered defective. Such defective Work may be rejected, corrected or accepted as provided.
- (c) Neither observations by the Engineer nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

#### ARTICLE 15. Shop Drawings And Samples

- (a) After checking and verifying all field measurements, the Contractor will submit to the Engineer for approval, in accordance with the accepted schedule of Shop Drawing

submissions, five copies (or at the Engineer's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Engineer may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the Engineer to review the information as required.

- (b) The Contractor will also submit to the Engineer for approval, with such promptness as to cause no delay in Work, all samples and product data required by the Contract Documents. All samples and product data will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.
- (c) At the time of each submission, the Contractor will, in writing, call the Engineer's attention to any deviations that the Shop Drawing or sample may have from the requirements of the Contract Documents.
- (d) The Engineer will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for general compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The Contractor will make any corrections required by the Engineer and will return the required number of corrected copies of Shop Drawings and resubmit new samples until approved by the Engineer. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the Engineer on previous submissions.
- (e) No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed and approved by the Engineer.
- (f) The Engineer's approval of Shop Drawings or sample shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has in writing called the Engineer's attention to such deviations at the time of submission and the Engineer has given written approval to the specific deviation, nor shall any approval by the Engineer relieve the Contractor from responsibility for errors or omissions in the Shop Drawings.

#### ARTICLE 16. Contractor's Supervision And Superintendence

- (a) The Contractor will supervise and direct the Work efficiently and with its best skill and attention. The Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. Before undertaking the Work, the Contractor will carefully study and compare the Contract Documents and check and verify all figures shown thereon and all field measurements. The Contractor will at once report in writing to the Engineer any conflict, error, or discrepancy which the Contractor may discover. The Contractor will be responsible to see that the finished Work complies accurately with the Contract Documents.
- (b) The Contractor will keep on the Work at all times during its progress a resident superintendent satisfactory to the Engineer and the Town. The superintendent shall not be replaced without the consent of the Engineer and the Town except under extraordinary circumstances or if the superintendent shall no longer be in the employ

of the Contractor. In the event of replacement, such replacement shall be approved by the Engineer and the Town in their sole discretion, which approval shall not be unreasonably withheld. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

- (c) The Town of East Windsor will not be responsible for the acts or omissions of the Contractor, or any Subcontractor, or any of its or their agents or employees, or any other persons performing any of the Work.

#### ARTICLE 17. Safety And Protection; Emergencies

- (a) The Contractor will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:
  - 1. All employees engaged in performing the Work and other persons who may be affected thereby;
  - 2. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site; and
  - 3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal relocation or replacement in the course of construction.
- (b) No materials or other obstruction shall be placed within 15 feet of any fire hydrant, which at all times must be readily accessible to the Fire Department.
- (c) Unless otherwise specified, not more than one block at a time of the street shall be torn up, obstructed or closed without the permission of the Engineer and the Town. Prior to street closings, the Contractor shall obtain the permission of the Director of Public Safety who will, in turn, notify the Police Department and the Fire Department immediately of such closings and openings.
- (d) The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. The Contractor will erect and maintain, as required by the conditions, and progress of the Work, all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards and promulgating safety regulations. The Contractor shall notify owners of adjacent utilities and properties when prosecution of the Work may affect them. When the use or storage of explosives or other hazardous materials is necessary for the prosecution of the Work, the Contractor will exercise the utmost care and will carry on such activities under the supervision of properly qualified personnel and applicable laws and regulations. All damage, bodily injury, injury or loss to any property referred to in the above paragraphs, caused directly, or indirectly, in whole or in part, by the Contractor, any Subcontractor of anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, will be remedied by the Contractor, except damage or loss adjudged to be the results of the acts or omissions

of the Town or any of its employees or for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.

- (e) In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Town is obligated to act, at its discretion, to prevent threatened damage, injury or loss. The Contractor will give the Engineer prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved, provided such emergency is not caused, in whole or in part, by the negligent acts or fault of the Contractor

#### ARTICLE 18. Removal Of Rock

Prior to any blasting within the Town of East Windsor, a blasting meeting will be held at which the Engineer, the East Windsor Fire Marshal, and the Contractor shall be represented to determine whether blasting may be permitted and if so, the methods to be used and the protective measures necessary to ensure the utmost safety during blasting operations. A blasting permit to be issued by the East Windsor Fire Marshal must be obtained prior to any blasting. Overnight storage of explosives is not permitted within the Town of East Windsor.

#### ARTICLE 19. Access To The Work; Uncovering Finished Work

- (a) The Engineer and his representatives will at all times have access to the Work. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof by others.
- (b) If any Work is covered contrary to the request or instruction of the Engineer, it must, if requested by the Engineer, be uncovered for his observation and replaced at the Contractor's expense.
- (c) If any Work has been covered which the Engineer has not specifically requested to observe prior to its being covered, or if the Engineer considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection, or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective or does not meet the requirements of the Contract Documents, the Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate Change Order shall be issued deducting all such costs from the Contract price. If, however, such work is found to be nondefective and meets the requirements of the Contract Documents, the Contractor will be allowed an increase in the Contract Price or extension of the Contract Time directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if he makes a claim therefor as provided hereafter.



## ARTICLE 20. Change In The Work

- (a) Without invalidating the Agreement, The Town may, at any time or from time to 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 as provided hereinafter.
- (b) The Engineer may authorize minor changes or alterations 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 entitled him to an increase in the Contract Price, he may make a claim therefor as provided hereafter.
- (c) Additional Work Performed by the Contractor without authorization of a Change Order shall be deemed a waiver by the Contractor for any increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in these General Conditions. The Contractor expressly waives any and all claims or damages of any kind.
- (d) It is the Contractor's responsibility to notify its Surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable Bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the Town.

## ARTICLE 21. Change Orders

- (a) The value of any work covered by a Change Order shall be determined in one of the following ways:
  - 1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
  - 2. By mutual acceptance of a lump sum.
  - 3. By cost and a mutually acceptable fixed amount for overhead and profit, which amount shall not exceed 10%.
  - 4. If none of the above methods is agreed upon, the value shall be determined by the Engineer on the basis of documented costs and a percentage for overhead and profit, which amount shall not exceed 10%. Costs shall only include labor (payroll, payroll taxes, fringe benefits, workmen's compensation, etc.), materials, equipment and other incidentals directly related to the Work involved. The maximum percentage which shall be allowed for Contractor's combined overhead and profit, shall be ten (10%) percent of his actual net increase in costs for all such work done by his own organization.
  - 5. For all such Work done by Subcontractors, each Subcontractor may add up to ten percent of his actual net increase in costs for combined overhead and profit and the Contractor may add up to five percent of the Subcontractor's

total for his combined overhead and profit; provided that no overhead or profit shall be allowed on costs incurred in connection with premiums for public liability insurance or otherwise special insurance directly related to such Work.

6. Under no circumstances will the Contractor be entitled to any additional compensation due to delay, loss of productivity or other like claims because of Change Orders.

In all events, the Contractor will submit all data and documentation supporting the cost of any Change Order in form prescribed by the Engineer.

- (b) The amount of credit to be allowed by the Contractor to the Town 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.
- (c) In the event the Town and/or Engineer do not agree that the Contractor is entitled to a Change Order, then the Contractor upon receipt of written directive from the Town or Engineer shall diligently proceed with the disputed work and track all costs on a daily basis. Such disputed work shall be subject to the dispute resolution procedures set forth herein.
- (d) In no event shall any dispute impede or hinder the progress and diligent execution of the entirety of the Work by the Contractor. The Contractor expressly agrees to diligently prosecute the Work during the pendency of any dispute and the Town agrees to make payments as required by the Agreement that are not subject to a good faith dispute.

#### ARTICLE 22. Change Of The Contract Time

- (a) The Contract Time may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents to make a claim for an extension in the Contract Time, such claim shall be in writing delivered to the Engineer within 10 days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.
- (b) Provided such delay is not caused in whole or in part by the fault, negligence or neglect of the Contractor, the Contract Time may be extended in an amount equal to time lost due to delays beyond the control of the Contractor as demonstrated by the CPM schedule if the Contractor makes a claim therefor as provided in paragraph above. Claims not timely made as set forth herein shall be deemed waived by the Contractor.
- (c) All time limits stated in the Contract Documents are of the essence of the Agreement.
- (d) Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent permitted under this Article shall be the sole remedy of the Contractor for any: (1) delay in the commencement, prosecution or completion of the Work; (2) hindrance or obstruction in the performance of the Work; (3) loss of productivity; or (4) other similar claims to (collectively referred to in this Paragraph as Delays) whether or not such Delays are foreseeable, contemplated, or

uncontemplated unless a Delay is caused by acts of the Owner constituting affirmative and active interference with the Contractor's performance of the Work, and only to the extent of such acts continue after the Contractor furnishes the Owner with notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any Delay, including, without limitation, consequential damages, lost opportunity costs, impact damages or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work.

ARTICLE 23. Warranty And Guarantee; Correction, Removal or Acceptance of Defective Work

- (a) The Contractor warrants and guarantees to the Town that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents and of any inspections, tests or approvals referred to in Article 14. All unsatisfactory Work, all faulty or defective Work and all Work not conforming to the requirements of the Contract Documents or of such inspections, tests or approvals shall be considered defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected by the Engineer.
- (b) If required by the Engineer prior to the issuance of the certificate of completion, the Contractor will promptly, without cost to the Town and as required by the Engineer, either correct any defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Engineer, remove it from the site and replace it with nondefective Work. If the Contractor does not correct such defective Work or remove and replace such rejected Work within a reasonable time, all as required by written notice from the Engineer, the Town may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services shall be paid by the Contractor, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. The Contractor will also bear the expenses of making good all Work of others destroyed or damaged by his correction, removal or replacement of his defective Work.
- (c) If, after the approval of final payment and prior to the expiration of one year after the date of completion, any Work is found to be defective, the Contractor will, promptly without cost to the Town and in accordance with the Town's written instructions, either correct such defective Work, or, if it has been rejected by the Town, remove it from the site and replace it with nondefective Work. If the Contractor does not promptly comply with the terms of such instructions, the Town may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services will be paid by the Contractor.
- (d) The amount paid the Contractor shall be the amount due less 5% retainage. The retainage shall be held for a period of one (1) year after the date of completion, which time shall be the warranty and guarantee period.

ARTICLE 24. Application For Progress Payments

- (a) At a frequency not to exceed once a month, the Contractor may submit to the Engineer for review the Application for Payment filled out and signed by the Contractor covering the Work completed as of the date of the Application and supported by such data as the Engineer may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing by the Engineer and the Town, the Town may, but is not obligated to, pay for such materials and equipment, provided however, that such materials and equipment must be properly insured against loss or destruction for the full replacement value of such materials including transportation costs and be accompanied by such supporting data, satisfactory to the Town, as will establish the title to the material and equipment. The Contractor shall provide a release from itself and its Subcontractors of all claims, except those claims which have been properly noticed and specially exempted, to the date of the Application for Payment.
- (b) The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the Town prior to the making of the Application for Payment, free and clear of all liens, claims, security interests and encumbrances; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor or by any other person performing the Work at the site of furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.
- (c) The Engineer will, within fourteen days after receipt of each Application for Payment, either indicate in writing his approval of payment and present the Application to the Town or return the Application to the Contractor indicating, in writing, his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the Application.
- (d) The amount paid the Contractor shall be the amount due less 5% retainage. The retainage shall be held by the Town until completion of the Work, and for a period of one (1) year thereafter.
- (e) The Town will, within thirty calendar days of presentation to him of the approved Application for Payment, pay the Contractor the amount approved by the Engineer. In the event the Contractor and Engineer cannot agree on the amount of payment, the Town shall only be obligated to pay the amount approved by the Engineer.

ARTICLE 25. Waiver of Claims And Continuing Obligations

- (a) The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the Engineer, nor any payment by the Town to the Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the Town, nor any act of acceptance by the Town nor any failure to do so, nor any correction or faulty or defective Work by the Town shall constitute an acceptance of Work not in accordance with the Contract Documents.

- (b) The making and acceptance of final payment shall constitute a waiver of all claims by the Contractor against the Town other than those previously made in writing and still unsettled

#### ARTICLE 26. Indemnification

- (a) To the fullest extent allowed by law, the Contractor shall defend indemnify and hold harmless the Town, the Engineer and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable regardless of whether or not it is caused in part by a party indemnified hereunder.
- (b) In any and all claims against the Town or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the defense and indemnification obligation under this article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under Workmen's Compensation Acts, Disability Benefit Acts or other employee benefit acts.

#### ARTICLE 27. Cleaning Up

The Contractor will keep the Project site and adjacent premises free from accumulation of waste materials, rubbish and other debris resulting from the Work, and at the completion of the Work the Contractor will remove all waste materials, rubbish and debris from and about the premise as well as all tools, construction equipment and machinery, and surplus materials, and will leave the Project clean and ready for use by the Town. The Contractor will restore to the original condition those portions of the site not designated for alteration by the Contract Documents. The Contractor shall control dust, run off and other nuisances, waste, rubbish, debris, etc. at all times and on a daily basis. Failure to do so on a daily basis shall immediately and without notice to the Contractor entitle the Town to abate and remedy the condition and deduct the cost of same from the Contractor.

All materials and equipment shall be placed and stored in locations that will not be hazardous or obstructive to the public. At the completion of each working day, the Contractor shall completely close all operations, backfill trenches to surrounding elevations, as directed by the Engineer, to enable both vehicular and pedestrian traffic flows, remove all equipment from the travelway and place barricades, warning lights, etc., to forewarn traffic of possible hazards existing at the Project site.

#### ARTICLE 28. Town's Right To Stop Or Suspend Work

- (a) If the Work is defective, or the Contractor fails to supply sufficient skilled workmen or suitable materials, equipment, or if the Contractor fails to make prompt payments to Subcontractors for labor, materials or equipment, the Town may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

- (b) The Town may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor will resume the Work on the date so fixed. The Contractor will be allowed an increase in the Contract Price for all costs directly attributable to such suspension and an extension of the Contract Time directly attributable to any suspension, provided the Contractor makes a claim therefore as provided in the General Conditions. The Contractor expressly waives any and all claims or damages of any kind other than provided herein.

ARTICLE 29. Town's Right To Terminate

- (a) If the Contractor is adjudged bankrupt or insolvent or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if it files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if it fails to supply sufficient skilled workmen or suitable materials or equipment, or if it fails to make prompt payments to Subcontractors or for labor, materials or equipment, or if it disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if it disregards the authority of the Engineer, or if it otherwise violates any provision of the Contract Documents, the Town may, without prejudice to any other right or remedy and after giving the Contractor and his surety seven days written notice, terminate the services of the Contractor and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, and finish the Work by whatever method the Town may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services and legal fees and costs, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor will pay the difference to the Town. Such costs incurred by the Town will be determined by the Engineer and incorporated in a Change Order.
- (b) Where the Contractor's services have been so terminated by the Town, said Termination shall not affect any rights of the Town against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Town due the Contractor will not release the Contractor from liability.
- (c) Upon seven days written notice to the Contractor, the Town may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the Contractor shall be paid for all Work executed and any reasonable direct expense sustained as determined by the Engineer plus a reasonable overhead and profit, which amount shall not exceed 10%.
- (d) Anything to the contrary notwithstanding, the Town retains the right to terminate the Contract for its convenience upon written notice to the Contractor. In said event, the Contractor's remedy for termination for convenience shall be limited to the following:
  - 1. The Contractor shall be entitled to be paid pursuant to the prices set forth in the Contract for all Work properly performed prior to termination and approved by the Engineer

2. Partial payment shall be made for any lump sum items of work on the basis of the percentage complete of such items at the time of termination as determined by the Engineer.
3. The Contractor shall not be entitled to any compensation for loss of anticipated profits or unallocated overhead or consequential damages of any kind which the Contractor hereby waives. Except as provided under Article 30, any determination by a court of competent jurisdiction that the termination of the Contractor or successor-in-interest pursuant to any provision of this Agreement is wrongful, such termination will be deemed converted to a termination for convenience of the Town and the Contractor's remedy shall be limited to those set forth in this Agreement.

#### ARTICLE 30. Contractor's Right To Stop Work Or Terminate

If, through no act of fault of the Contractor, the Work is suspended for a period of more than ninety days by the Town or under an order of court or other public authority, or the Engineer fails to act on any Application for Payment within sixty days after it is submitted, or the Town fails to pay the Contractor any sum approved by the Engineer within sixty days of its approval and presentation, then the Contractor may, upon seven days' written notice to the Town and the Engineer, terminate the Agreement and recover from the Town payment for all Work executed and any expense sustained plus a reasonable overhead and profit, which amount shall not exceed 10%. In addition and in lieu of terminating the Agreement, if the Engineer has failed to act on an Application for Payment or the Town failed to make any payment as aforesaid, the Contractor may upon seven days notice to the Town stop the Work until he has been paid all amounts then due.

#### ARTICLE 31. Provisions Required By Law Deemed Inserted

Each and every provision of law and clause required by law to be inserted in this Agreement shall be deemed to be inserted herein and the Agreement shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted or is not correctly inserted, then upon the application of either the Town or the Contractor the Agreement shall forthwith be physically amended to make such insertion.

#### ARTICLE 32. Contract Security

The Contractor shall furnish a surety bond acceptable to the Town in an amount at least equal to one hundred (100%) percent of the Contract Price as security for the faithful performance of this Agreement and for payment of all persons performing labor under this Agreement and furnishing materials in connection with this Agreement. The surety on such bond shall be a duly authorized surety company, satisfactory to the Town and authorized to do business in the State of Connecticut.

#### ARTICLE 33. Time For Completion And Liquidation Damages

It is hereby understood and mutually agreed, by and between the Contractor and the Town, that the date of beginning and the time for completion as specified in the Contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this Agreement; and it is further mutually understood and agreed that the work embraced in this Agreement shall be commenced on a date to be specified in the Notice to Proceed.

The Contractor agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly

understood and agreed, by and between the Contractor and the Town, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the Town, then the Contractor does hereby agree, as a part consideration for the awarding of this Agreement, to pay to the Town of the amount specified in the Agreement, not as a penalty but as liquidated damages for damages sustained by the Town as hereinafter set forth for each and every calendar day that the Contractor shall be in default after the time stipulated in the Agreement for completing the Work. The parties hereto expressly agree that the amount of damage the Town will sustain for late completion is difficult to calculate and the amount set forth as liquidated charges is deemed a reasonable measure of the Town's damages by the Contractor

It is further agreed that time is of the essence of each and every portion of this Agreement and of the Specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Agreement an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be of the essence of this Agreement. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- (a) To any preference, priority or allocation order duly issued by the Government;
- (b) To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Town, acts of another Contractor in the performance of a Contract with the Town, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; and
- (c) To any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this Article: Provided further that Article 22 of the General Conditions shall be complied with.

As an incentive for early completion of the Work, the Town shall pay to the Contractor the amount specified in the Instructions to Bidders for each and every day the Contractor completes the Work ahead of the Contract Completion Date specified in the Notice to Proceed. The daily amount and the maximum amount of this incentive is as specified in the Instructions to Bidders. Regardless of any change orders resulting in an extension of the Contract completion Date, the effective date for determining the payment of this incentive is the Contract Completion Date specified in the Notice to Proceed.

#### ARTICLE 34. No Damage for Delay

Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the work, caused in whole or in part by any person or entity including but not limited to the Town, the Engineer and their respective agents, employees and independent Contractors. (2) hindrance or obstruction in the performance of the work, (3) loss of productivity, or (4) other similar claims whether or not such delays are foreseeable, contemplated, or unanticipated, unless a delay is caused by acts of the Town, constituting active interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Town with written notice of such interference. In no event shall the



Contractor be entitled to any compensation or recovery of any damage, in connection with any delay, including without limitation, consequential damages, lost opportunity cost, impact damages or other similar remuneration. The Town's exercise of any of its rights or remedies under the Contract Documents (including without limitation, ordering changes in the work or directing suspension, rescheduling or correction of the work), regardless of the extent or frequency of the Town's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work.

If the Contractor submits a progress report or schedule indicating or otherwise expresses an intention to achieve, completion of the Work prior to any completion date required by the Contract Documents or expiration of the Contract Time, no liability of the Town to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.

In addition to the foregoing and to all other express provisions in the Contract Documents, the following are areas of delay which could occur and are clearly contemplated by the parties:

1. Delay caused by Change Orders;
2. Delays caused by the bankruptcy or insolvency of one or more Contractors or Subcontractors;
3. Delays caused by changes necessitated by changes in laws or regulations;
4. Unavailability or shortage of building materials;
5. Job site theft;
6. Water and/or weather conditions;
7. Failure of one or more Contractors or Subcontractors to perform;
8. Vandalism or natural disaster requiring reconstruction.

#### ARTICLE 35. Contractor's and Subcontractor's Insurance

- (a) The Contractor and the Contractor's Subcontractors shall, after being awarded the Project, but prior to starting Work, furnish Certificates of Insurance, including Automobile, Commercial General Liability, Pollution Liability, Professional Liability, Umbrella Liability, and Worker's Compensation insurance in the following amounts:

1. Commercial General Liability Insurance:

The Contractor and the Contractor's Sub Contractors shall provide Commercial General Liability insurance with a combined single limit of \$1,000,000 per occurrence, \$2,000,000 aggregate and include coverage for bodily injury, death and property damage.

The CGL shall be written on ISO occurrence form CG 00 01 10 93 )or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, independent Contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

2. Commercial Automobile Liability Insurance

The Contractor and the Contractor's SubContractors shall provide Commercial Automobile Liability insurance with a combined single limit of \$1,000,000 per occurrence, \$2,000,000 aggregate and shall include coverage for all owned, hired, and non-owned vehicles.

3. Worker's Compensation Insurance

The Contractor and the Contractors SubContractors shall provide Worker's Compensation insurance in the required amount as applies to the State of Connecticut and Employers Liability Insurance as follows"

Bodily Injury by Accident - \$500,000 each accident

Bodily Injury by Disease - \$500,000 policy limit

Bodily Injury by Disease - \$500,000 each employee

4. Umbrella Liability Insurance

The Contractor and the Contractors SubContractors shall provide Commercial Umbrella Liability insurance with a combined single limit of \$1,000,000 per occurrence, \$3,000,000 aggregate and include coverage for bodily injury and property damage.

Each Policy of Insurance shall include a waiver of subrogation in favor of the Town of East Windsor and shall provide no less than thirty (30) days notice to the Town of East Windsor in the event of a cancellation or change in conditions or amounts coverage. The Commercial General Liability, Automobile and Umbrella Liability shall name the Town of East Windsor as an additional insured. In accordance with the terms set forth in this Agreement.

Prior to starting the Work, the Contractor will furnish the Town of East Windsor policies of insurance and endorsements as required herein. The Contractor and the Contractor's Subcontractors shall name the Town and the Engineer and the agents and employees of any of them as additional insureds. The insurance required of the Contractor and the Contractor's Subcontractors shall be primary and any insurance available to the Town or the Engineer shall be secondary and non contributory. Evidence of the Town's and Engineer's additional insured status shall be in the form of the policy of insurance or an appropriate endorsement acceptable to the Town. The endorsement or policy shall provide 30 days direct notice to the Town in advance of any cancellation or modification of the contractor's insurance

Insurance Policies and endorsements acceptable to the Town of East Windsor shall be delivered to the Town of East Windsor prior to the commencement of the Work and kept in force throughout the term hereof

- (b) The above insurance requirements shall also apply to all SubContractors and the Contractor shall not allow any Subcontractor to commence work until the Subcontractor's insurance has been so obtained and approved.

#### ARTICLE 36. Certificates Of Completion And Final Payment

- (a) Upon written notice from the Contractor that the Project is complete, the Engineer will make a final inspection with the Contractor and will notify the Contractor in writing of any particulars in which this inspection reveals that the Work is defective. The Contractor shall immediately make such corrections as are necessary to remedy such defects.
- (b) After the Contractor has completed any such corrections to the satisfaction of the Engineer and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection and other documents all as required by the Contract Documents, the Town will issue a certificate of completion and the Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by such supporting data as the Engineer may require, together with complete and legally effective releases or waivers (satisfactory to the Town) of all liens arising out of the Contract Documents and the labor and services performed and the material and equipment furnished thereunder and consent to final payment from the Contractor's surety. If any Subcontractor or supplier fails to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the Town to indemnify it against any lien or claim.
- (c) If, on the basis of its observation and review of the Work during construction, its final inspection and its review of the final Application for Payment – all as required by the Contract Documents, the Engineer is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, the Engineer will, within thirty days after receipt of the final Application for Payment, indicate in writing his approval of payment and present the Application to the Town for payment. Otherwise, he will return the Application to the Contractor, indicating in writing his reasons for refusing to approve final payment, in which case the Contractor will make the necessary corrections and resubmit the Application.
- (d) Final payment shall constitute 95% of the final Contract Price as adjusted by Change Orders. The remaining 5% will be payable in accordance with Article 23 "Warranty and Guarantee, Removal or Acceptance of Defective Work." The Town will, within fourteen days of presentation to him of an approved final Application for Payment, pay the Contractor the amount approved by the Engineer.

#### ARTICLE 37 Assignment of Causes of Action

The Contractor, for itself and all SubContractors, offers and agrees to assign to the Town of East Windsor all right, title and interest in and to all causes of action it (they) may have under Section 4 of the Clayton Act, 15 U.S. Section 15, or under Chapter 624 of the Connecticut General Statutes, arising out of the purchase of services, property or intangibles of any kind pursuant to a public purchase contract or subcontract. This assignment shall be made and become effective at the time the Town of East Windsor awards or accepts such contract, without further acknowledgments by the parties.

#### ARTICLE 38 Sanitary Provisions

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the State Department of Health or of other bodies or tribunals having jurisdiction therewith.

#### ARTICLE 39 Waiver of Consequential Damages and Impact Claims

The Contractor hereby waives claims against the Town for consequential damages arising out of or relating to this Agreement. This waiver includes but is not limited to: damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit.

#### ARTICLE 40 Executive Order No. Three

The Guidelines and Rules of State Labor Commissioner Implementing Governor Executive Order No. Three is a required provision of this contract. A copy of this order is attached at the end of the section.

#### ARTICLE 41 Enforcement of Payment to General Contractor to Subcontractor and by Subcontractor to his Subcontractors

The Contractor and its Subcontractors shall comply with section 40-41a of the general statutes. Within thirty days after payment to the Contractor by the Town of East Windsor, the Contractor shall pay any amounts due any SubContractor, whether for labor performed or materials furnished, when the labor or materials have been included in a requisition submitted by the Contractor and paid by the Town of East Windsor. The Contractor shall include in each of its subcontracts a provision requiring each Subcontractor to pay any amounts due any of its Subcontractors, whether for labor performed or materials furnished, within thirty days after such Subcontractor receives a payment from the Contractor which encompassed labor or materials furnished by such Subcontractor.

#### ARTICLE 42 Labor Provisions in Construction Contracts

In the employment of labor to perform the work specified herein, preference shall be given to citizens of the United States, who are, and continuously for at least three months prior to the date hereof have been, residents of the labor market area, as established by the Labor Commissioner, in which such work is to be done, and if no such qualified person is available, then to citizens who have continuously resided in the county in which the work is to be performed for at least three months prior to the date hereof, and then to citizens of the state who have continuously resided in the state at least three months prior to the date hereof.

#### ARTICLE 43 Federal Grant Contract Provisions

- (a) The Contractor and all Subcontractors with contracts in excess of \$10,000 should comply with Presidential Executive Order 11246 (Equal Employment Opportunity) as outlined in Federal Procurement Regulations, Part 1-12.8. Mandatory contract provisions are attached hereto and incorporated herein as Exhibit A to this Article.
- (b) The Contractor and all Subcontractors shall comply with the Copeland Anti-Kickback Act (18 U.S.C. 874) as supplemented in Department of Labor Relations (29CFR, Part III). This Act provides that the Contractor is prohibited from inducing, by any means, any

person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled.

- (c) The National Parks Service, the Comptroller General of the United States, or any of their duly authorized representatives shall have access to any books, papers and records of the Contractor and all Subcontractors whose subcontracts exceed \$5,000 for the purpose of audits, examinations, excerpts, and transcriptions.
- (d) All contracts in excess of \$100,000 shall comply with the Federal Clean Air Act as amended.
- (e) All facilities developed with federal funds must be in conformance with the Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Acceptable design criteria are published in the Uniform Federal Accessibility Standards which are available from Architectural and Transportation Barrier Compliance Board, Washington, DC 20202.

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STATE OF CONNECTICUT

BY HIS EXCELLENCY

THOMAS J. MESKILL

GOVERNOR

EXECUTIVE ORDER NO. THREE

WHEREAS, sections 4-61d(b) and 4-114a of the 1969 supplement to the general statutes require nondiscrimination clauses in state contracts and subcontracts for construction on public buildings, other public works and goods and services, and

WHEREAS, section 4-61e(c) of the 1969 supplement to the general statutes requires the labor department to encourage and enforce compliance with this policy by both employers and labor unions, and to promote equal employment opportunities, and

WHEREAS, the government of this state recognizes the duty and desirability of its leadership in providing equal employment opportunity, by implementing these laws,

NOW, THEREFORE, I, THOMAS J. MESKILL, Governor of the State of Connecticut, acting by virtue of the authority vested in me under section twelve of article fourth of the constitution of the state, as supplemented by section 3-1 of the general statutes, do hereby ORDER and DIRECT, as follows, by this Executive Order:

I

The labor commissioner shall be responsible for the administration of this Order and shall adopt such regulations as he deems necessary and appropriate to achieve the purposes of this Order. Upon the promulgation of this Order, the commissioner of finance and control shall issue a directive forthwith to all state agencies, that henceforth all state contracts and subcontracts for construction on public buildings, other public works and goods and services shall contain a provision rendering such contract or subcontract subject to this Order, and that such contract or subcontract may be cancelled, terminated or suspended by the labor commissioner for violation of or noncompliance with this Order or state or federal laws concerning nondiscrimination, notwithstanding that the labor commissioner is not a party to such contract or subcontract.

II

Each contractor having a contract containing the provisions prescribed in section 4-114a of the 1969 supplement to the general statutes, shall file, and shall cause each of his subcontractors to file, compliance reports with the contracting agency or the labor commissioner, as may be directed such reports shall be filed within such times and shall contain such information as to employment policies and statistics of the contractor and each subcontractor, and shall be in such form as the labor commissioner may prescribe. Bidders or prospective contractors or

subcontractors may be required to state whether they have participated in any previous contract subject to the provisions of this Order or any preceding similar Order, and in that event to submit on behalf of themselves and their proposed subcontractors compliance reports prior to or as an initial part of their bid or negotiation of a contract.

### III

Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor organization or employment agency as defined in section 31-122 of the general statutes, the compliance report shall identify the said organization or agency and the contracting agency or the labor commissioner may require a compliance report to be filed with the contracting agency or the labor commissioner, as may be directed, by such organization or agency, signed by an authorized officer or agent of such organization or agency, with supporting information, to the effect that the signer's practices and policies, including but not limited to matters concerning personnel, training, apprenticeship, membership, grievance and representation, and upgrading, do not discriminate on grounds of race, color, religious creed, age, sex or national origin, or ancestry of any individual, and that the signer will either affirmatively cooperate in the implementation of the policy and provisions of this Order, or that it consents and agrees that recruitment, employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purposes and provisions of the Order.

### IV

The labor commissioner may by regulation exempt certain classes of contracts, subcontracts or purchase orders from the implementation of this Order, for standard commercial supplies or raw materials, for less than specified amounts of money or numbers of workers or for subcontractors below a specified tier. The labor commissioner may also provide by regulation for the exemption of facilities of a contractor which are in all respects separate and distinct from activities of the contractor related to the performance of the state contract, provided only that such exemption will not interfere with or impede the implementation of this Order, and provided further, that in the absence of such an exemption, all facilities shall be covered by the provisions of this Order.

### V

Each contracting agency shall be primarily responsible for obtaining compliance with the regulations of the labor commissioner with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the regulations of the labor commissioner in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this Order and of the regulations of the labor commissioner issued pursuant to this Order. They are directed to cooperate with the labor commissioner and to furnish the labor commissioner such information and assistance as he may require in the performance of his functions under this Order. They are further directed to appoint or designate from among the personnel of each agency, compliance officers, whose duty shall be to seek compliance with the objectives of this Order by conference, conciliation, mediation, or persuasion.



## VI

The labor commissioner may investigate the employment practices and procedures of any state contractor or subcontractor and the practices and policies of any labor organization or employment agency hereinabove described, relating to employment under the state contract, as concerns nondiscrimination by such organization or agency as hereinabove described, or the labor commissioner may initiate such investigation by the appropriate contract agency, to determine whether or not the contractual provisions hereinabove specified or statutes of the state respecting them have been violated. Such investigation shall be conducted in accordance with the procedures established by the labor commissioner and the investigating agency shall report to the labor commissioner any action taken or recommended.

## VII

The labor commissioner shall receive and investigate or cause to be investigated complaints by employees or prospective employees of a state contractor or subcontractor or members or applicants for membership or apprenticeship or training in a labor organization or employment agency hereinabove described, which allege discrimination contrary to the contractual provisions specified hereinabove or state statutes requiring nondiscrimination in employment opportunity. If this investigation is conducted for the labor commissioner by a contracting agency, that agency shall report to the labor commissioner what action has been taken or is recommended with regard to such complaints

## VIII

The labor commissioner shall use his best efforts, directly and through contracting agencies, other interested federal, state and local agencies, contractors and all other available instrumentalities, including the commission on human rights and opportunities, the executive committee on human rights and opportunities, and the apprenticeship council under its mandate to provide advice and counsel to the labor commissioner in providing equal employment opportunities to all apprentices and to provide training, employment and upgrading opportunities for disadvantaged workers, in accordance with section 31-51(d) of the 1969 supplement to the general statutes, to cause any labor organization or any employment agency whose members are engaged in work under government contracts or referring workers or providing or supervising apprenticeship or training for or in the course of work under a state contract or subcontract to cooperate in the implementation of the purposes of this Order. The labor commissioner shall in appropriate cases notify the commission on human rights and opportunities or other appropriate state or federal agencies whenever it has reason to believe that the practices of any such organization or agency violate equal employment opportunity requirements of state or federal law.

## IX

The labor commissioner or any agency officer or employee in the executive branch designated by regulation of the labor commissioner may hold such hearings, public or private, as the labor commissioner may deem advisable for compliance, enforcement or educational purposes under this Order.

(a) The labor commissioner may hold or cause to be held hearings, prior to imposing ordering or recommending the imposition of penalties and sanctions under this Order. No order for disbarment of any contractor from further state contracts shall be made without affording the contractor an opportunity for a hearing. In accordance with such regulations as the labor commissioner may adopt, the commissioner or the appropriate contracting agency may

(1) Publish or cause to be published the names of contractors or labor organizations or employment agencies as hereinabove described which it has concluded have complied or failed to comply with the provisions of this Order or the regulations of the labor commissioner in implementing this Order.

(2) Recommend to the commission on human rights and opportunities that in cases in which there is substantial or material violation or threat thereof of the contractual provision or related state statutes concerned herein, appropriate proceedings be brought to enforce them, including proceedings by the commission on its own motion under chapter 563 of the general statutes and the enjoining, within the limitations of applicable law, of organizations, individuals or groups who prevent directly or indirectly or seek to prevent directly or indirectly compliance with the provisions of this Order.

(3) Recommend that criminal proceedings be brought under chapter 939 of the general statutes.

(4) Cancel, terminate, suspend or cause to be cancelled, terminated, or suspended in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the nondiscrimination provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for future compliance approved by the contracting agency.

(5) Provide that any contracting agency shall refrain from entering into any further contracts or extensions or modifications of existing contracts with any contractor until he has satisfied the labor commissioner that he has established and will carry out personnel and employment policies compliant with this Order.

(6) Under regulations prescribed by the labor commissioner each contracting agency shall make reasonable efforts within a reasonable period of time to secure compliance with the contract provisions of this Order by methods of conference conciliation, mediation or persuasion, before other proceedings shall be instituted under this Order or before a state contract shall be cancelled or terminated in whole or in part for failure of the contractor or subcontractor to comply with the contract provisions of state statute and this Order.

(b) Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the labor commissioner or pursuant to his regulations shall promptly

notify *him* of such action. Whenever the labor commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency and other interested federal, state and local agencies of the action recommended. The state and local agency or agencies shall take such action and shall report the results thereof to the labor commissioner within such time as he shall specify.

#### XI

If the labor commissioner shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless he has satisfactorily complied with the provisions of this Order, or submits a program, for compliance acceptable to the labor commissioner, or if the labor commissioner so authorizes, to the contracting agency.

#### XII

Whenever a contracting agency cancels or terminates a contract, or a contractor has been disbarred from, further government contracts because of noncompliance with the contract provisions with regard to nondiscrimination, the labor commissioner or the contracting agency shall rescind such disbarment, upon the satisfaction of the labor commissioner that the contractor has purged himself of such noncompliance and will thenceforth carry out personnel and employment policies of nondiscrimination in compliance with the provision of this order.

#### XIII

The labor commissioner may delegate to any officer, agency or employee in the executive branch any function or duty of the labor commissioner under this Order except authority to promulgate regulations of a general nature.

#### XIV

This Executive Order supplements the Executive Order issued on September 28, 1967. All regulations, orders, instructions, designations and other directives issued heretofore in these premises, including those issued by the heads of various departments or agencies under or pursuant to prior order or statute, shall remain in full force and effect, unless and until revoked or superceded by appropriate authority, to the extent that they are not inconsistent with this Order.

This Order shall become effective thirty days after the date of this Order.

Dated at Hartford, Connecticut, this 16<sup>th</sup> day of June, 1971.

Thomas J. Meskill, GOVERNOR.

Filed this \_\_\_\_\_ day of June, 1971.

## Exhibit A

"During the performance of this contract, the contractor agrees as follows:

- "(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- "(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
- "(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- "(4) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- "(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- "(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- "(7) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of Sept. 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States."

## TECHNICAL PROVISIONS

### ASPHALT ADJUSTMENT COST

**The Asphalt Price is available on the Connecticut Department of Transportation web site at:**

<http://www.ct.gov/dot/asphaltadjustment>

The asphalt adjustment cost will be based on the variance in price for the performance-graded binder component of hot mix asphalt (HMA), Polymer Modified Asphalt (PMA), and Ultra-Thin Bonded Hot-Mix Asphalt mixtures completed and accepted in the contract.

An asphalt adjustment cost will be applied only if all of the following conditions are met:

- I. For HMA and PMA mixtures:
  - a. The HMA or PMA mixture in which the adjustment is being applied is listed as a contract item with a pay unit of tons or metric tons.
  - b. The total quantity for all HMA and PMA mixtures in a contract or individual purchase order (Department of Administrative Service contract awards) exceeds 1000 tons or more.
  - c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than \$5.00.
- II. For Ultra-Thin Bonded HMA mixtures:
  - a. The Ultra-Thin Bonded HMA mixture in which the adjustment is being applied is listed as a contract item.
  - b. The total quantity for Ultra-Thin Bonded HMA mixture in a contract exceeds:
    - i. 800 tons (727 metric tons) if Ultra-Thin Bonded HMA is listed as a contract item with a pay unit of tons or metric tons.
    - ii. 30,000 square yards (25,080 square meters) if Ultra-Thin Bonded HMA is listed as a contract item with a pay unit of square yards or square meters.

Note: The quantity of Ultra-Thin Bonded HMA measured in tons shall be determined from the material documentation requirements set forth in the Ultra-Thin Bonded HMA Special Provision.
  - c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than \$5.00.
  - d. No Asphalt Adjustment Cost shall be applied to the liquid emulsion that is specified as part of the Ultra-Thin Bonded HMA mixture system.
- III. Regardless of the binder used in all HMA and/or PMA mixtures, the Asphalt Adjustment Cost will be based on PG 64-22.

## TECHNICAL PROVISIONS

### ASPHALT ADJUSTMENT COST (CONTINUED)

The Connecticut Department of Transportation (ConnDOT) shall post on its website, the average per ton selling price (asphalt price) of the performance-graded binder. The average is based on the high and low selling price published in the most recent available issue of 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 selling price furnished from the Asphalt Weekly Monitor ® is based on a standard ton (US\$/ST). The metric ton price is determined by applying a factor of 1.1023 (US\$/ST x 1.1023 = US\$/mton). Example: \$150.00/ton x 1.1023 = \$165.34/mton

Formula: 
$$\text{HMA} \times \frac{\text{PG}\%}{100} \times [(\text{Period Price} - \text{Base Price})] = \$\underline{\hspace{2cm}}, \text{ where}$$

- **HMA:**

1. For HMA, PMA, and Ultra-Thin Bonded HMA mixtures with pay units of mass:  
The quantity (tons or metric tons) of accepted HMA, PMA, or Ultra-Thin Bonded HMA mixture measured and accepted for payment.
2. For Ultra-Thin Bonded HMA mixtures with pay units of area:  
The quantity of Ultra-Thin Bonded HMA mixture delivered, placed, and accepted for payment, calculated in tons or metric tons as documented according to the Material Documentation provision (section E) of the Ultra-Thin Bonded HMA Special Provision.

- **Asphalt Base Price:** The asphalt price that is posted on the ConnDOT website 28 days before the actual bid opening posted.
- **Asphalt Period Price:** The asphalt price that is posted on the ConnDOT website for the period in which the HMA, PMA mixture is placed.
- Performance-Graded Binder percentage (**PG%**)
1. For HMA or PMA mixes:  
 $\text{PG}\% = \underline{4.5}$ 
    - For Superpave 1.5 inch (37.5mm), Superpave 1.0 inch (25.0mm), PMA S1, HMA S1, and Class 4
  - $\text{PG}\% = \underline{5.0}$ 
    - For Superpave 0.50 inch (12.5mm), HMA S0.5, PMA S0.5, and Class 1

## TECHNICAL PROVISIONS

### ASPHALT ADJUSTMENT COST (CONTINUED)

- PG % = 6.0
  - For Superpave 0.375 inch (9.5mm), HMA S0.375, PMA S0.375, Superpave 0.25 inch (6.25mm), HMA S0.25, PMA S0.25, Superpave #4 (4.75mm) and Class 2
- 2. For Ultra-Thin Bonded HMA mixes:  
PG% = Design % PGB (Performance Graded Binder) in the approved job mix formula, expressed as a percentage to one decimal point (e.g. 5.1%)

The adjustment shall not be considered as a changed condition in the contract because of this provision and because the Contractors are being notified before submission of bids.

**Basis of Payment:** The "Asphalt Adjustment Cost" will be calculated using the formula indicated above. A payment will be made for an increase in costs. A deduction from monies due the Contractor will be made for a decrease in costs.

The sum of money shown on the estimate, and in the itemized proposal as "Estimated Cost", for this item will be considered the bid price although payment will be made as described above. The estimated cost figure is not to be altered in any manner by the bidder. If the bidder should alter the amount shown, the altered figure will be disregarded and the original cost figure will be used to determine the amount of the bid for the Contract.

## TECHNICAL PROVISIONS

### **BITUMINOUS CONCRETE HMA**

All Bituminous Concrete HMA construction shall be in accordance with Section 4.06 of Form 818 as amended, supplemented as follows:

#### **Article 4.06.01—Description:**

Delete: "ConnDOT"

Insert: "The Town"

**Article 4.06.02—Materials:** All materials shall conform to the requirements of Section M.04 of Form 817 as amended, supplemented as follows:

Add the following: "When bituminous concrete is laid, only material conforming to the requirements of these specifications shall be used in the work. If tests of samples removed from the work reveal that the mixture is inconsistent or that other than approved materials have been incorporated in the mixture, or that the mixture is not in accordance with the specifications and the product proves unsatisfactory, the Town reserves the right to demand the replacement of the unsatisfactory bituminous concrete. All expenses of the Town incidental to such replacement, including all costs incurred in putting the road in satisfactory condition, shall be paid by the Contractor".

**Article 4.06.03—Construction Methods:** Construction methods shall conform to section 4.06.03 of Form 818 as amended, supplemented as follows:

#### **6. Spreading and Finishing of Mixture:**

Add the following: "Where the road pavement is adjacent to a driveway and the driveway apron is to be paved, the finish course of road pavement shall extend about one foot beyond the gutter line into the driveway prior to the driveway being paved. The driveway pavement shall then be paved to the gutter line over the finish road pavement course".

#### **10. Density Testing of Bituminous Concrete Utilizing Core Samples:**

Delete: "The Contractor shall deliver the cores and MAT-109 to the Department's Central Testing Lab in a safe manner to ensure no damage occurs to the cores".

Insert: "The Contractor shall deliver the cores to the Project Inspector in a safe manner to ensure no damage occurs to the cores. The Project Inspector shall deliver the cores to the Town's consultant laboratory for testing".

Basis for Payment: This work will be paid for at the contract unit price per ton of Hot Mix Asphalt, for each mix size complete in place, which price shall include all materials, equipment, jobsite protection, traffic control, tools and labor incidental thereto.

Pay Item	Pay Unit
HMA S 0.5	Ton
HMA S 0.375	Ton
HMA S 0.25 Shim Course	Ton



## TECHNICAL PROVISIONS

### BITUMINOUS CONCRETE CURBING

Description: Bituminous concrete curbing, including lip curbing, slope curbing, and transition from lip curbing to slope curbing shall consist of machine laid or hand laid bituminous concrete, constructed on the pavement to the dimensions and details shown on the plans, or as ordered by the Engineer, and in conformity with the specifications and Section 8.15 of Form 818, as amended. Where directed by the Engineer or in the Contract Special Conditions, this item also includes removal and disposal of bituminous concrete curb.

Materials: Materials, including tack coat, for this work shall conform to the requirements of Section M.04, Curb Mix of Form 818, as amended.

Construction Methods: The construction methods shall conform to section 8.15.03 of Form 818, as amended.

Bituminous concrete curb removal and disposal shall be done in a manner that does not damage the adjacent road pavement or nearby objects such as mailboxes and irrigation systems. The curb shall be removed in a manner that provides sufficient space behind the curb line free of any obstructions to allow the use of a curb laying machine to place the face of new curb along the original curb line.

Bituminous concrete lip curbing and slope curbing shall be laid by machine unless otherwise directed by the Engineer.

Bituminous concrete lip curbing shall have seven and one half inch to eight inch ( $7\frac{1}{2}$ " – 8") reveal placed on the binder course of pavement (a height sufficient to provide a six inch (6") reveal from the finished surface of the top course of pavement) and shall conform to Town standard drawing "Bituminous Concrete Curbing". Bituminous Lip Curbing includes transitions from lip curbing to slope curbing.

Bituminous concrete slope curbing shall have 6.6" reveal placed on the binder course of pavement (a height sufficient to provide 4.6" reveal from the finished surface of the top course of pavement) and shall conform to Town standard drawing "Bituminous Concrete Curbing".

No curb material shall be placed across a driveway. No curb material shall be incorporated into the driveway pavement.

Method of Measurement: This work will be measured for payment along the top of the curb and will be the actual number of linear feet of bituminous concrete curbing completed and accepted for each type of placement, or for the actual number of linear feet of bituminous concrete curb removed and disposed of

Basis for Payment: This work will be paid for at the contract unit price per linear foot of curb, for each type of curbing, complete in place, or removed, which price shall include all materials, equipment, jobsite protection, traffic control, tools and labor incidental thereto.

Pay Item	Pay Unit
Bituminous Concrete Curb Removal & Disposal	L.F.
Bituminous Concrete Lip Curbing, Machine & Hand Laid	L.F.
Bituminous Concrete Slope Curbing, Machine & Hand Laid	L.F.

## TECHNICAL PROVISIONS

### BITUMINOUS CONCRETE DRIVEWAY

Description: This item shall consist of bituminous concrete surfaced driveway constructed on a processed aggregate base course in the locations and to the dimensions shown on the plans or as directed by the Engineer. This work shall also include the saw cutting and removal of existing pavement.

Processed aggregate base for driveways is included in this item.

Materials: Shall conform to Section 9.22.02 of the Form 818, as amended.

Construction Methods: Shall conform to Section 9.22.03 of Form 818, as amended, and shall have a desired thickness of a minimum of two (2) inches after compaction or the thickness of existing pavement whichever is greater. The processed aggregate base shall be 8" deep after compaction or match the thickness of existing base whichever is greater.

Where the road pavement is adjacent to a driveway and the driveway apron is to be repaved, the finish course of road pavement shall extend about one foot beyond the gutter line into the driveway prior to the driveway being paved. The driveway pavement shall then be paved to the gutter line over the finish road pavement course.

Joint sealer or tack coat shall be used on all cut or broken Bituminous Concrete surfaces or edges. Application of the sealer shall cover the entire disturbed area.

No curb material shall be placed across a driveway. No curb material shall be incorporated into the driveway pavement.

Method of Measurement: This work will be measured for payment by the actual number of square yards of Bituminous Concrete Driveway completed and accepted.

There shall be no direct payment for the sawcutting and removal of existing pavement, but the cost thereof shall be included in the contract unit price for this item.

Basis of Payment: This work will be paid for at the contract unit price per square yard for "Bituminous Concrete Driveway", which price shall include all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Bituminous Concrete Driveway	S.Y.

## TECHNICAL PROVISIONS

### CONTROL OF WORK

Conformity with plans and specifications, Sec. 1.05.03 of Form 818, as amended. All work performed and all materials furnished shall be, in the opinion of the Engineer in reasonably close conformity with the lines, grades, cross-sections, dimensions and material requirements, including tolerances, shown on plans or indicated in these specifications.

In the event the Engineer finds the materials or the finished product in which the materials are used not within reasonably close conformity with the plans and specifications but that reasonably acceptable work has been produced, he will then make a determination if the work shall be accepted and remain in place. In this event, the Engineer will issue a construction order which may provide an equitable adjustment in the basis of payment as he deems appropriate.

If, in the opinion of the Engineer, the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformity with the plans and specifications and have resulted in an inferior or unsatisfactory product, the work and material shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

## TECHNICAL PROVISIONS

### FORMATION OF SUBGRADE

Description: The area of the roadbed upon which the pavement structure and paved shoulders are placed, including the shoulder base courses and subbase, shall be known as the subgrade. This is the plane coincident with the bottom of the subbase and the edge of the pavement, as shown on the plans and cross-sections or as ordered by the Engineer. The work of formation of subgrade shall be performed at this plane.

After all grading for the roadbed has been substantially completed, the subgrade shall be brought to the lines, grades and cross-sections shown on the plans or as ordered by the Engineer.

Construction Methods: The construction methods shall conform to section 2.09.03 of Form 818, as amended.

The dry density after compaction shall be specified in Subarticle 2.02.03-6 of Form 818, as amended. The dry density after compaction shall not be less than 95 percent of the dry density for that soil when tested in accordance with AASHTO T180, Method D. Correction for particles retained on the  $\frac{3}{4}$  inch sieve shall be as specified in AASHTO Method T-224. Each layer shall be compacted at optimum moisture content. No subsequent layer shall be placed until the specified compaction is obtained for the previous layer. The Contractor is responsible for having the in place subgrade density tested by an independent testing company and shall provide the test reports to the Town.

Method of Measurement: Payment lines for formation of subgrade shall be the area in square yards that is coincident with the outside edges of the pavement or where paved shoulders are constructed, with the outside edges of the shoulder. Payment for formation of subgrade will be allowed when such work is done in providing connections to public roads. Payment for formation of subgrade will not be allowed for work at private drives, in areas where bound gravel is constructed or in areas where existing pavement is used as a base for resurfacing with bituminous concrete.

Testing of the in-place density of each layer or course of mixture shall not be measured for payment.

Basis for Payment: Payment for the formation and protection of subgrade, including all work provided for hereinbefore, will be paid for at the contract unit price per square yard for "Formation of Subgrade" which price shall include all materials, equipment, tools and labor incidental thereto.

Payment for the testing of the in-place density of each layer or course of mixture shall be included in the contract unit price "Formation of Subgrade".

**Prior to issuing a payment, the Town must receive density test reports showing that the Formation of Subgrade in the payment application conforms to the required density.**

Pay Item	Pay Unit
Formation of Subgrade	S.Y.

## TECHNICAL PROVISIONS

### LOOP DETECTOR SAW CUT

Description: This work shall consist of the furnishing of all labor, tools, materials and equipment necessary to replace all disturbed loop vehicle detector components, particularly the wire in the pavement sawcut.

Materials: The materials for this work shall conform to Article M.16.12 of Form 818, as amended.

The contractor must have all labor, tools, materials and equipment necessary to replace all disturbed loop vehicle detector components available prior to commencing any work in the vicinity of a loop vehicle detector. All materials must be compatible with the existing traffic controller equipment.

Construction Methods: The construction methods shall conform to section 11.11 of Form 818, as amended.

The contractor must obtain the approval of the East Windsor Police Department and the Town Engineer to commence any work in the vicinity of a Town loop vehicle detector. The contractor must obtain the approval of the Connecticut Department of Transportation to commence any work in the vicinity of a State loop vehicle detector. All work involving a loop vehicle detector must be conducted as directed by the Police Department and the Town Engineer.

Each traffic signal must operate continuously at all times, without interruption while the vehicle detector loop is not functioning, unless otherwise approved by the East Windsor Police Department. A traffic signal, if so equipped, may operate with a fixed time cycle while the vehicle detector loop is not functioning. The replacement loop vehicle detector components must be properly functioning as soon as possible after the existing loop is disturbed. The installation must include proper sealing of the loop detector within the saw cut. The installation must include proper connection of the loop detector to the traffic control equipment.

Method of Measurement: The work which conforms to this Specification will be measured by the actual number of linear feet of loop detector saw cut, of the types and in the locations specified that are properly installed and accepted.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot of "Loop Detector Saw Cut" within the limits of the project area complete in place, which price shall include all installation, tools, materials and labor incidental thereto. There will be no direct payment for individual components or their installation.

Pay Item	Pay Unit
Loop Detector Saw Cut	L.F.

## TECHNICAL PROVISIONS

### MAINTENANCE AND PROTECTION OF TRAFFIC

Description: This work shall include furnishing all labor, tools, materials and equipment necessary to maintain safe traffic flow, both vehicular and pedestrian, on all roads along which work is to be done. Unless otherwise approved by the Engineer, the contractor shall keep all existing public roadways under construction open to traffic for the full length of the project and shall provide a sufficient number of travel lanes and pedestrian pass ways to move that traffic ordinarily using the roadway. The Town Engineer and the East Windsor Police Department must approve any road closure and detour route.

This work shall include, but not be limited to: furnishing, erecting, moving, and dismantling barricades, signs, temporary lighting, drums, cones, delineators and other warning markers to inform the general public of hazards existing at the site of the work.

Work under this section shall also include traffic control for maintaining trench surfaces and the furnishing, erecting, moving and dismantling of temporary bridging for vehicular traffic across trenches, and the prevention of slippery surface conditions resulting directly or indirectly from the Contractor's operations.

Under no conditions shall open excavations be left unattended at any time by the Contractor during the workday. Contractor shall remain present at the open excavation at all times until the excavation is backfilled and the area is properly secured and does not pose a hazard to the general public. During non-working hours all open excavations shall be backfilled to grade.

The travel lanes and pedestrian pass ways shall be drained and kept reasonably smooth and in suitable condition at all times in order to provide minimum interference to traffic consistent with the proper prosecution of the work. The Contractor shall fill depressions, remove bumps and provide smooth ramps up to and around structures, manholes, utility gates and pavement lips using processed aggregate or bituminous concrete as directed by the Engineer. Any structure, manhole utility gate or pavement edge that deviates from the travel surface by more than 1 ½ inches shall be marked by a traffic drum and cone or orange paint.

Suitable ingress and egress shall be provided at all times where required, for all intersecting roads and for all abutting properties having legal access.

Materials: Products required include, but are not limited to, barricades, signs, steel road plates, flashers, cones, drums, delineators, etc. All products shall be in accordance with State of Connecticut, Department of Transportation, Form 818, as amended, the Manual of Uniform Traffic Control Devices for Streets and Highways, 2009 Edition, as amended and Town requirements.

Construction Methods: Control of traffic shall be the Contractor's responsibility and shall be in accordance with the Manual of Uniform Traffic Control Devices 2009 Edition, as amended and the Town of East Windsor Police Department requirements. The Contractor shall coordinate all street work with the East Windsor Police Department. Refer to pages TC-3 through TC-8, attached, for requirements.

## TECHNICAL PROVISIONS

### MAINTENANCE AND PROTECTION OF TRAFFIC (CONTINUED)

The Contractor shall provide, place and maintain barricades, warning signs, traffic drums, traffic cones, delineators, steel road plates and lights as necessary to protect adequately the work and provide for public safety. Traffic control personnel (flaggers) and or uniformed police officers shall be furnished by the Contractor as required for the proper directing and control of traffic during the construction period. The Contractor shall be responsible for keeping warning lights operational at all appropriate times. The contractor is responsible to erect, maintain, move, adjust, clean, relocate and store these signs, barricades, drums, traffic cones and delineators.

All signs in any one signing pattern shall be mounted the same height above the roadway. The Contractor shall keep all signs in proper position, clean and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials or equipment, and soil, are not allowed to obscure any sign, light or barricade.

At a minimum the Contractor shall furnish one (1) flagger per construction activity occurring in Town roads. The Contractor shall furnish two (2) flaggers with radio communication equipment when the construction activity, location of construction in Town road and or traffic flow warrants the use of more than one (1) flagger. For flagger requirements and payment, see the separate Technical Provision "Traffic Person".

The employment or presence of traffic control flaggers shall in no way relieve the Contractor of any responsibility or liability which is under the terms of this Contract.

The Contractor shall be required to conform to any requirements imposed by the State of Connecticut, Department of Transportation and the Town not included above.

Signs: Special construction signs follow the basic standards for all highway sign as to shape. Warning signs in construction areas shall have a black legend on an orange background. Color for other signs shall follow the standard for all highway signs.

The use of standard orange flags or yellow flashing warning lights in conjunction with signs is permitted but not required, so long as they do not interfere with a clear view of the sign face.

The dimensions of signs are as per Manual on Uniform Traffic Control Devices and are for standard sizes, which may be increased wherever necessary for greater legibility or emphasis. Deviations from standard sizes as prescribed herein shall be in six-inch increments and shall be approved by the Town Engineer.

Signs shall be placed in positions where they will convey their messages most effectively and placement must therefore be accommodated to highway design and alignment.

Standards for height and lateral clearance of roadside signs are shown in Figure 6F-1, on page 581 of the Manual on Uniform Traffic Control Devices, 2009 edition. Signs mounted on barricades, or temporary supports, may be at lower heights but the bottom of the sign shall be not less than one foot above the pavement elevation. Higher mounting heights are, however, desirable.

## TECHNICAL PROVISIONS

### MAINTENANCE AND PROTECTION OF TRAFFIC (CONTINUED)

Signs on fixed supports are usually mounted on a single post, although those wider than 36 inches or larger than 10 square feet in area should be mounted on two posts. Signs mounted on portable supports are suitable for temporary conditions. All such installations should be so constructed to yield upon impact to minimize hazards to motorists. All signs are to meet the requirements of the Manual on Uniform Traffic Control Devices.

Barrels (Drums), Tubular Markers and Two-Way Traffic Plaques: Drums used for traffic warning or channelization shall be approximately 36" in height and a minimum of 18" in diameter. The markings on drums shall be horizontal, circumferential, orange and white reflectorized stripes four to eight inches wide, using a material that has a smooth, sealed outer surface which will display the same approximate size, shape and color day and night.

There shall be at least two orange and two white stripes on each drum. If there are nonreflectorized spaces between the horizontal orange and white stripes, they shall be no more than two inches wide.

Drums should not be weighted with sand, water, or any material to the extent that would make them hazardous to motorist, pedestrians, or workers. When they are used in regions susceptible to freezing, they should have drain holes in the bottom so water will not accumulate and freeze causing a hazard if struck by a motorist.

Tubular Markers shall be 28" in height with two 3" wide reflectorized bands with the first band 2" below the top of the marker and the second band 2" to 6" below the bottom of the first band.

Two-way traffic plaques shall be 12" wide by 18" high reflective orange-colored signs (W6-4) placed on flexible supports that otherwise comply with the same requirements for "Signs" above. The two-way plaques are opposing traffic lane dividers and are delineation devices used as center line dividers to separate opposing vehicular traffic on a two-lane, two-way operation.

Small arrow signs or vertical panels mounted above drums may be used as supplements to drum delineation.

All drums, tubular markers and two-way traffic plaques are to meet the requirements of the Manual on Uniform Traffic Control Devices.

When the work has been completed, all temporary warning and regulatory signs, drums, barricades and other devices used by the Contractor shall be removed so that traffic can move unimpeded through the work area. However, if extended protection is required for specific areas, the necessary signs, drums, barricades and other devices shall remain as long as necessary, as directed by the Engineer.

The Contractor will provide the name, address and telephone numbers of a responsible employee who can be contacted at any time, 24 hours a day, 7 days a week in the event of an emergency. The employee contacted will be in charge of such emergency work. If called upon to do such emergency work, or to repair damage caused by natural or manmade disasters, such emergency work shall be considered part of the contract at no additional compensation.



## TECHNICAL PROVISIONS

### MAINTENANCE AND PROTECTION OF TRAFFIC (CONTINUED)

Method of Measurement: This item shall not be measured for payment. This item does not include traffic persons, which are included in a separate item.

The dollar value of Maintenance and Protection of Traffic shall not exceed 5% of the dollar value of all other bid items exclusive of Clearing and Grubbing.

Basis of Payment: Payment shall be a lump sum price for "Maintenance and Protection of Traffic" for this contract. This price shall include all costs of labor, equipment, traffic control devices, and services involved in the erection, maintenance, moving, adjusting, cleaning, relocating and storing of signs, barricades, drums, traffic cones and delineators furnished by the contractor as well as all costs of traffic lanes and detours.

**Payment of Maintenance and Protection of Traffic shall not exceed 5% of the total amount of all other payment items, exclusive of Clearing and Grubbing items.**

Payment of Maintenance and Protection of Traffic may be made in partial payments that cumulatively are approximately proportional to the amount of work completed to date.

Pay Item	Pay Unit
Maintenance and Protection of Traffic (Not to Exceed 5% of All Other Bid Prices)	L.S.

## TECHNICAL PROVISIONS

### MATERIALS CERTIFICATE AND TESTING

This item shall conform to Sections 1.06 of ConnDOT Form 818, as amended. The Contractor shall furnish certificates signed and dated by a person in responsible charge of the source of materials furnished that the materials meet the specification requirements contained herein. The Engineer reserves the right to have samples tested independently. If the samples fail to meet the specification requirements, the entire load will be rejected. If the same supplier certifies more than once that a material meets the specification and the samples fail an independent test, then the supplier will be rejected from furnishing any further materials on the project.

The Contractor is responsible for scheduling all required material certificates and testing and paying the cost of the same. The cost shall be included in the contract unit price for each bid item. There will be no separate payment for materials certificates and tests as specified herein.

#### a). Materials Certificates:

The following is a list of materials certificates required to be provided to the Engineer under this contract. These certificates will be provided prior to or at the time of delivery of the materials.

<u>Material</u>	<u>Certification</u>
Bank Run Gravel	Gradation Max. Dry Density (Proctor)
Processed Aggregate	Gradation Max. Dry Density (Proctor)
Portland Cement Concrete	Mix requirements
Bituminous Concrete	Mix requirements  Max. Void-free Density (Proctor)(when delivered)

#### b). Testing:

The following is a list of Tests that are required to be performed by a certified testing laboratory that is selected by the Contractor and approved by the Engineer. Test reports will be provided to the Engineer as soon as they are available.

<u>Material</u>	<u>Test, Time, Frequency</u>
Subgrade	Max. Dry Density (Proctor) Compaction ( $\geq 95\%$ Max. Dry Density) At maximum 100' intervals or as directed
Subbase	Compaction ( $\geq 95\%$ Max. Dry Density) At maximum 100' intervals or as directed
Base	Compaction ( $\geq 95\%$ Max. Dry Density)
Bituminous Concrete Pavement	See Technical Provision – Bituminous Concrete
HMSA S0.5, HMA S0.375, HMA S0.25	
Portland Cement Concrete: Slump	at time of delivery, 1 test/truck load
Air Entrainment	at time of delivery, 1 test/truck load
Strength Test, 7-day & 28-day cumulative over multiple pours	one set of cylinders per 500' of sidewalk length,

## TECHNICAL PROVISIONS

### MEASUREMENT AND PAYMENT

The unit prices for this project shall include all materials, equipment, labor, supervision, overhead items, protection and precautions and all other incidental costs necessary for construction.

The intent of this project is to have a completed, finished, working project whether or not any particular wording or direction is inadvertently omitted or not clearly stated.

Notwithstanding any other provision in the Contract, only work, which is actually completed within the payment limits prescribed by the Contract or ordered by the Engineer, will be measured for payment. There will be no payment made for work, which is not actually performed.

Measurement and payment shall be made on the basis of the actual work completed and measured, at the unit price bid. Payment will not be made until the Engineer inspects the work and finds it to be acceptable and in accordance with these specifications. Measurement for Traffic Person shall be as stated in the Technical Provision for "Traffic Person".

Extra payment will not be made for tools, materials, labor, equipment, etc. that are omitted or not clearly stated that are necessary to produce the completed project.

Work completed in compliance with the Contract will be measured by the Engineer according to United States standard measures, and quantities of work performed shall be computed based on such measurements made in accordance with the methods of measurement described herein under the applicable item.

Linear measurements for bituminous concrete lip curbing shall be taken to the nearest 1 foot increment.

Measurements of two-dimensional areas shall be performed by linear measurements taken rounded to the nearest 0.5 ft increment and square footage calculated rounded to the nearest square foot. Square yardage shall be calculated from the square footage and rounded to the nearest 0.1 square yard.

The Contractor shall submit actual quantities of items completed with each payment request. The Engineer will verify the quantities and resolve any differences with the Contractors measurements.

**Method of Measurement for Trench Excavation:** Except as noted below, trench excavation will be measured in its original position by taking the difference between the ground surface at the time the trench is excavated and that after the excavations are complete.

**Horizontal Payment Limits:** For pipes, payment lines shall be vertical and shall be no more than 2 feet greater than the nominal inside diameter of the pipe. For structures, payment lines shall be vertical and shall be no more than 2 feet outside of the neat lines of the foundations.

**Vertical Payment Limits:** For pipes and structures, payment lines will extend vertically from the bottom of the trench to the existing ground surface as determined by the Engineer.

## TECHNICAL PROVISIONS

### MOBILIZATION

Description: This item shall consist of all work necessary for the movement of personnel and equipment to the project site, and for the establishment of work rules for the project. The work under this provision shall be consistent with Section 9.75 of Form 818, as amended.

Prior to any activity on the site, a preconstruction meeting will be held with the, East Windsor Public Works Department and appropriate utility companies.

Method of Measurement: This work will not be measured for payment. The cost of this item shall be included in the Contractor's unit price for each bid item. There will be no separate payment for mobilization.

TECHNICAL PROVISIONS

PAVEMENT MARKINGS

Description: This work shall consist of the furnishing of all labor, tools, materials and equipment necessary to replace all the disturbed existing pavement markings with temporary or permanent pavement marking paint within the project area upon direction of the Engineer. The markings are to be in the same location and same size as the original, existing markings, as shown on the plans or as directed by the Engineer and shall include line striping, stop bars and any pavement symbols such as directional arrows and text.

Construction Methods: The construction methods shall conform to Section 12.09.03 of Form 818 as amended. The pavement marking paint shall be installed in the same place and the same size as the original markings, as soon as possible after pavement markings are disturbed or after the new pavement is placed on the road, as directed by the Engineer. If temporary markings are applied, they shall be maintained in good condition until the permanent markings are installed on the road.

Materials: The materials for this work shall conform to the requirements of Article M.07.20 for temporary waterborne pavement marking paint, and Article M.07.21 for permanent hot-applied waterborne pavement marking paint, both specified in Form 818, as amended.

Method of Measurement: This item shall be field measured as follows:

Pavement Marking - Line Striping - By the actual number of linear feet of pavement line striping of the types and in the locations specified that are properly installed and accepted.

Pavement Marking - Other - By the actual number of square feet of painted area for all markings, except line striping, including cross walks, stop bars, symbols and text of the type and size specified, installed and accepted.

Basis of Payment: This work will be paid for at the contract unit price per linear foot for "Pavement Marking – Line Striping" and by the contract unit price for each square foot of painted area "Pavement Marking - Other" for all other markings including cross walks, stop bars, symbols and text, complete in place, which price shall include all installation, tools, materials and labor incidental thereto.

Pay Item	Pay Unit
Pavement Marking – Line Striping (Width, Color)	L.F.
Pavement Marking - Other	S.F.

## TECHNICAL PROVISIONS

### PAVEMENT FINE MILLING OF HOT MIX ASPHALT (HMA) (0 TO 4 INCHES)

**Description:** This work shall consist of the milling, removal, and disposal of existing HMA pavement.

**Materials:** The existing HMA surface shall be disposed of offsite by the Contractor at an approved disposal facility unless otherwise stated in the contract documents.

**Construction Methods:** The Contractor shall remove the HMA material using means acceptable to the Engineer. The pavement surface shall be removed to the line, grade, and existing or typical cross-section shown on the plans or directed by the Engineer.

The equipment for milling the pavement surface shall be designed and built for milling flexible pavements. It shall be self propelled with sufficient power, traction, and stability to maintain depth and slope and shall be capable of removing the existing HMA pavement.

The milling machine shall be equipped with a built-in automatic grade averaging control system that can control the longitudinal profile and the transverse cross-slope to produce the specified results. The longitudinal controls shall be capable of operating from any longitudinal grade reference, including string line, contact ski (30 feet minimum), non-contact ski (20 feet minimum), or mobile string line (30 feet minimum). The transverse controls shall have an automatic system for controlling cross-slope at a given rate. The Engineer may waive the requirement for automatic grade or slope controls where the situation warrants such action.

The machine shall be able to provide a 0 to 4 inch deep cut in one pass. The rotary drum of the machine shall utilize carbide tip tools spaced not more than  $\frac{5}{16}$  inches apart. The forward speed of the milling machine shall be limited to no more than 45 feet/minute. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture. The Contractor may request to perform a test strip to demonstrate that the same surface tolerance can be attained at an increased forward speed. The test strip shall be a maximum length of 500 feet and shall have the same criteria for surface tolerance as noted in this specification. The final decision for implementing the increased forward speed will be at the discretion of the Engineer.

The machine shall be equipped with an integral pickup and conveying device to immediately remove material being milled from the surface of the roadway and discharge the millings into a truck, all in one operation. The machine shall also be equipped with a means of effectively limiting the amount of dust escaping from the milling and removal operation.

When milling smaller areas or areas where it is impractical to use the above described equipment, the use of a lesser equipped milling machine may be permitted when approved by the Engineer.

Protection shall be provided around existing catch basin inlets, manholes, utility valve boxes, and any similar structures. Any damage to such structures as a result of the milling operation is the Contractor's responsibility and shall be repaired at the Contractor's expense.

## TECHNICAL PROVISIONS

### PAVEMENT FINE MILLING OF HOT MIX ASPHALT (HMA) (0 TO 4 INCHES) (CONTINUED)

To prevent the infiltration of milled material into the storm drainage system, the Contractor shall take special care to prevent the milled material from falling into the inlet openings or inlet grates. Any milled material that has fallen into inlet openings or inlet grates shall be removed at the Contractor's expense.

**Surface Tolerance:** The milled surface shall provide a satisfactory riding surface with a uniform textured appearance. The milled surface shall be free from gouges, longitudinal grooves and ridges, oil film, and other imperfections that are a result of defective equipment, improper use of equipment, or poor workmanship. The Contractor, under the direction of the inspector, shall perform random spot-checks with a Contractor supplied ten-foot straightedge to verify surface tolerances at a minimum of five locations per day. The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed  $\frac{1}{4}$  inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed  $\frac{1}{4}$  inch. Any unsatisfactory surfaces produced are the responsibility of the Contractor and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

The depth of removal will be verified by taking a measurement every 200 feet per each pass of the milling machine, or as directed by the Engineer. These depth measurements shall be used to monitor the average depth of removal. There should be at least 3 depth measurements on each road.

Where a surface delamination between HMA layers or a surface delamination of HMA on Portland cement concrete causes a non-uniform texture to occur, the depth of milling shall be adjusted in small increments to a maximum of a  $\pm \frac{1}{2}$  inch to eliminate the condition.

When removing a HMA pavement entirely from an underlying Portland cement concrete pavement, all of the HMA pavement shall be removed leaving a uniform surface of Portland cement concrete, unless otherwise directed by the Engineer.

Any unsatisfactory surfaces produced by the milling operation are the Contractor's responsibility and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

The edges of milled surfaces at the intersections with existing road and driveway pavement surfaces shall be shimmed and maintained with temporary asphalt or millings.

The milling operation shall proceed in accordance with the requirements of the "Maintenance and Protection of Traffic" and "Prosecution and Progress" specifications, or other contract requirements. The more stringent specification shall apply.

Prior to opening an area which has been milled to traffic, the pavement shall be thoroughly swept with a sweeper. The sweeper shall be equipped with a water tank and be capable of removing the millings and loose debris from the surface. Other sweeping equipment may be provided in lieu of the sweeper where acceptable by the Engineer.

## TECHNICAL PROVISIONS

### PAVEMENT FINE MILLING OF HOT MIX ASPHALT (HMA) (0 TO 4 INCHES) (CONTINUED)

Any milled area that will not be exposed to live traffic for a minimum of 48 hours prior to paving shall require a vacuum sweeper truck in addition to, or in lieu of, mechanical sweeping. The vacuum sweeper truck shall have sufficient power and capacity to completely remove all millings from the roadway surface including any fine particles within the texture of the milled surface. Vacuum sweeper truck hose attachments shall be used to clean around pavement structures or areas that cannot be reached effectively by the main vacuum. Compressed air may be used in lieu of vacuum attachments if approved by the Engineer.

**Method of Measurement:** This work will be measured for payment by the number of square yards of area from which the milling of asphalt has been completed and the work accepted. No area deductions will be made for minor unmilled areas such as catch basin inlets, manholes, utility boxes and any similar structures.

**Basis of Payment:** This work will be paid for at the contract unit price per square yard for "Pavement Fine Milling of HMA (0 to 4 inches)." This price shall include all equipment, tools, labor, and materials incidental thereto.

No additional payments will be made for multiple passes with the milling machine to remove the bituminous surface.

No separate payments will be made for cleaning the pavement prior to paving; providing protection and doing handwork removal of bituminous concrete around catch basin inlets, manholes, utility valve boxes and any similar structures; repairing surface defects as a result of the Contractor's negligence; providing protection to underground utilities from the vibration of the milling operation; removal of any temporary milled transition; removal and disposal of millings; furnishing a sweeper and sweeping after milling. The costs for these items shall be included in the contract unit price.

Pay Item	Pay Unit
Pavement Fine Milling of Hot Mix Asphalt (HMA) (0 to 4 inches)	S.Y.



## TECHNICAL PROVISIONS

### PAVEMENT PATCHING - PERMANENT

Description: The work of this item shall consist of the saw cutting and removal of existing Temporary Roadway Patching and base to lines as shown on the plans or directed by the Engineer, excavation to depth as required to accommodate bases and pavement, disposal of excavated material and the construction of two-course bituminous concrete pavement. The work shall include the cutting and removal of existing pavement. The work shall be performed in accordance with these specifications and with the lines, grades, compacted thickness and typical cross section shown on the plans or as directed by the Engineer.

Materials:

- B. Bituminous Concrete Mixtures: The materials for bituminous concrete mixtures, sources of supply, formula for mix, mix tolerances, approval of mix formula and the control of the mixture shall conform to the requirements of Article M.04.01 of Form 818, as amended. The mixture shall be Superpave S0.5 for the base course and S0.375 for the surface course.
- C. Asphalt Cement: Provide hot asphalt cement or asphalt cement dissolved in naptha for application to contact surfaces at cut edges of existing bituminous concrete pavement, and for application to contact surfaces at curbing, gutters, manholes, and catch basins.
- D. Processed Aggregate Base shall conform to Article M.05.01 of Form 818, as amended.
- E. Subbase, if required, shall conform to Article M.02.02 and M.02.06, Grading "B" of Form 818, as amended.

Construction Methods: Cut existing pavement at least 12" larger on each side of temporary pavement patching into undisturbed material. Cutting shall be accomplished with a saw so as to leave a smooth, straight, and vertical edge. Break up and remove the existing pavement and base within the cutting lines. The processed aggregate base shall be brought to the proper grade (remove 2" minimum) prior to the placement of bituminous concrete. The processed aggregate base shall be installed in accordance with Section 3.04.03 of Form 818 as amended. Pavement construction shall comply with Section 4.06.03 of Form 818 as amended.

Place and compact the base binder pavement course with a compacted thickness as directed by the Engineer but in no case less than 2 inches thick. Place and compact the finish surface pavement course with a compacted thickness as directed by the Engineer.

The Engineer may require 2" thick patches around new catch basin tops on roads that are to be milled and overlaid, to be placed with a top surface 2" below the finished overlaid pavement surface. As directed by the Engineer, patches around new catch basin tops should include berms from the existing curb to the new catch basin top to prevent runoff from flowing behind the curb line.

Construction shall conform to all applicable Town standard drawings.

Thoroughly compact the base and the pavement. Seal the edges of the patch.

Dispose of all surplus and unsuitable excavated material off the site at approved sites.

## TECHNICAL PROVISIONS

### PAVEMENT PATCHING – PERMANENT (CONTINUED)

Method of Measurement: "Pavement Patching - Permanent" shall be measured on the finished surface using the two-dimensional method. Measurements will be based on the actual width and length of the patch in the finished state, converted to square yards.

Basis of Payment: "Pavement Patching - Permanent" shall be paid at the contract unit price per square yard for "Pavement Patching - Permanent" which price shall include the cost for referencing, sawing, and sealing joints, material for tack coat, removal and disposal in accordance with these specifications of existing bituminous surface all materials, and all equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Pavement Patching – Permanent (Thickness)	S.Y.

## TECHNICAL PROVISIONS

### PAVEMENT RECLAMATION

#### Description:

This work shall consist of furnishing all labor, materials, testing, submittals, tools and equipment necessary to reclaim bituminous roadways, as specified below, to form an asphaltic stabilized base.

Work under this item shall consist of pulverizing the in-place asphalt pavement and underlying material, spraying liquid calcium chloride on the pulverized mass, mixing and/or blending stone with the material as needed to meet the specification, spreading it, adding water as necessary, shaping and compacting the resultant mixture to lines and grades shown on the plans, ready to accept the bituminous concrete pavement. This work does not include the reclamation of bituminous curbing. If the curbing is to be replaced as part of the project, the removal and disposal shall be accomplished prior to the reclamation of the pavement and shall be a separate pay item.

#### Materials:

##### A. Reclaimed Base

All pulverized material shall pass the 3-inch sieve and shall meet the following gradation:

SIEVE SIZE	% PASSING
3"	100
1-1/2"	70-100
3/4"	55-90
#4	40-75
#40	10-30
#200	3-10
Residual A.C.	2-4

\*Gradation may vary due to  
local aggregate conditions

##### B. Liquid Calcium Chloride

The calcium chloride solution shall be provided by the manufacturer as a true solution and shall not be reconstituted from flake calcium chloride. The calcium shall meet the following material specifications (see ASTM Designation D98: AASHTO-M144).

## TECHNICAL PROVISIONS

### PAVEMENT RECLAMATION (CONTINUED)

Calcium Chloride	35% $\pm$ 1%
Alkali Chloride as NaCl	2%
Magnesium as MgCl	0.1%
Typical: (in lbs. per gallon)	
Calcium Chloride	5.05
Sodium Chloride	0.2
Magnesium Chloride	0.004
Calcium Sulfate	0.004
Water	6.002
Total	11.26

#### C. Stone

Crushed or broken stone shall be added as necessary for the reclaimed sub base material to meet the specified gradation. The stone used shall be 3/8", 1/2", 3/4", or 1-1/2" or a blend of these sizes as recommended by the testing laboratory and Contractor.

#### Submittals:

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

1. Gradation test results for reclaimed base material
2. Material certification for calcium chloride

#### Construction methods:

The existing road pavement shall be pulverized and mixed with the base course material existing in the roadway to a depth of 12 inches, or as directed by the Engineer. The pulverization shall blend the asphalt, base material and any added stone into a homogeneous mass, utilizing the asphalt acquired from the existing pavement as a stabilizer which shall bond the material together when compacted. After the first pulverization, two applications of calcium chloride totaling 0.75 gallons per square yard shall be applied. The aggregate mass shall then be pulverized again to ensure proper asphalt, gravel and calcium chloride blending to a depth of 12 inches, or as directed by the Engineer. Initial rolling shall be done immediately following the second reclaimed pass. If additional stone is required the Contractor may be directed to add crushed stone. Water shall be applied during the entire operation to ensure optimum moisture at the time of compaction. After the material has been thoroughly worked as described above it shall be shaped and graded to the lines and elevations as indicated on the plans or as directed by the Engineer. A final application of calcium chloride of 0.25 gallons per square yard shall be applied after the reclaimed base material is fine graded and prior to the paving.

## TECHNICAL PROVISIONS

### PAVEMENT RECLAMATION (CONTINUED)

During construction the Contractor shall sample materials from the project area and test for material gradation and proctor. The Contractor shall continue the reclamation until the sampled materials pass the gradation requirements described above.

The Contractor shall be responsible for coordinating work with utility companies to locate, identify and mark all utility structures as necessary. The Contractor must not damage any existing manholes, catch basins, valve boxes or other casting which may be located in the surface of the road. Any damage to these structures shall be repaired by the Contractor at the Contractor's expense.

The work shall be constructed on no more than  $\frac{1}{2}$  the roadway width at any time to allow for the passage of through traffic. Access to properties within the project limits is to be provided as necessary. Maintenance and protection of traffic, dust control and daily clean-up throughout the project area shall be the responsibility of the Contractor.

If paving is not to be done immediately following the reclamation, then the pulverized mass, after the second reclaiming pass, shall be rolled, shaped and rough graded to allow passage of emergency vehicles and the traveling public, as approved by the Engineer.

It is the Contractor's responsibility to coordinate the fine grading and final application of calcium chloride with the paving contractor.

#### Equipment Requirements:

Reclamation will be by means of a traveling rotary reclaimer or equivalent machine capable of cutting through the existing asphalt at depths up to 12 inches with one pass. The machine shall be self-propelled and equipped with an adjustable grading blade thus leaving its path generally smooth for traffic. Equipment such as road planers or cold milling machines, which are designed to mill or shred the existing bituminous concrete rather than to crush or fracture it, are not considered capable of achieving the specification gradation. The required and necessary action of the reclaimer will increase the percentages of fine aggregate. This machine is not intended for use on subbases with large boulders or ledge. Existing bituminous concrete and gravel/aggregate base must be pulverized and mixed so as to form a homogeneous mass of uniformly processed base material, which will bond together when compacted.

The distributor for calcium chloride shall be capable of applying liquid calcium chloride in accurately measured quantities at any rate between 0.1 and 2.0 gallons per square yard of roadway surface at any length of spray bar up to 20 feet. The distributor shall be capable of maintaining a uniform rate of distribution of material regardless of change in grade, width or direction of road. The distributor shall be equipped with a Digital Volumetric Accumulator capable of measuring gallons applied and distance traveled.. The volume and measuring device shall be equipped with a power unit for the pump so that application is by pressure, not gravity. The spray nozzles and pressure system shall provide a sufficient and uniform fan-shaped spray of material throughout the entire length of the spray bar at all times while operating, and shall be adjustable laterally and vertically. The spray shall completely cover the roadway surface receiving the treatment. Any puddling of the calcium chloride shall be removed prior to paving.

## TECHNICAL PROVISIONS

### PAVEMENT RECLAMATION (CONTINUED)

Method of Measurement: This work will be measured for payment by the actual number of square yards of reclaimed material, reclaimed, placed, graded, compacted, tested and accepted to the limits shown on the plans and accepted by the Engineer and by the actual number of tons of crushed stone required to meet the gradation specification.

Basis of Payment: This work will be paid for at the contract unit price per square yard for Pavement Reclamation and per ton for Crushed Stone, completed and accepted in place, which price shall include all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Pavement Reclamation (Added Material) (Depth)	S.Y.
Processed Aggregate Base	TON

## TECHNICAL PROVISIONS

### PAVEMENT SAW CUT AND HOT SEAL

Description: This item includes the furnishing of all labor, tools, materials and equipment necessary to saw cut existing bituminous concrete roadways, curbs and sidewalks vertically to a smooth edge and hot sealed as directed by the Engineer, or as described in the Technical Provisions for Joint and Crack Sealing.

This item does not include saw cutting of existing pavement for installation of drainage pipe or other utilities and for reconstruction of bituminous concrete driveways.

Materials: An approved power driven type saw capable of sawing a straight cut of uniform depth and width. Joint seal material shall be hot poured rubber compound in accordance with Section M.04.01.8, Joint Seal Material, of Form 818, as amended. See Technical Provisions on Joint and Crack Sealing for additional information on materials.

Construction Methods: The contractor shall snap a chalk line or use other means to establish a straight line on the material to be cut. The sawing and sealing shall be completed in a workmanlike manner, clean, neat and straight. See Technical Provisions on Joint and Crack Sealing for additional information on construction methods.

Method of Measurement: This work will be measured for payment along the actual number of linear feet of pavement saw cut, completed and accepted for each cut.

Basis for Payment: This work will be paid for at the contract unit price per linear foot for "Pavement Saw Cut and Hot Seal", complete in place, which price shall include all materials, equipment, jobsite protection, traffic control, tools and labor incidental thereto.

Pay Item	Pay Unit
Pavement Saw Cut and Hot Seal	L.F.

## TECHNICAL PROVISIONS

### JOINT AND CRACK SEALING OF BITUMINOUS CONCETE PAVEMENT

Description: This work consists of furnishing and applying a hot-applied rubberized crack sealant on joints, cracks, along boundaries of paved areas or other surfaces as indicated in the Plans or other Contract documents. It shall be constructed in accordance with these specifications and in close conformity with the lines, grades, thickness, and typical cross section shown on the plans or established by the Engineer. Joint and Crack Sealing may be used in conjunction with other joint and crack treatments including (but not limited to) joint and crack filling and joint or crack repair, in which case the relative sequence of crack treatments will be prescribed in the plans, a Notice to Contractor, or other Contract Documents.

Definitions:

**Crack:** Any location designated on the plans to receive joint and crack sealing. For the remainder of this document, crack can apply to the vertical face of a sawcut pavement surface, a joint, a crack, or the boundary between two pavement sections or at the edge of pavement next to curbing, a parapet, catch basin, or other structure. The actual area designated to receive joint and crack sealing will be noted on the Plans or other contract documents.

**Maximum Sealing Width:** The maximum width of crack or joint to be included in the work of sealing joints and cracks under this item. The Maximum Sealing Width is NOT the width of the sealant once applied to the surface, but rather the width of a crack or joint prior to sealant application.

**Crack width measurement location:** Crack width measurement is to be conducted flush with the pavement surface.

Materials: The hot-applied crack sealing material shall be composed of a hot-applied, rubberized asphalt meeting AASHTO M-324 Type 2 requirements. The contractor must submit to the Engineer all Material Safety Data Sheet documents from the material manufacturer prior to the commencement of work. During work progress, the contractor must submit to the Engineer the manufacturer's certificate of testing for compliance to AASHTO M-324 Type 2 requirements for each batch or lot of material utilized on the contract.

The contractor must submit to the Engineer all Material Safety Data Sheet documents from the material manufacturer(s) prior to the commencement of work. During work progress, the contractor must submit to the Engineer the manufacturer's certificate of testing for compliance to applicable specifications for each batch or lot of material utilized on the contract.

Equipment: The equipment used by the contractor shall include, but be not limited to, one or more of each of the following:

- (1) **Melter Applicator:** The unit shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less than 600°F. The kettle shall include a temperature control indicator and a mechanical agitator. The kettle shall be capable of maintaining the treatment material at the manufacturer's specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical fullsweep agitator to provide continuous blending. The unit shall be equipped with thermometers to monitor the material temperature and the heating oil temperature. The unit shall be equipped with thermostatic controls that allow the operator to regulate material temperature up to at least 425 °F.



## TECHNICAL PROVISIONS

### JOINT AND CRACK SEALING OF BITUMINOUS CONCETE PAVEMENT (CONTINUED)

(2) Application Wand and Squeegee Applicator: The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of commercial/industrial quality designed with a "U" shaped configuration. It shall be of a size adequate to strike off, flush with the surrounding pavement surface and without overflow around the sides, all hot joint and crack sealant placed to seal cracks. This tool shall be either attached to the applicator wand or used separately as its own long handled tool.

(3) Hot Air Lance: The unit shall be designed for cleaning and drying the pavement surface cracks. Minimum compressed air capacity shall be 100 psi. The compressed air emitted from the tip of the lance shall be flame free and be capable of achieving a temperature of at least 1500°F.

Construction Methods: The crack sealing operation shall proceed in accordance with the requirements of the "Maintenance and Protection of Traffic" and "Prosecution and Progress" specifications.

(1) Weather Requirements: Work will not be performed unless the pavement is dry. No frost, snow, ice or standing water may be present on the roadway surface or within the cracks. No work shall be done if the ambient temperature is below 40° F during the field application operations.

(2) Material Mixing Procedure: Field mixing of the Performance Grade Binder and the Polyester Fibers is not allowed. The field mix or prepackaged material shall not exceed 400 °F.

(3) Crack Preparation: Pavement surface cracks, joints, and surfaces to be sealed shall be treated with a hot-air lance prior to application of the crack sealant material. Two passes, minimum, shall be made with the hot-air lance. The hot air lance operation shall proceed at a rate no greater than 120 feet per minute. There shall be no more than 10 minutes time lapse between the second hot-air lance treatment and the material application. Should this time be exceeded the Contractor shall make an additional pass(es) with the hot air lance. The use of the hot air lance is not intended to heat the crack or joint. It is to be used to blow all debris from the crack or joint to the bottom of the crack or joint or surface to be sealed, or a depth of at least 1.25 inches, whichever is lower, and to remove any latent moisture or dampness from inside the crack or joint until the inside of the crack or joint is completely dry in the opinion of the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to "boil off" or blow standing water from the bottom of a crack or joint. If standing water is present in the bottom of any crack or joint, the sealing operation shall be postponed until such time as the standing water evaporates naturally. The Contractor may be allowed to use compressed, oil-free air (not heated) to blow standing water from a crack or joint to help accelerate the natural evaporation of any standing water. If this is done, the crack or joint must be allowed to dry naturally until all standing water is visibly gone. Then the hot air lance can be used. If a crack is already completely dry, in the opinion of the Engineer, the hot air lance should be operated at its lowest temperature possible.

## TECHNICAL PROVISIONS

### JOINT AND CRACK SEALING OF BITUMINOUS CONCETE PAVEMENT (CONTINUED)

TABLE 1 – MINIMUM AND MAXIMUM SEALING WIDTH

<u>Crack or Joint Type</u>	<u>Minimum Sealing Width</u>	<u>Maximum Sealing Width</u>
Cracks	Any width*	$\frac{3}{4}$ inch
Joints	Any width*	$\frac{3}{4}$ inch
Surfaces To Be Sealed**	N/A**	N/A**

Note (\*): "Any width" is to be less than the Maximum Sealing Width and is to be changed to 1/8 of an inch if Engineer determines it is unfeasible and impractical to accomplish the work at lesser width.

Note (\*\*): "Surfaces To Be Sealed" could include vertical faces of bituminous concrete that has been saw-cut, joints between newly placed bituminous concrete and adjacent existing bituminous concrete, edges of patch areas, or other areas where sealant material is being used to prevent infiltration of water.

(3) Additional preparation requirements of cracks and joints to be sealed:

In the event that cracks or joints are packed tightly with debris, dirt, vegetation, or other material except previously placed sealant or filler, the Contractor shall use a vertically mounted power driven wire brush to remove debris and vegetation and burnish the sides of the crack to a depth of at least 1.25 inches. Cracks or joints treated with the wire power brush shall subsequently be treated with a hot air lance as described in this section. The conjunction of the use of the wire power brush and the hot-air lance treatment shall result in the complete removal of all material in the crack or joint (except previously placed sealant or filler) to a depth of at least 1.25 inches such that the sides of the crack are completely free and clean of any debris and moisture as described in this section.

(4) Crack Sealing: All cracks prepared for treatment are to be filled to refusal. The sealing material shall be maintained at the manufacturer's specified application temperature range at all times. The sealing operation shall be suspended if the temperature of the crack sealing material falls outside the specified/recommended temperature range and shall remain suspended until the crack sealing material is brought within the specified temperature range. Cracks and joints must not be overfilled with sealant as they may detrimentally affect the planned overlay treatment. Any portion of the crack that is overfilled shall be squeegeed immediately following application of the crack sealing material, striking excess sealant as flat to the adjacent pavement surface as possible. There shall be no build-up of treatment material above or adjacent to the crack at any time. When the initial application of crack sealing material fails to fill the crack or shrinks upon cooling such that there is a depression formed of at least one quarter of an inch or greater, a second application of sealant shall be placed over the first application to fill the crack as described above.

(5) Protection of Sealed Cracks and Joints: No traffic shall be permitted on the pavement until the crack seal material is set, whereas the crack seal material does not track and is not subject to deformation or pull-out by traffic. If a detackifier and/or blotting agent is used it shall be one recommended by the supplier of the crack sealing material and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials shall be allowed for either blotting or detackifying. Information on the type and usage of a detackifier and/or blotting agent shall be presented to the Engineer prior to its use. Any acceptance of the detackifier and/or blotting agent shall be granted by the Engineer in writing.

## TECHNICAL PROVISIONS

### JOINT AND CRACK SEALING OF BITUMINOUS CONCETE PAVEMENT (CONTINUED)

(6) Surplus Treatment Material: Treatment material remaining in the contractor's kettle at the close of the daily work session shall be discarded. At no time shall treatment material be reheated for use in subsequent crack sealing or filling applications unless permitted by the Engineer following a review of field operation circumstances.

(7) All debris generated from the operations described above shall be removed from the roadway by the Contractor and disposed in accordance with State of Connecticut law.

(8) Replacement of existing pavement markings obliterated by the crack and joint treatment work: Existing pavement markings obliterated by the crack and joint treatment work shall be replaced with temporary pavement markings before the roadway is opened to traffic. All costs associated with repair of work damaged by traffic and placement of temporary pavement markings will be borne by the Contractor.

(9) Required Project Documentation. Provide the Engineer, on a daily basis, a report with the following information:

1. Control section, job number, and route number.
2. Date, air temperature (°F), a.m. and p.m. weather.
3. Beginning and ending locations for the day, including lane(s) and direction.
4. Quantity of materials used for the day, including lot number.
5. Traffic control typically used, number of traffic control moes, and checks on the traffic control conducted.
6. Unique or different situations on the project
7. Contractor's signature.

Acceptance of Work: When work is complete on the project, or on a project location if multiple locations are included in the project, an inspection of the work shall be scheduled with the Engineer. The inspection is to take place before the subsequent surface treatment included in the project is applied. The Engineer will note all deficiencies including areas exhibiting adhesion failure, cohesion failure, tracking of sealant material, missed cracks or joints, and/or other factors that show the work is not acceptable. Work identified by the Engineer as not acceptable shall be re-done at the Contractor's expense. The Contractor shall notify the Engineer upon completion of required corrective work, or upon completion of work on the project location if corrective work is not required.

Method of Measurement: This work shall not be measured for payment.

Basis of Payment: The cost for crack sealing of bituminous HMA shall be included in the contract bid item "Pavement Saw Cut and Hot Seal".

## TECHNICAL PROVISIONS

### PROCESSED AGGREGATE BASE

Description: The base shall consist of a processed aggregate foundation constructed on the prepared subgrade in accordance to these specifications and in conformity with the lines, grades, compacted thickness and typical cross-section as shown on the plans or where directed by the Engineer and constructed in accordance with these specifications.

Materials: All materials for this work shall conform to the requirements of subarticles M.05.01-1, M.05.01-2 and M.05.01-3 of Form 818, as amended.

Reclaimed Miscellaneous Aggregate shall not be used.

Construction Methods: The construction methods shall conform to section 3.04.03 of Form 818, as amended.

Add the following to section 3.04.03:

Each layer of material, processed gravel, and processed stone shall be thoroughly compacted with power roller or vibratory plate compactor and the final layer shall be fine graded to the longitudinal and cross slopes prior to paving.

The dry density after compaction shall be specified in Subarticle 2.02.03-6 of Form 818, as amended. The dry density after compaction shall not be less than 95 percent of the dry density for that soil when tested in accordance with AASHTO T180, Method D. Correction for particles retained on the 3/4 inch sieve shall be as specified in AASHTO Method T-224. Each layer shall be compacted at optimum moisture content. No subsequent layer shall be placed until the specified compaction is obtained for the previous layer. The Contractor is responsible for having the in-place processed aggregate base density tested by an independent testing company and shall provide the test reports to the Town prior to paving.

Method of Measurement: The method of measurement will conform to section 3.04.04 of Form 818, as amended.

Remove the following sentence:

"The total thickness shall be as indicated on the plans, or as ordered by the Engineer and within a tolerance of -3/4 inch to +1/2 inch."

Fine grading and testing of the in-place density of each layer or course of mixture shall not be measured for payment.

Basis for Payment: This work will be paid for at the contract unit price per ton for "Processed Aggregate Base", complete in place, which price shall include all materials, tools, equipment and work incidental thereto.

Payment for the fine grading and testing of the in-place density of each layer or course of mixture base shall be included in the contract unit price per ton for "Processed Aggregate Base".

Pay Item	Pay Unit
Processed Aggregate Base	TON

## TECHNICAL PROVISIONS

### ROADWAY EXCAVATION

Description: Roadway Excavation shall consist of the removal and satisfactory disposal, in the manner herein required, of all material taken from within the limits of the work contracted for, the removal of which is necessary for the construction of the roadway, subgrade, shoulders, slopes, entrances, retaining walls, gutters, channels and other miscellaneous construction to the dimensions and limits shown on the plans or as ordered by the Engineer and shall include the necessary excavation for previous structure backfill outside of the structure excavation limits. It shall also include the formation of embankments, the disposal of surplus or unsuitable material including existing pavement and curbs, removal of old foundations, concrete or masonry walls, crib walls, bin walls, stone wall fences or farm wall fences and filling of cellar or other holes, and in the absence of such items in the contract, the clearing and grubbing and the shaping and cleaning of slopes and of shoulders.

Also included is digging test pits to verify utility locations and soil/groundwater conditions.

Removal and disposal of concrete and masonry structures and pipe is **NOT** included in this item (see "Trench Excavation").

Classification: Roadway excavation shall be classified for the purpose of payment as "Earth", "Test Pit", "Concrete" or "Rock" in accordance with the following definitions. The classifications applying to any particular project shall be as indicated on the proposal form.

Earth Excavation shall include all materials removed as indicated or directed except water and "Rock".

Test Pits shall be defined holes dug to locate utilities and verify soil and groundwater conditions.

Concrete removal shall include the excavation and removal of concrete and masonry walls.

Rock Excavation shall include rock in definite ledge formation that is not capable of being removed with a toothed excavator shovel and boulders, or the portion of boulders, 1 cubic yard or more in volume.

Construction Methods: The construction methods shall conform to section 2.02.03 of Form 818, as amended.

Excavation shall be made in conformity with the plans or as ordered by the Engineer. The Contractor shall furnish and employ such shoring braces, sheeting, pumps, etc., as may be necessary for the protection of the property, proper completion of the work, and the safety of the public and employees of the Contractor and the Town. All bracing, sheeting, etc., shall be removed when no longer required for the construction or safety of the work, or as approved or directed by the Engineer.

The Contractor may pulverize the existing pavement with a reclamation machine prior to excavation upon approval of the Engineer and at no additional cost to the Town.

## TECHNICAL PROVISIONS

### ROADWAY EXCAVATION (CONTINUED)

Test pits shall be dug as located and directed by the Engineer. For test pits in the existing paved road, the pavement shall be neatly saw cut prior to digging the test pits. These shall be dug with a rubber tire backhoe or excavator or other approved equipment. Test pits shall be a minimum of 2 ft x 2 ft for shallow (2-3 ft deep) utilities and a maximum of 6 ft x 10 ft for deep (8-10 ft) or hard to find utilities. All material except pavement removed from the test pit shall be used to backfill the test pit after the subsurface conditions have been measured and verified. The top 2 inches of test pits in the paved roadway shall be repaved with Class 2 bituminous concrete that has been thoroughly compacted to match the existing road grade, unless otherwise approved by the Engineer.

The work of cutting bituminous concrete pavement shall conform to Subarticle 2.02.04 of Form 818, as amended and the Technical Provisions for "Pavement Saw Cuts".

All temporary pavement patches shall be in accordance with the specifications for this item.

Concrete and masonry structures, pipe and walls shall be excavated and removed by the contractor. These items shall be broken up as is necessary for their removal and transported off site.

Suitable material (as determined by the Engineer) shall be stored and used in backfilling. Surplus and unsuitable material shall be removed from the site and disposed of in locations established by the Contractor and approved by the Engineer.

Rock shall be removed as required to permit the installation of structures, pipe and bedding materials. When blasting is necessary, the Contractor shall conform to all Town, State and Federal laws pertaining to the use of explosives. All blasted rock shall be removed from the project site, unless otherwise approved by the Engineer.

All blasting will be performed by qualified licensed personnel and proper precautions shall be utilized to protect persons' property and work from damage or injury. The Contractor shall be responsible for complying with Article 18 "Removal of Rock" in the General Conditions.

Special precautions will be observed when rock is encountered close to buildings, utilities or other structures.

If the situation should occur that the condition not be permissible for blasting, as determined by the Engineer, then the Contractor shall be required to remove the rock by an approved method without the use of explosives.

Any damage to persons or property caused by the Contractor's operations shall be borne by the Contractor.

#### Method of Measurement:

The amount of roadway material excavated and removed as surplus or unsuitable shall be measured based on the plans and as directed by the Engineer. The amount of excavation will be determined by the method of average end areas, taken at 50 foot intervals or as otherwise agreed by the Engineer. This shall be measured as the amount of material in place, in cubic yards, prior to excavation.

## TECHNICAL PROVISIONS

### ROADWAY EXCAVATION (CONTINUED)

Payment lines for unsuitable material excavation shall be the area designated by the plans, special provisions or the Engineer as unsuitable material below the subgrade in cut sections and below the original ground line in fill sections and shall be paid as the number of cubic yards in-place prior to excavation as "Earth Excavation".

Unsuitable material within the slope and subgrade lines shall be considered as earth excavation.

Any stockpiling, drying or re-excavation necessary to utilize such material on the project shall not be measured for payment, but shall be included in the payment for unsuitable material.

Test Pits shall be measured by the number of test pits dug as directed by the Engineer. The volume of material excavated or time required to dig test pits shall not be measured. The saw cutting of bituminous concrete pavement shall be measured for payment for test pits in the road as directed by the Engineer. The area of Temporary Pavement Patch required to patch any test pits in the pavement as directed by the Engineer shall be measured for payment and shall be a minimum of 1 square yard.

Concrete and masonry foundation walls, or portions thereof, to be removed will be measured for payment by volume in cubic yards, in place, before removal.

Payment lines for rock excavation, where presplitting bedrock is required by these specifications, will extend to the slope and depth line shown on the plans or as directed, to include only the rock actually removed within this limit.

Payment lines for rock excavation where presplitting bedrock is not required by these specifications, shall coincide with the depth shown on the plans or to the depth directed: and payment lines for the slopes will be extended to a limit of 1 foot outside of and parallel to the slope lines shown on the plans, or as directed, to include rock actually removed within this limit. Where removal of rock is necessary for reasons of safety or due to conditions clearly not attributable to the Contractor's method of operation, the payment lines will be fixed to coincide with limits ordered by the Engineer.

Presplitting of bedrock performed in accordance with these specifications will not be measured for payment.

Where removal of rock is necessary for reason of safety or due to conditions clearly not attributable to the Contractor's methods of operation, the payment lines for rock excavation where presplitting is required will be fixed to coincide with limits ordered by the Engineer. Payment lines for rock excavation, where mechanical means of removal are required by these specifications, will extend to the slope and depth line(s) shown on the plans or as directed, to include only the rock actually removed within these limits.

## TECHNICAL PROVISIONS

### ROADWAY EXCAVATION (CONTINUED)

When rock is encountered, and its removal is to be paid for as "Rock Excavation" the contractor shall strip or expose the rock to such an extent that in the Engineer's opinion the necessary measurements can be taken. The Contractor shall notify the Engineer prior to disturbing any of the rock and allow ample time to obtain the necessary measurements. If the Contractor shall fail to give such notice, or remove any rock prior to the taking of measurements, The Engineer shall presume that measurements taken at the time he first sees the material in question will give a true quantity of excavation.

The work, materials, tools, equipment and labor incidental to the disposal of unsuitable excavated material or breaking concrete pavement will not be measured for payment.

Basis of Payment: Surplus and unsuitable material excavated and disposed of off site as stated in this specification shall be paid as the number of cubic yards in-place prior to excavation as "Earth Excavation" This price shall include all equipment, tools and labor incidental to the completion of the excavation and the disposal of surplus or unsuitable material in accordance with the plans and of these specifications.

Test pits will be paid by the actual number of test pits excavated as required by the plan or as directed by the Engineer, and accepted.

Saw cutting necessary for test pits in pavement will be paid by the unit price for saw cuts.

Temporary pavement patching for test pits in pavement will be paid by the unit price for temporary pavement patch.

Excavation and removal of concrete and masonry foundation walls will be paid for at the contract unit price per cubic yard for "Earth Excavation".

Rock Excavation shall be paid at the fixed price in this contract per cubic yard.

There shall be no payment for other earth excavation. Payment for this work will be made part of the unit price for each item, which price shall include all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Road Excavation – Earth Excavation	C.Y.
Road Excavation – Test Pit	EA.



## TECHNICAL PROVISIONS

### **SANITARY and DRAINAGE MANHOLE FRAMES AND COVERS**

#### Description:

This item shall consist of resetting or replacing sanitary and drainage manhole frames and covers to final grade as required and shown on the plans.

#### Materials:

The Contractor shall furnish all materials required including mortar, concrete, bricks, grade rings new frames and covers, and other necessary materials as specified herein and in accordance with the Town of East Windsor Public Works, WPCA Specifications, and ConnDOT Form 818 as amended.

All additional materials, including any resurfacing materials and any additional fill required shall be furnished and placed by the Contractor.

Precast Concrete Manholes shall conform with ConnDOT Form 818 as amended, Section M.8.2. Precast units shall have a minimum curing time of seven (7) days prior to shipment. The date of pour shall be stenciled on each precast unit.

Dampproofing shall conform with ConnDOT Form 818 as amended, Section M.12.05.

Mortar shall conform to ConnDOT Form 818 as amended, Section M.11.04

Concrete shall be Class A as specified in ConnDOT Form 818 as amended, Article M.03.

#### Construction Methods:

All work under this item will conform to the ConnDOT Standard Specification Form 818 as amended and the Town of East Windsor Specifications and the Water Pollution Control Authority Regulations

Construction of the sanitary sewer and drainage manholes shall conform to ConnDOT Form 818 as amended, Section 5.86. All pipes shall be cut flush to meet the inside surface of the manhole or as shown on the plans or directed by the Engineer. Walls shall be constructed around the pipe to produce a tight smooth connection and to prevent leakage around the outer surface.

Dampproofing shall conform to ConnDOT Form 818 as amended, Section 7.08. All outside surfaces of the manhole will be dampproofed with asphalt as shown on the detail plans and specified herein.

Pipes shall be installed in the manhole using an elastomeric coupling and flexible manhole sleeve.

The Contractor will form an invert in the bottom of the sewer manhole using concrete or brick masonry as shown on the detail plans.

Any damage done to existing sanitary sewer or drainage facilities by the Contractor shall be repaired or replaced by the Contractor at no extra cost to the project or the Town of East Windsor.

## TECHNICAL PROVISIONS

### **SANITARY and DRAINAGE MANHOLE FRAMES AND COVERS (CONTINUED)**

Construction shall conform to all applicable Town standard drawings.

For replacement or resetting of manhole frames and covers, the contractor shall carefully excavate around the manhole, remove the frame, cover, and any risers or sections as necessary, adjust the grade with concrete bricks, grade rings, precast concrete sections, and mortar as necessary, reinstall the existing or new frame and cover to final grade and refill the excavation. Care shall be taken to prevent material from falling inside the manhole. Any debris or material which falls inside the manhole shall be removed by the Contractor. The excavated area around the manhole shall be filled with gravel or processed aggregate to conform with the plans and specifications, graded, compacted and prepared for paving.

#### Method of Measurement:

This work will be measured for payment by the number Sanitary & Drain Manhole Frame and Cover Replace and Reset, and Sanitary & Drain Manhole Frame and Cover Reset installed and accepted in place, including all materials, equipment, tools and labor incidental thereto.

#### Basis of Payment:

This work will be paid for at the contact unit price each for the applicable "Sanitary & Drain Manhole Frame and Cover Replace and Reset", or "Sanitary & Drain Manhole Frame and Cover Reset", complete in place. This price shall include the cost of the material for the item and all labor and equipment necessary to complete this work. It shall also include the excavating, refilling, grading and compacting of the area around the manhole. Any material deemed unsuitable for refilling by the Engineer and any excess material shall be removed and disposed of by the Contractor at no additional cost. The cost of replacement bank run gravel and processed aggregate needed to reset the manhole is also included in this item.

Pay Item	Pay Unit
Sanitary & Drain Manhole Frame and Cover Replace and Reset	EA.
Sanitary & Drain Manhole Frame and Cover Reset	EA.

## TECHNICAL PROVISIONS

### **SEDIMENTATION CONTROL SYSTEMS**

Description: This work shall consist of furnishing, placing, maintaining and removing sedimentation control systems as shown on the plans or as directed by the Engineer and where necessary to control soil erosion, including at catch basins and along road edges, particularly where curbs have been removed.

Materials: All materials shall conform to the requirements of Article 2.19.02 and Section M.01 of Form 818, as amended.

Construction Methods: Construction methods for this work shall conform to the requirements of Article 2.19.03 of Form 818, as amended and with the construction details as shown on the plans or as directed by the Engineer.

Sedimentation control measures shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Should the sedimentation control measure decompose or become ineffective prior to the end of the expected usable life, the sedimentation control measure shall be replaced promptly.

Sediment deposits shall be removed when they reach approximately one-half the height of the sedimentation control measure.

Any sediment deposits remaining in place after the sedimentation control measure is no longer required shall be removed and the area dressed with topsoil to conform to the existing grade, prepared and seeded.

Sedimentation Control Barriers shall consist of geotextile fence systems, hay bale systems, stone check dams or catch basin silt sacks and shall be installed as specified on the plans or as directed by the Engineer.

**Sediment Control Along Road Edges** - The sedimentation erosion control barriers along road edges shall prevent runoff water in the road from flowing beyond the edge of the road, particularly where curbs have been removed. Sediment erosion control measures such as stone check dams or sand bags set at an angle from the curb line upstream from a catch basin may be used to direct runoff flow away from flowing behind the curb line. Check dams shall consist of consist of a 1' high row of crushed stone to the length as needed to intercept the flow of surface water on a slope as approved by the Engineer. Any control measure within the road pavement area must be delineated with a reflectorized cone or drum.

**Sediment Control at Catch Basin and Yard Drain Structures** – Sediment controls are to be installed as directed by the Engineer. Sediment control systems at catch basin and yard drain structures may include internal porous fabric sacks suspended from the grate and/or staked hay bales surrounding the grates as appropriate, as approved by the Engineer. The sedimentation control system at catch basins shall prevent runoff water in the road from flowing behind the road curb line. Pavement patches should include berms from the existing curb to the new catch basin top to prevent runoff from flowing behind the curb line.

## TECHNICAL PROVISIONS

### SEDIMENTATION CONTROL SYSTEMS (CONTINUED)

Method of Measurement: This item shall be field measured as follows:

Sedimentation Erosion Control Barrier - By the actual number of linear feet of sedimentation erosion control barrier in the locations specified and of the types required by the Town that are properly installed and accepted.

Sediment Control Systems at Catch Basin and Yard Drain Structures – By the actual number of catch basin and yard drain grates that are protected with a control system required by the Town and properly installed and accepted type, size or number of grates.

Basis of Payment: This work will be paid for at the contract unit price per linear foot "Erosion Control Barrier" and by the contract unit price for each "Sediment Control Systems at Catch Basins and Yard Drains" complete in place, which price shall include all installation, tools, materials and labor incidental thereto.

Pay Item	Pay Unit
Sedimentation Erosion Control Barrier along Road Edges	L.F.
Sediment Control Systems at Catch Basins and Yard Drains	EA.

## TECHNICAL PROVISIONS

### SUPERPAVE DESIGN LEVEL INFORMATION

Hot-Mix Asphalt (HMA) and Polymer-Modified Asphalt (PMA) constructed according to the Superpave mix-design system are required to attain a Superpave Design Level and are required to use a Performance Graded (PG) binder. The Superpave Design Levels required for this project are listed in Table 1. The required PG binder is indicated for each mix with an "X" in the appropriate box in Table 1.

**TABLE 1 – Superpave Design Level and Performance Graded (PG) Binder**

Mix Designation	PG Binder		All roads_	Route	Route	Route	Route
				_____	_____	_____	_____
	PG 64S-22	PG 64E-22	Design Level	Design Level	Design Level	Design Level	Design Level
HMA S0.375	X	-	2	-	-	-	-
HMA S0.5	X	-	2	-	-	-	-
HMA S0.25	X	-	2	-	-	-	-

Note: Please note that PMA mix designations typically use PG 64E-22 and HMA mix designations use PG 64S-22

## TECHNICAL PROVISIONS

### TACK COAT

Description: Work under this section shall consist of providing an applying tack coat material on an in-place surface of bituminous concrete pavement. Tack coat shall always be applied to an in-place pavement surface prior to the placing of bituminous concrete on top of the in-place pavement, regardless of how recently the in-place pavement was placed, unless otherwise approved by the Engineer.

Materials: The materials for tack coat, shall conform to the requirements of Section 4.06.02 of Form 818 as amended.

Construction Methods: The construction methods shall conform to section 4.06.03 of Form 818 as amended.

When paving over an in-place pavement surface, a thin uniform coating of tack coat shall be applied to the in-place pavement immediately before overlaying and be allowed sufficient time to set, regardless of how long the in-place pavement surface has been exposed. This tack coat shall be applied immediately prior to the final paving.

Method of Measurement: Method of Measurement shall be by the number of gallons furnished, applied and accepted by the Town and shall conform to section 4.06.04 of Form 818, as amended.

Basis for Payment: The furnishing, and application of tack coat accepted by the Town will be paid for at the contract unit price per gallon for "Tack Coat".

Pay Item	Pay Unit
Tack Coat	Gallon

## TECHNICAL PROVISIONS

### TOPSOIL

Description of Work: This work shall consist of furnishing, placing and shaping topsoil in areas shown on the plans or where directed by the Engineer. The topsoil shall be placed to a depth of 4 inches unless stated otherwise in the contract.

Materials: The material shall conform to the requirements of Subarticle M.13.01-1 of ConnDOT Form 818, as amended.

1. Native and Borrow topsoil shall be naturally occurring friable sandy loam surface soil, and shall be fertile, friable, and free of subsoil, clay lumps, stones, other objects over 1/2" in diameter, weeds, rock and toxic matter harmful to plant growth.

2. Native topsoil shall only be used when approved by the Town's Representative.

3. The Town shall approve the source of borrow topsoil and a representative sample prior to delivery to the site. Any unsuitable borrow topsoil shall be rejected by the Town's Representative and removed from the site.

Construction Methods: Construction methods shall be those established as agronomically acceptable and feasible and which are approved by the Engineer and shall be in accordance with Section 9.44 of Form 818, as amended.

If it is determined that native topsoil may be re-used, the topsoil shall be stripped and stockpiled in locations as shown on the plans or as directed by the Engineer. Removal is to be completed in locations adjacent to the area approved by the Engineer. Strip topsoil to the subsoil layer and surround the topsoil stockpile with erosion control barrier.

Surplus material shall be removed from the site and disposed of or stockpiled in locations established by the Contractor and approved by the Engineer at no additional cost to the Town.

All disturbed areas will be re-graded and re-seeded. Topsoil shall be installed up to the top of curbing where it is used to back up curb. Any settlement of topsoil shall be filled with additional topsoil to provide a smooth area for grass, as directed by the Engineer.

Method of Measurement: This work will be measured for payment by the number of square yards of area on which the placing of topsoil has been completed and the work accepted.

Stripping and Stockpiling Topsoil will not be measured for payment, but shall be included in the payment for "Furnishing and Placing Topsoil".

Basis of Payment: This work will be paid for at the contract unit price per square yard for "Furnishing and Placing Topsoil" complete in place, which price shall include all materials, equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Furnishing and Placing Topsoil	S.Y.

## TECHNICAL PROVISIONS

### TRAFFIC PERSON

Description: Work under this item shall conform to the requirements of Section 9.70 of the Standard Specifications, Form 818, amended as follows:

The Contractor shall provide the services of traffic persons of the type and number, and for such periods, as the Engineer approves for the control and direction of vehicular traffic and pedestrians. Also included is the appropriate safety apparel, signs, vehicles and equipment needed by traffic persons.

There will be at all times one individual whose sole job function shall be traffic control. This individual shall be one trained in proper traffic control methods.

There may be occasions where traffic volume or road geometry will require hiring a Uniformed Municipal Police Officer for traffic control. East Windsor Police and Public Works personnel will determine when this is necessary.

Prior to the start of operations on the project requiring the use of traffic persons, a meeting will be held with the Contractor, Traffic person agency, and Engineer to review the traffic person operations, lines of responsibility, and operating guidelines which will be used on the project.

The Contractor shall furnish at least one (1) traffic person per construction activity occurring in Town Roads. The Contractor shall furnish two (2) traffic persons with radio communication equipment when the construction activity, location of construction in roadway and/or traffic flow warrants the use of more than one traffic person.

On a weekly basis, the Contractor shall inform the Engineer of their scheduled operations for the following week and the number of traffic persons requested. The Engineer shall review this schedule and approve the type and number of Traffic persons required.

The Contractor is responsible for scheduling traffic persons and notifying the agency providing traffic persons accordingly.

If the Contractor changes or cancels any scheduled operations without prior notice of same as required by the agency providing the traffic persons, and such that traffic person services are no longer required, the Contractor will be responsible for payment at no cost to the Town of any show-up cost for any traffic person not used because of the change. Exceptions, as approved by the Engineer, may be granted for unforeseen adverse weather conditions and unforeseeable causes beyond the control and without the fault or negligence of the Contractor.

Traffic persons shall consist of the following types:

**A. Uniformed Municipal Police Officers:** Uniformed Municipal Police Officers shall be sworn Municipal Police Officers who perform criminal law enforcement duties from the Municipality in which the project is located. Their services may also include an official Municipal Police vehicle. If Uniformed Municipal Police Officers are unavailable other traffic persons may be used when authorized in writing by the Engineer.



## TECHNICAL PROVISIONS

### TRAFFIC PERSON (CONTINUED)

Uniformed Municipal Police Officers and Municipal Police vehicles will be used at such locations and for such periods as the Police and Engineer deem necessary to control traffic operations and promote increased safety to motorists through the construction sites.

Uniformed Law Enforcement Personnel being used as traffic persons may conduct motor vehicle enforcement operations in and around work areas as directed and approved by the Engineer.

**B. Uniformed Flagger:** Uniformed Flaggers shall be persons who have successfully completed flagger training by the ATSSA, National Safety Council or other programs approved by the Engineer. A copy of the Flagger's training certificate shall be provided to the Engineer before the Flagger performs any work on the project. Services of Uniformed Flaggers shall include the following equipment: garments (including high visibility headgear) so as to be readily distinguishable as a Flagger in accordance with Standard 6E-3 of the MUTCD, and these specifications, and a STOP/SLOW paddle that is at least 18 inches in width with letters at least 6 inches high, mounted on a handle of sufficient length so that the bottom of the sign will be 6.0 ft above the ground, and conforms to Standard 6E-4 of the MUTCD and catalog number 387-80-9950 of the Catalog of Signs CDOT.

Uniformed Flaggers will only be used when authorized by the Engineer and/or East Windsor Police Department. Uniformed Flaggers will be used at such locations and for such periods as the Engineer deems necessary to control traffic operations.

In the event of an unplanned, emergency, or short term operation, the Engineer may approve the use of properly clothed, non-certified traffic persons until such time as a certified traffic person may be obtained. In no case shall this temporary use exceed eight (8) hours for any particular operation.

#### Safety Apparel

Traffic persons shall wear a high visibility safety garment that complies with OSHA, MUTCD, ASTM Standards and the following:

Uniformed Law Enforcement Personnel shall wear the high visibility safety garment provided by their law enforcement agency. If no high visibility safety garment is provided, the Contractor shall provide the law enforcement personnel with a garment meeting the requirements of Section 6E.02 High Visibility Safety Apparel of the 2003 Edition of the Manual on Uniform Traffic Control Devices as amended.

Uniformed Flagger shall wear the high visibility safety garment meeting the requirements of Section 6E.02 High-Visibility Safety Apparel of the 2003 Edition of the Manual on Uniform Traffic Control Devices as amended.

Worn/faded safety garments that are no longer highly visible shall not be used. The Engineer shall direct the replacement of any worn/faded garment at no additional cost to the Town. A traffic person shall assist in implementing the traffic control specified in the Maintenance and Protection of Traffic contained elsewhere in these specifications or as directed by the Engineer. Any situation requiring a traffic person to operate in a manner contrary to the Maintenance and Protection of Traffic specification shall be authorized in writing by the Engineer.

## TECHNICAL PROVISIONS

### TRAFFIC PERSON (CONTINUED)

#### Method of Measurement:

Only traffic persons services of Uniformed Flaggers and Uniformed Municipal Police Officers with official Municipal Police vehicles which have been specifically required by the Town's representative shall be measured for payment.

This work will be measured for payment by the actual numbers of Uniformed Flagger and Uniformed Police Officer hours, with or without official Municipal Police vehicles, of traffic control service completed and accepted. The minimum hours of payment for each Uniformed Municipal Police Officer, with or without official Municipal Police vehicle, supplied by the Town in any one day shall be four hours.

Safety garments and STOP/SLOW paddles will not be measured for payment.

#### Basis of Payment:

Where the traffic person is a Uniformed Municipal Police Officer that is specifically required by the Town, the payment will be at the fixed rate unit price per hour which price shall include an official Municipal Police vehicle, all tools, materials and labor incidental thereto. Police bills will only be paid if the police protection was required by the Town's representative. If the police protection was not required by the Town, the Contractor is responsible for payment of the resultant police bills with no reimbursement from the Town.

Where the traffic person is a Uniformed Flagger that is specifically required by the Town, the payment will be at the unit price per hour which price shall include all tools, materials and labor incidental thereto.

There will be no direct payment for safety garments or STOP/SLOW paddles. All costs associated with furnishing uniformed flaggers, safety garments and STOP/SLOW paddles will be considered as being included in the general cost of the Contract.

Pay Item	Pay Unit
Traffic Person – Municipal Police Officer ( <b>Fixed Rate</b> )	HR.
Traffic Person – Uniformed Flagger	HR.

## TECHNICAL PROVISIONS

### TURF ESTABLISHMENT

Description: The work included in this item shall consist of providing an accepted uniform stand of established perennial turf grasses by furnishing and placing lime, fertilizer, seed, and mulch on all areas to be treated as shown on the plans or where designated by the Engineer. Placing of grass seed, fertilizer, and mulch shall be hydroseeding method only, unless directed by the Engineer.

This work shall also include the installation of erosion control matting consisting of mulch and netting woven together as one unit where shown on the plans or as directed by the Engineer.

The Contractor shall follow these specifications for Turf Establishment, unless other specifications are provided for in the contract drawings, in which case the plans (drawings) shall take precedence.

#### Materials:

1. Limestone shall be agricultural ground dolomitic limestone conforming to the Standards of the Association of Official Agricultural Chemists and all State, Federal and Town regulations. The material shall be graded as follows: 100% passing the #10 sieve by weight, 90% passing the #20 sieve by weight, and 40% passing the #100 sieve by weight. The minimum calcium carbonate equivalent shall be 90% passing per weight.
2. Fertilizer shall contain the following minimum requirements:
  - 10 percent nitrogen
  - 10 percent phosphoric acid
  - 10 percent potash

Fertilizer shall be commercial grade and conform to the Standards of the Association of Official Agricultural Chemists and all State, Federal and Town regulations.

3. Grass Seed shall be fresh and clean and new crop seed composed of the following varieties mixed in proportion indicated.

Seed mixture and rate coverage for areas of roadside restoration shall be:

<u>Name</u>	<u>Percentage</u>	<u>lbs/1000 s.f.</u>
Perennial Rye Grass (2 varieties)	50%	4.00
Tall Fescue (2 varieties)	50%	4.00

Seed mixture and rate coverage for lawn areas shall be:

<u>Name</u>	<u>Percentage</u>	<u>lbs/1000 s.f.</u>
Perennial Rye Grass	50%	4.0
Kentucky Blue Grass	25%	2.0
Creeping Red Fescue	25%	2.0

## TECHNICAL PROVISIONS

### TURF ESTABLISHMENT (CONTINUED)

Temporary grass seeding, if necessary, shall be perennial rye grass applied at a rate of 250 pounds per acre.

4. Mulch shall be hay consisting of acceptable grass or legume mowings, free from seeds, weeds, twigs, debris or other objectionable material. It shall be free from rot or mold and shall have a moisture content of not more than 15% when delivered to the project. No salt hay shall be used.
5. The erosion control blankets shall meet the specifications for North American Green DS75 or equivalent or as directed by the Engineer. Stakes shall be 4" BioSTAKES biodegradable plastic stakes by North American Green or equivalent or as directed by the Engineer.

Construction Methods: Construction methods shall be those established as agronomically acceptable and feasible and which are approved by the Engineer and shall be in accordance with Form 818 as amended.

Fine grade topsoil as necessary to achieve a smooth even surface true to line and grade. Match grades smoothly with existing lawn areas to remain.

Turf establishment shall conform to section 9.50 of Form 818 except as modified herein.

Limestone shall be placed at a rate of 2 Tons per acre (92 lbs./1000 sq.ft.) and thoroughly mixed with the loam, by an approved method, prior to fertilizing.

Fertilizer shall be placed at the rate of 450 pounds per acre (10 lbs./1000 sq.ft.) and thoroughly mixed with the loam, by an approved method, prior to seeding.

Seed for areas of lawn and roadside restoration shall be uniformly applied by an acceptable method as approved by the Engineer at a rate of 350 pounds per acre (8 lbs./1000 sq.ft.).

**Seeding dates shall be April 15 to June 15 or Aug 15 to Oct 15 or as directed by the Engineer.**

Seeded areas shall be mulched by uniformly placing hay, by an approved method, at the depth of two inches. Hydroseeding may be submitted as an alternative method as approved by the Engineer.

The Contractor shall be responsible for watering and maintaining areas that have been loamed and seeded until a thick stand of turf grass is well established. Any areas where the turf grass is thin or where there are weeds in excess of 25% of the vegetative cover as determined by the Engineer, will be treated to eradicate the weeds and reseeded by the contractor as necessary to establish a thick stand of turf grass.

Erosion control matting shall be installed following seeding where called for on the plans or as directed by the Engineer. Staples shall be installed as per Manufacturer's recommendations. Where two lengths of matting are joined, the end of the up-grade strip shall overlap the down-grade strip.

## TECHNICAL PROVISIONS

### TURF ESTABLISHMENT (CONTINUED)

The Contractor shall maintain and protect the areas with erosion control matting until such time as the turf grass is well established. The Contractor shall replace or repair at his own expense any and all erosion control matting areas damaged by fire, water or other causes including the operation of construction equipment. No mowing will be required in the locations where erosion control matting is installed. Areas where grass does not become established into a thick mat shall be reseeded by the Contractor as directed by the Engineer.

Method of Measurement: Only disturbed areas within the limits of construction, as described in the contract drawings, or as required by the Engineer, will be measured for payment by the actual number of square yards of seeding measured in place after installation.

Areas of seeding beyond "normally disturbed roadside areas," as directed by the Engineer, such as access easements, shall be measured for payment by the actual number of square yards of grading, loaming and seeding measured in place after installation.

"Erosion Control Matting" will be measured by the number of square yards of surface area of erosion control matting installed and accepted.

Basis of Payment: This work will be paid for at the contract unit price per square yard for "Turf Establishment" which price shall include all materials, mowing, maintenance, equipment, tools and labor incidental thereto.

Erosion control matting will be paid for at the contract unit price per square yard for "Erosion Control Matting" complete in place and accepted, which price shall include the hay mulch, netting, staples, maintenance, equipment, tools, labor and work incidental thereto.

Fifty percent of the payment for turf establishment will be paid after the turf work is initially done and the remaining fifty percent of the payment will be paid after a thick stand of turf grass is well established as approved by the Engineer.

Pay Item	Pay Unit
Turf Establishment	S.Y.
Turf Erosion Control Matting	S.Y.

## TECHNICAL PROVISIONS

### UTILITY STRUCTURE TOPS ADJUSTMENT

Description: This specification shall apply to the adjustment of all non-drainage structure tops such as utility manhole tops and gate boxes and covers. The Contractor shall adjust to final grade all structure tops as required and furnish and install any structure components if necessary such as extension rings, stems and valve extensions. This work shall also include the saw cutting and removal of existing pavement and excavation necessary for the adjustment of the structure tops.

**Work under this item shall conform to the specific requirements of each utility company and to the applicable provisions of Form 818 as amended.**

Materials: The Contractor shall furnish any structure components such as extension rings, gate box sections and extension stems, which shall conform to applicable utility specifications, Town of East Windsor Specifications, or sections of Form 818.

Construction Methods: Construction shall conform to the applicable utility specifications or the Town of East Windsor Specifications standard drawings for the type of structure being adjusted. The Contractor shall carefully excavate around each structure, install any extension or replacement components, if necessary, reinstall the present structure tops, if reusable, adjust the structure tops to final grade and refill the excavation, as required by the utility or Engineer. Care shall be taken to prevent material from filling the inside of the structure.

Method of Measurement: The work which conforms to this Specification will be measured by the actual number of utility structure tops of the type and size specified, adjusted and accepted.

Excavation and backfill material will **not** be measured for payment, but shall be included in the contract prices for the related items.

Structure frames and covers will **not** be measured for payment, but shall be included in the contract prices for each structure top of the type specified.

Basis of Payment: This work will be paid for at the Contract unit price for each utility structure of the type specified, installed complete in place, including all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Utility Gate Box Adjustment	EA.
Utility Manhole Frame & Cover Adjustment	EA.

## **APPENDIX A**

### **Manual of Uniform Traffic Control Devices Reference**

The full "Manual of Uniform Traffic Control Devices for Streets and Highways 2009 Edition" is available at the following website: [https://mutcd.fhwa.dot.gov/kno\\_2009r1r2.htm](https://mutcd.fhwa.dot.gov/kno_2009r1r2.htm)

This appendix contains Flagger Control, Temporary Traffic Control & Road Closure specifications (TC-3 through TC-11).





## CHAPTER 6A. GENERAL

### Section 6A.01 General

#### Support:

Whenever the acronym "TTC" is used in this Chapter, it refers to "temporary traffic control".

#### Standard:

The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a TTC zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

#### Support:

When the normal function of the roadway is suspended, TTC planning provides for continuity of the movement of motor vehicle, bicycle, and pedestrian traffic (including accessible passage); transit operations; and access (and accessibility) to property and utilities.

The primary function of TTC is to provide for the reasonably safe and efficient movement of road users through or around TTC zones while reasonably protecting workers, responders to traffic incidents, and equipment.

Of equal importance to the public traveling through the TTC zone is the safety of workers performing the many varied tasks within the work space. TTC zones present constantly changing conditions that are unexpected by the road user. This creates an even higher degree of vulnerability for the workers and incident management responders on or near the roadway (see Section 6D.03). At the same time, the TTC zone provides for the efficient completion of whatever activity interrupted the normal use of the roadway.

Consideration for road user safety, worker and responder safety, and the efficiency of road user flow is an integral element of every TTC zone, from planning through completion. A concurrent objective of the TTC is the efficient construction and maintenance of the highway and the efficient resolution of traffic incidents.

No one set of TTC devices can satisfy all conditions for a given project or incident. At the same time, defining details that would be adequate to cover all applications is not practical. Instead, Part 6 displays typical applications that depict common applications of TTC devices. The TTC selected for each situation depends on type of highway, road user conditions, duration of operation, physical constraints, and the nearness of the work space or incident management activity to road users.

Improved road user performance might be realized through a well-prepared public relations effort that covers the nature of the work, the time and duration of its execution, the anticipated effects upon road users, and possible alternate routes and modes of travel. Such programs have been found to result in a significant reduction in the number of road users traveling through the TTC zone, which reduces the possible number of conflicts.

#### Standard:

TTC plans and devices shall be the responsibility of the authority of a public body or official having jurisdiction for guiding road users. There shall be adequate statutory authority for the implementation and enforcement of needed road user regulations, parking controls, speed zoning, and the management of traffic incidents. Such statutes shall provide sufficient flexibility in the application of TTC to meet the needs of changing conditions in the TTC zone.

#### Support:

Temporary facilities, including reasonably safe pedestrian routes around work sites, are also covered by the accessibility requirements of the Americans with Disabilities Act of 1990 (ADA) (Public Law 101-336, 104 Stat. 327, July 26, 1990, 42 USC 12101-12213 (as amended)).

#### Guidance:

The TTC plan should start in the planning phase and continue through the design, construction, and restoration phases. The TTC plans and devices should follow the principles set forth in Part 6. The management of traffic incidents should follow the principles set forth in Chapter 6I.

#### Option:

TTC plans may deviate from the typical applications described in Chapter 6H to allow for conditions and requirements of a particular site or jurisdiction.

#### Support:

The criteria of Part 6 apply to both rural and urban areas. A rural highway is normally characterized by lower volumes, higher speeds, fewer turning conflicts, and less conflict with pedestrians. An urban street is typically characterized by relatively low speeds, wide ranges of road user volumes, narrower roadway lanes, frequent intersections and driveways, significant pedestrian activity, and more businesses and houses.

## CHAPTER 6E. FLAGGER CONTROL

### Section 6E.01 Qualifications for Flaggers

#### Support:

Whenever the acronym "TTC" is used in this Chapter, it refers to "temporary traffic control".

#### Standard:

A flagger shall be a person who provides TTC.

#### Guidance:

Because flaggers are responsible for public safety and make the greatest number of contacts with the public of all highway workers, they should be trained in safe traffic control practices and public contact techniques. Flaggers should be able to satisfactorily demonstrate the following abilities:

- A. Ability to receive and communicate specific instructions clearly, firmly, and courteously;
- B. Ability to move and maneuver quickly in order to avoid danger from errant vehicles;
- C. Ability to control signaling devices (such as paddles and flags) in order to provide clear and positive guidance to drivers approaching a TTC zone in frequently changing situations;
- D. Ability to understand and apply safe traffic control practices, sometimes in stressful or emergency situations; and
- E. Ability to recognize dangerous traffic situations and warn workers in sufficient time to avoid injury.

### Section 6E.02 High-Visibility Safety Apparel

#### Standard:

For daytime and nighttime activity, flaggers shall wear safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" (see Section 1A.11) and labeled as meeting the ANSI 107-1999 standard performance for Class 2 risk exposure. The apparel background (outer) material color shall be either fluorescent orange-red or fluorescent yellow-green as defined in the standard. The retroreflective material shall be either orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 300 m (1,000 ft). The retroreflective safety apparel shall be designed to clearly identify the wearer as a person.

#### Guidance:

For nighttime activity, safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" (see Section 1A.11) and labeled as meeting the ANSI 107-1999 standard performance for Class 3 risk exposure should be considered for flagger wear (instead of the Class 2 safety apparel in the Standard above).

When uniformed law enforcement officers are used, high-visibility safety apparel as described in this Section should be worn by the law enforcement officer.

### Section 6E.03 Hand-Signaling Devices

#### Support:

Hand-signaling devices, such as STOP/SLOW paddles, lights, and red flags, are used to control road users through TTC zones.

#### Guidance:

The STOP/SLOW paddle should be the primary and preferred hand-signaling device because the STOP/SLOW paddle gives road users more positive guidance than red flags. Use of flags should be limited to emergency situations.

#### Standard:

The STOP/SLOW paddle shall have an octagonal shape on a rigid handle. STOP/SLOW paddles shall be at least 450 mm (18 in) wide with letters at least 150 mm (6 in) high and should be fabricated from light semirigid material. The background of the STOP face shall be red with white letters and border. The background of the SLOW face shall be orange with black letters and border. When used at night, the STOP/SLOW paddle shall be retroreflectorized.

#### Option:

The STOP/SLOW paddle may be modified to improve conspicuity by incorporating either white or red flashing lights on the STOP face, and either white or yellow flashing lights on the SLOW face. The flashing lights may be arranged in any of the following patterns:

- A. Two white or red lights, one centered vertically above and one centered vertically below the STOP legend; and/or two white or yellow lights, one centered vertically above and one centered vertically below the SLOW legend; or
- B. Two white or red lights, one centered horizontally on each side of the STOP legend; and/or two white or yellow lights, one centered horizontally on each side of the SLOW legend; or
- C. One white or red light centered below the STOP legend; and/or one white or yellow light centered below the SLOW legend; or
- D. A series of eight or more small white or red lights no larger than 6 mm (0.25 in) in diameter along the outer edge of the paddle, arranged in an octagonal pattern at the eight corners of the border of the STOP face; and/or a series of eight or more small white or yellow lights no larger than 6 mm (0.25 in) in diameter along the outer edge of the paddle, arranged in a diamond pattern along the border of the SLOW face.
- E. A series of white lights forming the shapes of the letters in the legend.

**Standard:**

If flashing lights are used on the STOP face of the paddle, their colors shall be all white or all red. If flashing lights are used on the SLOW face of the paddle, their colors shall be all white or all yellow.

If more than eight flashing lights are used, the lights shall be arranged such that they clearly convey the octagonal shape of the STOP face of the paddle and/or the diamond shape of the SLOW face of the paddle.

If flashing lights are used on the STOP/SLOW paddle, the flash rate shall be at least 50, but not more than 60, flashes per minute.

Flags, when used, shall be a minimum of 600 mm (24 in) square, made of a good grade of red material, and securely fastened to a staff that is approximately 900 mm (36 in) in length.

**Guidance:**

The free edge of a flag should be weighted so the flag will hang vertically, even in heavy winds.

**Standard:**

When used at nighttime, flags shall be retroreflectorized red.

**Section 6E.04 Flagger Procedures****Support:**

The use of paddles and flags by flaggers is illustrated in Figure 6E-1.

**Standard:**

The following methods of signaling with paddles shall be used:

- A. To stop road users, the flagger shall face road users and aim the STOP paddle face toward road users in a stationary position with the arm extended horizontally away from the body. The free arm shall be held with the palm of the hand above shoulder level toward approaching traffic.
- B. To direct stopped road users to proceed, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body. The flagger shall motion with the free hand for road users to proceed.
- C. To alert or slow traffic, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body.

**Option:**

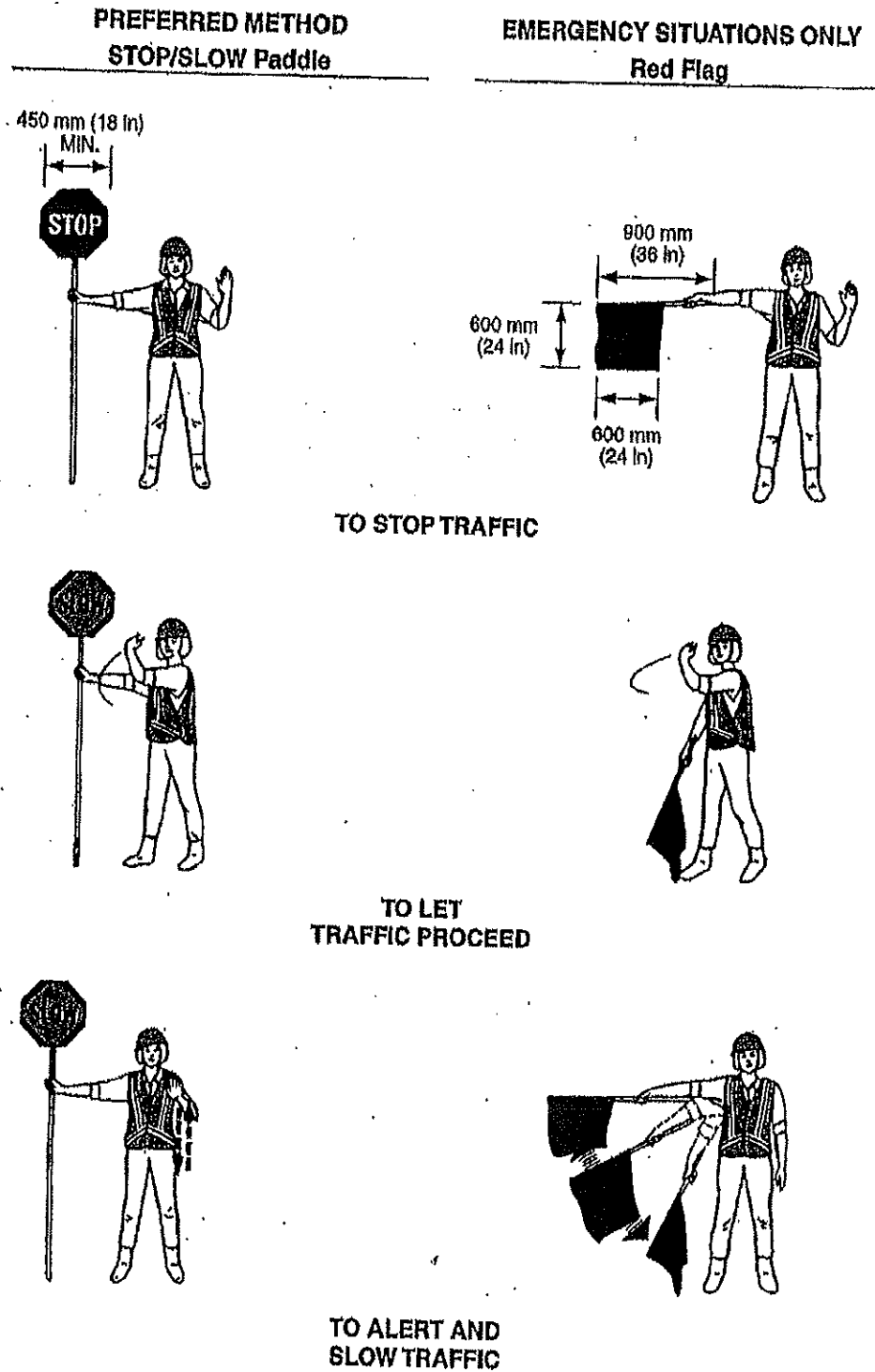
To further alert or slow traffic, the flagger holding the SLOW paddle face toward road users may motion up and down with the free hand, palm down.

**Standard:**

The following methods of signaling with a flag shall be used:

- A. To stop road users, the flagger shall face road users and extend the flag staff horizontally across the road users' lane in a stationary position so that the full area of the flag is visibly hanging below the staff. The free arm shall be held with the palm of the hand above the shoulder level toward approaching traffic.
- B. To direct stopped road users to proceed, the flagger shall stand parallel to the road user movement and with flag and arm lowered from the view of the road users, and shall motion with the free hand for road users to proceed. Flags shall not be used to signal road users to proceed.
- C. To alert or slow traffic, the flagger shall face road users and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to straight down without raising the arm above a horizontal position. The flagger shall keep the free hand down.

**Figure 6E-1. Use of Hand-Signaling Devices by Flaggers**



**Section 6E.05 Flagger Stations****Standard:**

Flagger stations shall be located such that approaching road users will have sufficient distance to stop at an intended stopping point.

**Option:**

The distances shown in Table 6E-1, which provides information regarding the stopping sight distance as a function of speed, may be used for the location of a flagger station. These distances may be increased for downgrades and other conditions that affect stopping distance.

**Guidance:**

Flagger stations should be located such that an errant vehicle has additional space to stop without entering the work space.

**Standard:**

Except in emergency situations, flagger stations shall be preceded by an advance warning sign or signs. Except in emergency situations, flagger stations shall be illuminated at night.

**Guidance:**

The flagger should stand either on the shoulder adjacent to the road user being controlled or in the closed lane prior to stopping road users. A flagger should only stand in the lane being used by moving road users after road users have stopped. The flagger should be clearly visible to the first approaching road user at all times. The flagger also should be visible to other road users. The flagger should be stationed sufficiently in advance of the workers to warn them (for example, with audible warning devices such as horns or whistles) of approaching danger by out-of-control vehicles. The flagger should stand alone, never permitting a group of workers to congregate around the flagger station.

**Option:**

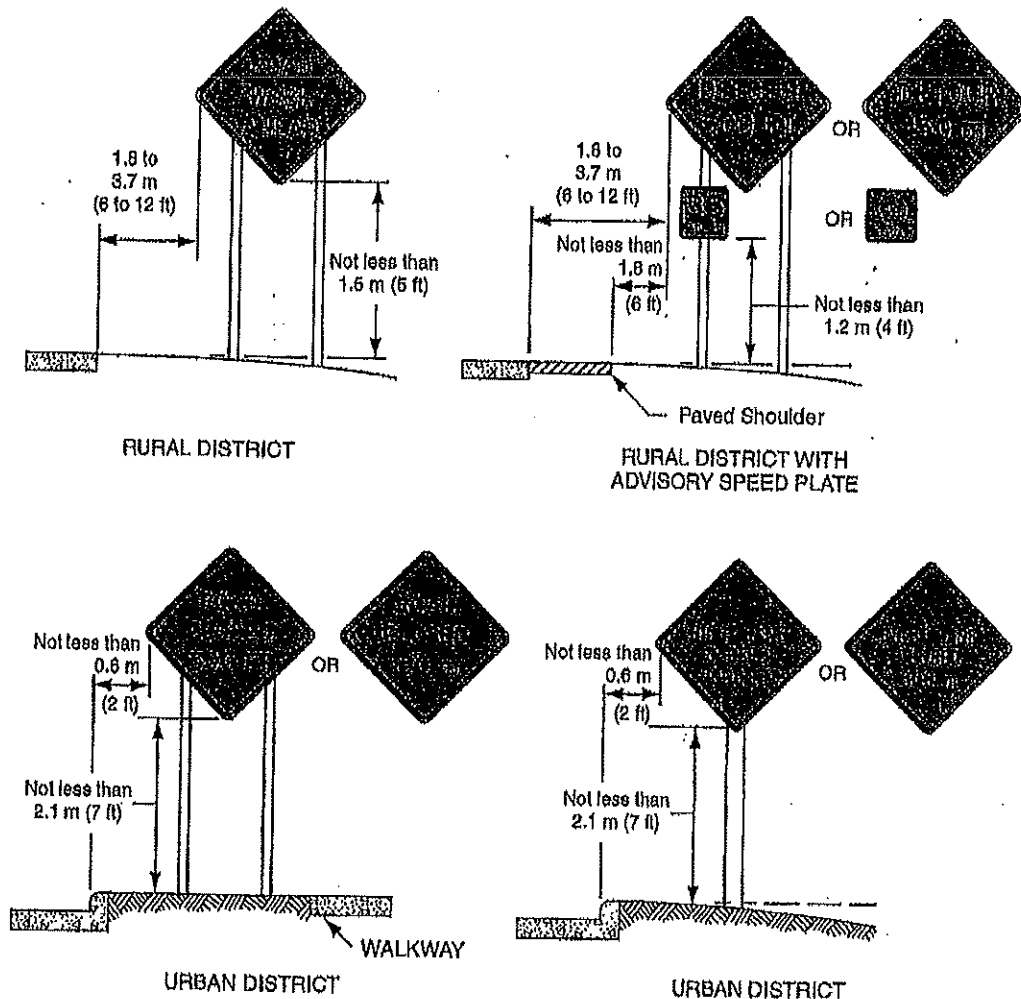
At a spot constriction, the flagger may have to take a position on the shoulder opposite the closed section in order to operate effectively.

At spot lane closures where adequate sight distance is available for the reasonably safe handling of traffic, the use of one flagger may be sufficient.

**Table 6E-1. Stopping Sight Distance as a Function of Speed**

Speed* (km/h)	Distance (m)	Speed* (mph)	Distance (ft)
30	35	20	115
40	50	25	155
50	65	30	200
60	85	35	250
70	105	40	305
80	130	45	360
90	160	50	425
100	185	55	495
110	220	60	570
120	250	65	645
		70	730
		75	820

\* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed

**Figure 6F-1. Height and Lateral Location of Signs—Typical Installations****Option:**

A 2.1 m (7 ft) mounting height may be used in rural areas for increased visibility.

The height to the bottom of a secondary sign mounted below another sign may be 0.3 m (1 ft) less than the appropriate height specified above.

**Guidance:**

Except as noted in the Option, signs mounted on portable supports should not be used for a duration of more than 3 days.

**Option:**

The R9-8 through R9-11a series, R11 series, W1-6 through W1-8 series, M4-10, E5-1, or other similar type signs (see Figures 6F-3, 6F-4, and 6F-5) may be used on portable supports for longer than 3 days.

**Support:**

Methods of mounting signs other than on posts are illustrated in Figure 6F-2.

**Guidance:**

Signs mounted on Type III barricades should not cover more than 50 percent of the top two rails or 33 percent of the total area of the three rails.

**Figure 6F-2. Methods of Mounting Signs Other Than on Posts**

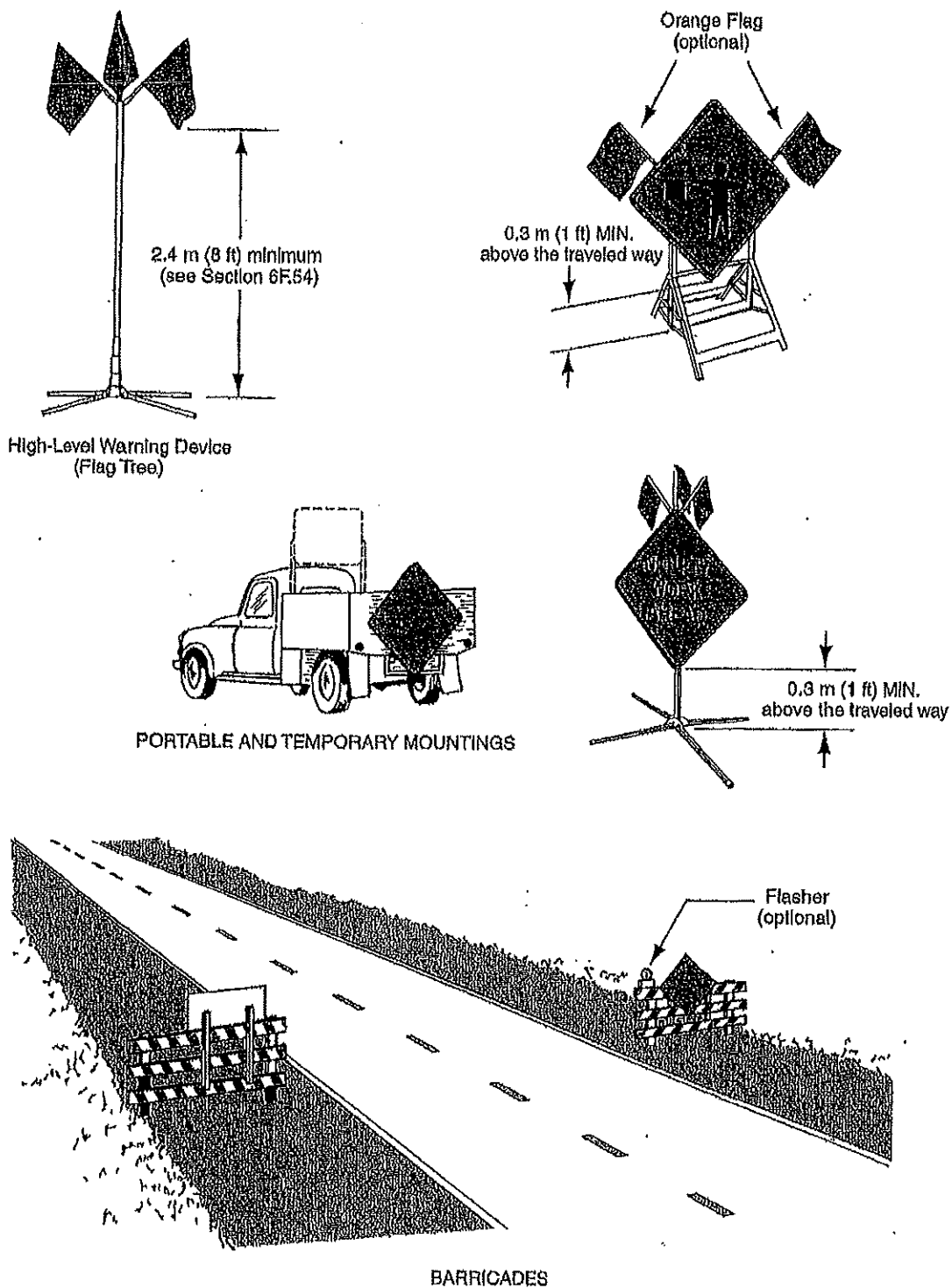
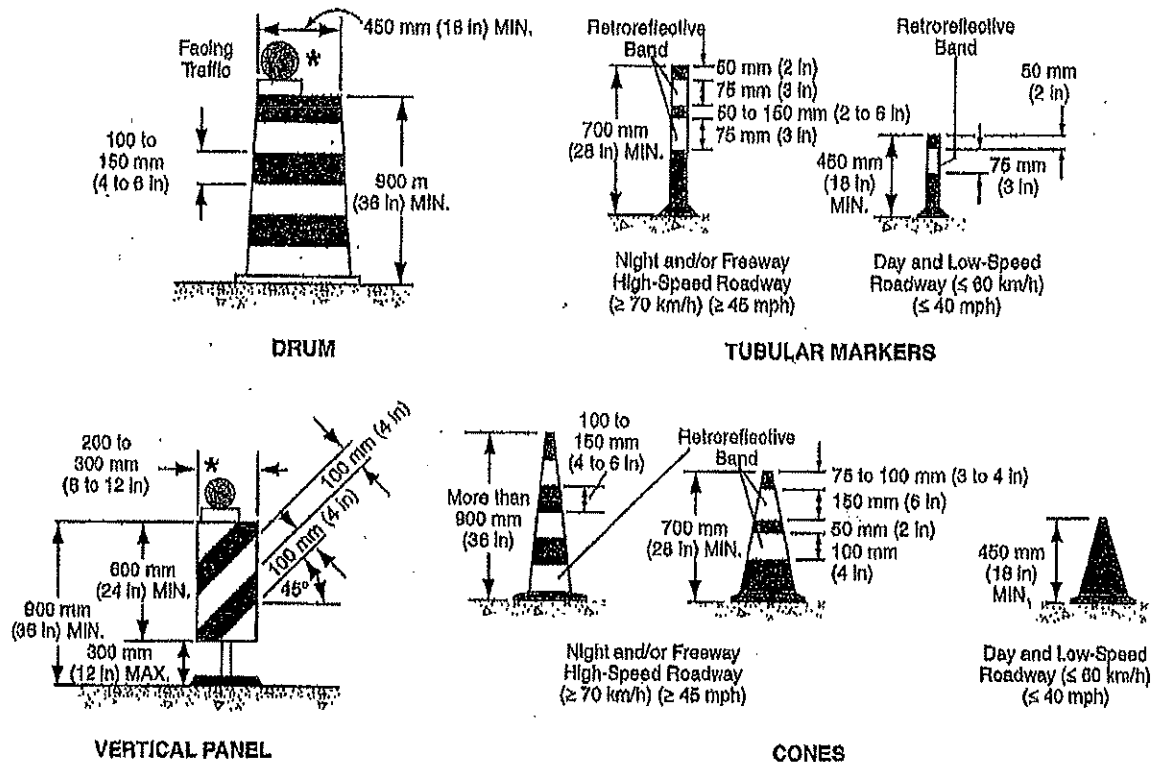


Figure 6F-7. Channelizing Devices (Sheet 1 of 2)



\* Warning lights (optional)

Note: If drums, cones, or tubular markers are used to channelize pedestrians, they shall be located such that there are no gaps between the bases of the devices. In order to create a continuous bottom, and the height of each individual drum, cone, or tubular marker shall be no less than 900 mm (36 in) to be detectable to users of long canes.

## Section 6F.60 Tubular Markers

### Standard:

Tubular markers (see Figure 6F-7, Sheet 1 of 2) shall be predominantly orange and shall be not less than 450 mm (18 in) high and 50 mm (2 in) wide facing road users. They shall be made of a material that can be struck without causing damage to the impacting vehicle.

Tubular markers shall be a minimum of 700 mm (28 in) in height when they are used on freeways and other high-speed highways, on all highways during nighttime, or whenever more conspicuous guidance is needed.

For nighttime use, tubular markers shall be retroreflectorized. Retroreflectorization of 700 mm (28 in) or larger tubular markers shall be provided by two 75 mm (3 in) wide white bands placed a maximum of 50 mm (2 in) from the top with a maximum of 150 mm (6 in) between the bands.

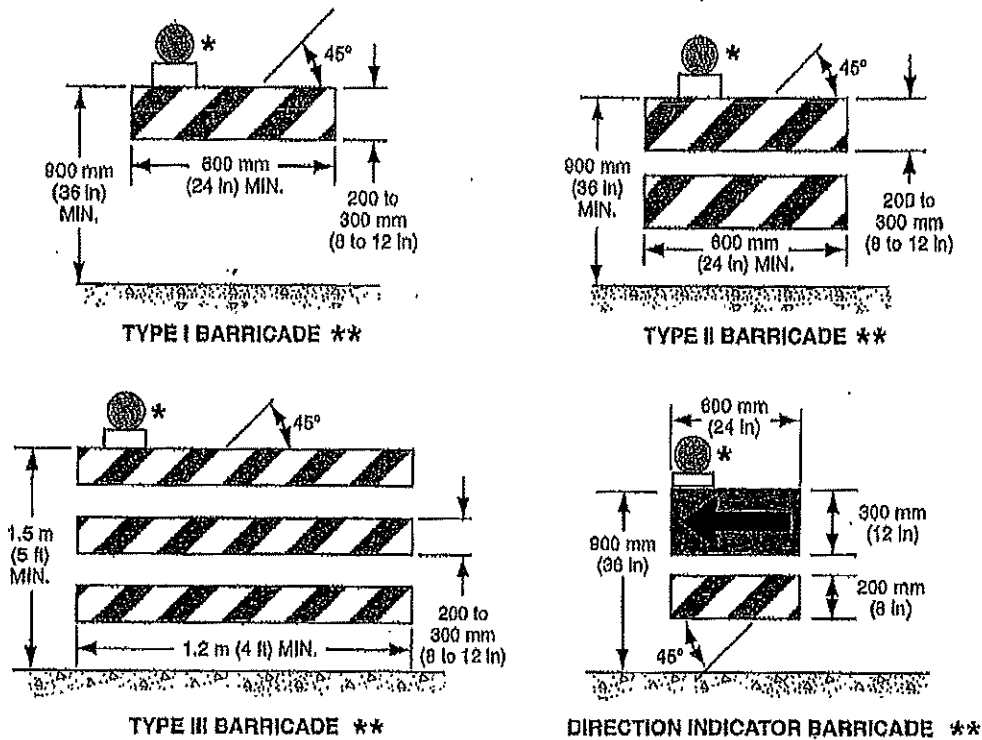
### Guidance:

Tubular markers should not be used for pedestrian channelization or as pedestrian barriers in TTC zones on or along sidewalks unless they are continuous between individual devices and detectable to users of long canes.

Tubular markers have less visible area than other devices and should be used only where space restrictions do not allow for the use of other more visible devices.

Tubular markers should be stabilized by affixing them to the pavement, by using weighted bases, or weights such as sandbag rings that can be dropped over the tubular markers and onto the base to provide added stability. Ballast should be kept to the minimum amount needed.



**Figure 6F-7. Channelizing Devices (Sheet 2 of 2)**

\* Warning lights (optional)

\*\* Rail stripe widths shall be 150 mm (6 in), except that 100 mm (4 in) wide stripes may be used if rail lengths are less than 900 mm (36 in). The sides of barricades facing traffic shall have retroreflective rail faces.

Note: If barricades are used to channelize pedestrians, there shall be continuous detectable bottom and top rails with no gaps between individual barricades to be detectable to users of long canes. The bottom of the bottom rail shall be no higher than 150 mm (6 in) above the ground surface. The top of the top rail shall be no lower than 900 mm (36 in) above the ground surface.

#### Option:

Tubular markers may be used effectively to divide opposing lanes of road users, divide vehicular traffic lanes when two or more lanes of moving motor vehicle traffic are kept open in the same direction, and to delineate the edge of a pavement drop off where space limitations do not allow the use of larger devices.

#### Standard:

When a noncylindrical tubular marker is used, it shall be attached to the pavement in a manner such that the width facing road users meets the minimum requirements.

A tubular marker shall be attached to the pavement to display the minimum 50 mm (2 in) width to the approaching road users.

#### Section 6F.61 Vertical Panels

##### Standard:

Vertical panels (see Figure 6F-7, Sheet 1 of 2) shall be 200 to 300 mm (8 to 12 in) in width and at least 600 mm (24 in) in height. They shall have orange and white diagonal stripes and be retroreflectORIZED.

Vertical panels shall be mounted with the top a minimum of 900 mm (36 in) above the roadway.



## **APPENDIX B**

### **PAVEMENT RESTORATION 2023**

#### **Construction Signs**





# WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE  
108 SQ. FT (MIN.)

## HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9980) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

### A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



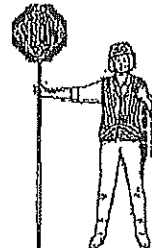
### B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



### C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



- ☐ TRAFFIC CONE OR TRAFFIC DRUM
- \* ☐ OPTIONAL ☐ TRAFFIC DRUM ☐ PORTABLE SIGN SUPPORT
- ☐ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN  
**PLAN 13 - SHEET 2 OF 2**  
SEE NOTES 1, 2, 4, 6, 7, 8

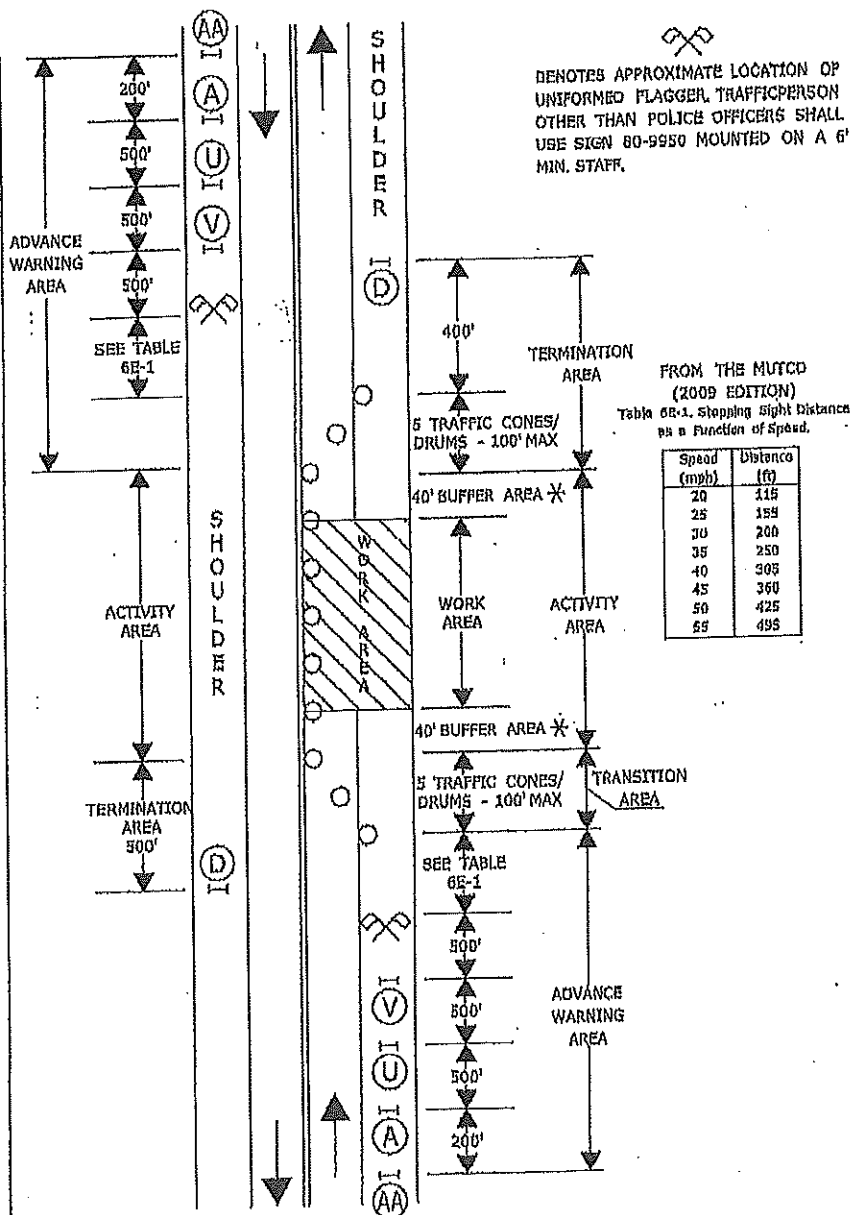
CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

*Charles B. Haddad*  
PRINCIPAL ENGINEER

Charles B. Haddad  
2012.08.08 15:56:480404

SIGN FACE  
108 SQ. FT (MIN.)



Speed (mph)	Distance (ft)
20	115
25	159
30	200
35	250
40	305
45	360
50	425
55	495

FROM THE MUTCD  
(2009 EDITION)  
Table 6E-1. Stopping Sight Distance  
as a Function of Speed.

☐ TRAFFIC CONE OR TRAFFIC DRUM  
☒ OPTIONAL ☒ TRAFFIC DRUM ☐ PORTABLE SIGN SUPPORT  
☒ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN  
PLAN 13 - SHEET 1 OF 2  
SEE NOTES 1, 2, 4, 6, 7, 8

APPROVED

Charles A. Allen  
PRINCIPAL ENGINEER

CONNECTICUT DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & CONSTRUCTION

ITEM #0971001A





## APPENDIX C

### Connecticut Prevailing Wage Rates

This appendix contains the Prevailing Wage Rates determined for this project.

**\*\* Please note that at the time of publication, the State of Connecticut has not delivered the Prevailing Wage Rates for this project. The Prevailing Wage Rates will be provided to holders of the bid documents as they become available. \*\***



# Heavy Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Hartford	East Hartford	Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	\$37.66	26.80 + a
Hartford	East Hartford	Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	\$37.20	26.80 + a
Hartford	East Hartford	Group 16: Maintenance Engineer.	\$36.46	26.80 + a
Hartford	East Hartford	Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator., Portable Grout Plant Operator, Portable Water Filtration Plant Operator.	\$41.39	26.80 + a
Hartford	East Hartford	Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	\$38.61	26.80 + a
Hartford	East Hartford	**NOTE: SEE BELOW		
Hartford	East Hartford	----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----		
Hartford	East Hartford	20) Lineman, Cable Splicer, Technician	\$48.19	6.5% + 22.00
Hartford	East Hartford	21) Heavy Equipment Operator	\$42.26	6.5% + 19.88
Hartford	East Hartford	22) Equipment Operator, Tractor Trailer Driver, Material Men	\$40.96	6.5% + 19.21
Hartford	East Hartford	23) Driver Groundmen	\$26.50	6.5% + 9.00
Hartford	East Hartford	23a) Truck Driver	\$40.96	6.5% + 17.76
Hartford	East Hartford	----LINE CONSTRUCTION----		
Hartford	East Hartford	24) Driver Groundmen	\$30.92	6.5% + 9.70
Hartford	East Hartford	25) Groundmen	\$22.67	6.5% + 6.20
Hartford	East Hartford	26) Heavy Equipment Operators	\$37.10	6.5% + 10.70
Hartford	East Hartford	27) Linemen, Cable Splicers, Dynamite Men	\$41.22	6.5% + 12.20
Hartford	East Hartford	28) Material Men, Tractor Trailer Drivers, Equipment Operators	\$35.04	6.5% + 10.45
Hartford	East Windsor	1) Boilermaker	\$44.46	28.51
Hartford	East Windsor	1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	\$38.27	34.47

# Heavy Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Hartford	East Windsor	2) Carpenters, Piledriversmen	\$36.07	26.15
Hartford	East Windsor	2a) Diver Tenders	\$36.07	26.15
Hartford	East Windsor	3) Divers	\$44.53	26.15
Hartford	East Windsor	03a) Millwrights	\$36.32	26.81
Hartford	East Windsor	4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	\$55.00	23.75
Hartford	East Windsor	4a) Painters: Brush and Roller	\$37.22	23.40
Hartford	East Windsor	4b) Painters: Spray Only	\$40.22	23.40
Hartford	East Windsor	4c) Painters: Steel Only	\$39.22	23.40
Hartford	East Windsor	4d) Painters: Blast and Spray	\$40.22	23.40
Hartford	East Windsor	4e) Painters: Tanks, Tower and Swing	\$39.22	23.40
Hartford	East Windsor	4f) Elevated Tanks (60 feet and above)	\$46.22	23.40
Hartford	East Windsor	5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	\$41.75	31.47+3% of gross wage
Hartford	East Windsor	6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	\$39.70	38.77 + a
Hartford	East Windsor	7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9) ---LABORERS---	\$47.03	34.05
Hartford	East Windsor	8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	\$32.00	24.40
Hartford	East Windsor	9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	\$32.25	24.40
Hartford	East Windsor	10) Group 3: Pipelayers	\$32.50	24.40
Hartford	East Windsor	11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	\$32.50	24.40

# Heavy Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Hartford	East Windsor	12) Group 5: Toxic waste removal (non-mechanical systems)	\$34.00	24.40
Hartford	East Windsor	13) Group 6: Blasters	\$33.75	24.40
Hartford	East Windsor	Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	\$33.00	24.40
Hartford	East Windsor	Group 8: Traffic control signalmen	\$18.00	24.40
Hartford	East Windsor	Group 9: Hydraulic Drills	\$32.75	24.40
Hartford	East Windsor	---LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.---		
Hartford	East Windsor	13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	\$34.23	24.40 + a
Hartford	East Windsor	13b) Brakemen, Trackmen, Miners' Helpers and all other men	\$33.26	24.40 + a
Hartford	East Windsor	---CLEANING, CONCRETE AND CAULKING TUNNEL---		
Hartford	East Windsor	14) Concrete Workers, Form Movers, and Strippers	\$33.26	24.40 + a
Hartford	East Windsor	15) Form Erectors	\$33.59	24.40 + a
Hartford	East Windsor	---ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR.---		
Hartford	East Windsor	16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers, Miners Helpers	\$33.26	24.40 + a
Hartford	East Windsor	17) Laborers Topside, Cage Tenders, Bellman	\$33.15	24.40 + a
Hartford	East Windsor	18) Miners	\$34.23	24.40 + a
Hartford	East Windsor	---TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ---		
Hartford	East Windsor	18a) Blaster	\$40.72	24.40 + a
Hartford	East Windsor	19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	\$40.52	24.40 + a
Hartford	East Windsor	20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	\$38.54	24.40 + a
Hartford	East Windsor	21) Mucking Machine Operator, Grout Boss, Track Boss	\$41.31	24.40 + a

# Heavy Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Hartford	East Windsor	----TRUCK DRIVERS----(*see note below)		
Hartford	East Windsor	Two Axle Trucks, Helpers	\$31.16	28.78 + a
Hartford	East Windsor	Three Axle Trucks; Two Axle Ready Mix	\$31.27	28.78 + a
Hartford	East Windsor	Three Axle Ready Mix	\$31.33	28.78 + a
Hartford	East Windsor	Four Axle Trucks	\$31.39	28.78 + a
Hartford	East Windsor	Four Axle Ready-Mix	\$31.44	28.78 + a
Hartford	East Windsor	Heavy Duty Trailer (40 tons and over)	\$33.66	28.78 + a
Hartford	East Windsor	Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	\$31.44	28.78 + a
Hartford	East Windsor	Heavy Duty Trailer (up to 40 tons)	\$32.39	28.78 + a
Hartford	East Windsor	Snorkle Truck	\$31.54	28.78 + a
Hartford	East Windsor	----POWER EQUIPMENT OPERATORS----		
Hartford	East Windsor	Group 1: Crane Handling or Erecting Structural Steel or Stone, Hoisting Engineer (2 drums or over). (Trade License Required)	\$50.27	26.80 + a
Hartford	East Windsor	Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and over.	\$46.07	26.80 + a
Hartford	East Windsor	Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	\$49.91	26.80 + a
Hartford	East Windsor	Group 2a: Cranes (under 100 ton rated capacity).	\$49.06	26.80 + a
Hartford	East Windsor	Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer).	\$45.71	26.80 + a
Hartford	East Windsor	Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	\$44.86	26.80 + a
Hartford	East Windsor	Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper).	\$44.42	26.80 + a

# Heavy Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Hartford	East Windsor	Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" mandrel)	\$43.73	26.80 + a
Hartford	East Windsor	Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	\$43.73	26.80 + a
Hartford	East Windsor	Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	\$43.38	26.80 + a
Hartford	East Windsor	Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrel)	\$42.99	26.80 + a
Hartford	East Windsor	Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	\$42.54	26.80 + a
Hartford	East Windsor	Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder), Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	\$42.04	26.80 + a
Hartford	East Windsor	Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	\$39.70	26.80 + a
Hartford	East Windsor	Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	\$39.70	26.80 + a
Hartford	East Windsor	Group 12: Wellpoint Operator.	\$39.63	26.80 + a
Hartford	East Windsor	Group 13: Compressor Battery Operator.	\$38.97	26.80 + a
Hartford	East Windsor	Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	\$37.66	26.80 + a
Hartford	East Windsor	Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	\$37.20	26.80 + a
Hartford	East Windsor	Group 16: Maintenance Engineer.	\$36.46	26.80 + a
Hartford	East Windsor	Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator., Portable Grout Plant Operator, Portable Water Filtration Plant Operator.	\$41.39	26.80 + a
Hartford	East Windsor	Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	\$38.61	26.80 + a
Hartford	East Windsor	**NOTE: SEE BELOW		

# Heavy Rates

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Hartford	Enfield	1) Boilermaker	\$44.46	28.51
Hartford	Enfield	1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	\$38.27	34.47
Hartford	Enfield	2) Carpenters, Piledrivermen	\$36.07	26.15
Hartford	Enfield	2a) Diver Tenders	\$36.07	26.15
Hartford	Enfield	3) Divers	\$44.53	26.15
Hartford	Enfield	03a) Millwrights	\$36.32	26.81
Hartford	Enfield	4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	\$55.00	23.75
Hartford	Enfield	4a) Painters: Brush and Roller	\$37.22	23.40



## **APPENDIX D**

### **Pavement Restoration 2023 Map of Town Streets & Select Site Plans**

This appendix contains a map showing the locations of anticipated project work for this contract.





# Town of East Windsor 2023 Pavement Restoration

2023 Projects

## Streets

- Municipal
- State
- Private
- Railroad



AppGeo

