



City of Norwich

Department of Finance – Purchasing Agent
100 Broadway, Room No. 105
Norwich, CT 06360

Phone: (860)823-3706
Fax: (860)823-3812
E-mail: whathaway@cityofnorwich.org

INVITATION FOR BIDS

Bid No.: 7609

Due Date and Time: February 1, 2019 at 2:00 P.M.

**Title: Rehabilitation of Bridge No. 04746, Sunnyside Street over the Yantic River in Norwich, CT, F.A.P.
#6103(010), State Project No. 103-261**

Special Instructions:

The following information must appear in the lower left hand corner of the envelope:

Sealed Bid No.: 7609

Not to be opened until February 1, 2019 at 2:00 P.M.

Return Bids to:

William R. Hathaway, Purchasing Agent
City of Norwich
100 Broadway, Room 105
Norwich, CT 06360-4431



RETURN THIS FORM IMMEDIATELY

**City of Norwich, CT
Acknowledgement of Receipt of Bid Documents**

Bid No.: 7609
Title: Rehabilitation of Bridge No. 04746, Sunnyside Street over the Yantic River in Norwich, CT, F.A.P. #6103(010), State Project No. 103-261

Please take a moment to acknowledge receipt of the attached documents. Your compliance with this request will help the City of Norwich to maintain proper follow-up procedures and will ensure that your firm will receive any addendum that may be issued.

Date Issued: 01/04/2019

Date Documents Received: _____/_____/_____

Do you plan to submit a response? _____ Yes _____ No

Company Name: _____

Address: _____

Telephone: _____ Fax: _____

E-mail Address: _____

Received by: _____

Note: Faxed or e-mailed acknowledgements are requested.

Fax No.: (860)823-3812

E-mail: whathaway@cityofnorwich.org

Fax or e-mail this sheet only. A cover sheet is not required.

DO NOT FAX OR E-MAIL YOUR RESPONSE TO THIS RFP

LEGAL NOTICE

City of Norwich

Notice to Contractors:

Sealed bids for the construction of the following project will be received by the Purchasing Agent at the City of Norwich, 100 Broadway, Room 105, Norwich, CT 06360 until 2:00 P.M. p.m. on February 1, 2019, after which time no further bids will be accepted. NO EXCEPTIONS. The bids will be publicly opened and read in Room 319 at 2:00 P.M..

FEDERAL PROJECT

F.A.P. #6103(010)
State Project No. 103-261
Rehabilitation of Bridge No. 04746, Sunnyside Street over Yantic River

City of Norwich
Town Project No. 7609

Contract Goal: 5% Disadvantaged Business Enterprises (DBEs)

The City of Norwich (Municipality) hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, DBEs will be afforded full opportunity to submit bids in response to this invitation and that they will not be discriminated against on the grounds of race, color, national origin, sex, sexual orientation, mental retardation or physical disability, including but not limited to blindness, in consideration for an award.

"Bid Proposal Form", "Schedule of Prices", "Bid Bond" and "Non Collusion Affidavit" must be completed and returned with the submitted bid. Failure to properly execute and include any one of these four documents in the bid submission will result in the bid not being read and the subsequent rejection of the bid.

Plans and Specifications for the above project may be examined at and/or downloaded from the following websites:

City of Norwich
State of Connecticut

<http://www.norwichct.org/bids.aspx>
http://das.ct.gov/SCP_Search/Default.aspx

Form 817 Standard Specifications and Supplemental Specifications may be obtained via the Connecticut Department of Transportation's website: <http://www.ct.gov/dot/cwp/view.asp?a=3609&q=430362>. All Proposals must be on the form furnished by the Municipality and must be requested for the above-named project.

NOTE: Prospective bidders must have a current sworn Statement (CON-16) on file with the Connecticut Department of Transportation and be prequalified to perform Group No. 8 (Minor Bridges) work. The CON-16 shall be included as part of the bid package submitted to the Municipality.

NOTE: Any Contractor or Subcontractor engaged in surface preparation and/or coating application must be certified by the Steel Structures Painting Council.

NOTE: A Surety Company Bond, on the form furnished by the Municipality, for at least 30 percent of the amount of the bid must accompany each proposal. A certified check will not be accepted. The Municipality reserves the right to reject any and all bids.

NOTE: The apparent low bidder, as determined by the Municipality immediately after the bid opening, shall submit the Pre-award DBE Commitment Approval Request form(s) to the Municipality **NO LATER THAN FIVE (5) calendar days after the bid opening.** This is a requirement of Title 49, Code of Federal Regulations (CFR) Part 26, Participation of DBEs.

CONTRACTORS that find discrepancies and/or errors between and/or in plans, specifications, quantities and/or other items, must immediately notify the Municipality in writing not less than ten days before the scheduled bid opening.

Date: January 4, 2019

City of Norwich

BID PROPOSAL DOCUMENTS

TOWN/CITY OF _____

**B I D
PROPOSAL FORM**

Proposal of
(Name)

.....
(Address)

to furnish all labor, materials, tools and appliances, required to complete the construction of the Project described elsewhere herein.

Proposals will be received at the office of until the hour and date set in the "Advertisement for Proposals".

To the
....., Connecticut.

Sir:

In accordance with the advertisement of the City/Town of , inviting proposals for the construction of the Project hereinafter named, and in conformity with the plans and specifications on file in the office of

I/We certify that I am/we are the only person or persons interested in this proposal as principals, that it is made without collusion with any person, firm, or corporation; that an examination has been made of the Specifications and Contract Form, including the "Special Provisions" contained herein, also of the plans and of the Site of Work; and I/we propose to furnish all necessary machinery, equipment, tools, labor and other means of construction, and to furnish all materials specified in the manner and at the time prescribed, all in accordance with the Contract and Specifications and in conformity with Plans and the requirements of the City/Town of

I/We agree to accept the prices set forth herein for any additions or deductions caused by variations in quantities due to more accurate measurements, or by any changes or alterations in the plans or specifications during the progress of the work.

I/We further proposed to execute the form of contract and begin work within ten days from the day of the "Notice to Proceed" and to prosecute said work so as to complete the Project and its appurtenances within the time limit stipulated; and to furnish a Performance Contract Bond in the required amount as security for the construction and completion of the Project and its appurtenances in accordance with Plans, Specifications and Contract, and a Payment Bond for the payment for all materials or labor used or employed in the execution of the Contract.

Accompanying this proposal is a Surety Company Bond in the amount of (\$.....), as a proposal guarantee, which it is understood will be forfeited in the event the Form of Contract is not executed if awarded to the undersigned.

Signed.....
(Legal name of person, firm or corporation)

Address.....
(Street, City, State and Zip Code)

IMPORTANT – INSTRUCTIONS FOR SIGNATURE

1. If this BID PROPOSAL FORM is executed by an individual, it must be signed by the individual.
2. If executed by a Corporation, it must have the signature of a duly authorized officer or representative thereof, with his title, and the Corporate Seal, if any, must be affixed.
3. If executed by a partnership, the partnership name, if any, will be signed and each partner will sign as a co-partner, unless a power of attorney is attached authorizing one partner to execute the contract for all the partners.
4. If executed by an individual doing business under a trade name, it shall be signed by this individual doing a business as (as trade name).

**CITY OF NORWICH
SCHEDULE OF PRICES
FOR THE CONSTRUCTION OF**

**STATE PROJECT NO. 0103-0261, FAP #6103(010)
REPLACEMENT OF BRIDGE NO. 04746
SUNNYSIDE STREET OVER YANTIC RIVER
IN THE CITY OF NORWICH**

DATE OF
BID OPENING _____, 2018

TIME: _____ P.M. NO BIDS WILL BE ACCEPTED AFTER _____ P.M. **"NO EXCEPTIONS"**

Note: --- The bidder shall fill in, under the column "Unit Prices Bid," the unit prices, written in words and in numbers, for which he proposes to perform the various items of work called for, and under the column headed "Amount," the amount of each of the items at the unit price bid. After the proposal is opened and read, the quantities will be extended and totaled in accordance with the written bid prices and the bid will be verified or corrected.

| Item Number | Items | Unit | Approximate Quantities | Unit Prices Bid | | Amount (Figures) |
|-------------|---|------|------------------------|-----------------|---------|------------------|
| | | | | Figures | Writing | |
| 0100240A | Slate Shingle Roof | s.y. | 45 | | | |
| 0101099A | Spoil Handling Areas | ea. | 1 | | | |
| 0201001 | Clearing and Grubbing | L.S. | 1 | | | |
| 0202000 | Earth Excavation | c.y. | 145 | | | |
| 0202911A | Condition Survey | L.S. | 1 | | | |
| 0203000 | Structure Excavation - Earth (Complete) | c.y. | 58 | | | |
| 0211000 | Anti-Tracking Pad | s.y. | 56 | | | |
| 0213100 | Granular Fill | c.y. | 68 | | | |
| 0216000 | Pervious Structure Backfill | c.y. | 50 | | | |
| 0219001 | Sedimentation Control System | l.f. | 570 | | | |
| 0406170 | HMA S1 | ton | 21 | | | |
| 0406171 | HMA S0.5 | ton | 61 | | | |
| 0406173 | HMA S0.25 | ton | 16 | | | |
| 0406236 | Material for Tack Coat | gal | 30 | | | |
| 0406275A | Fine Milling of Bituminous Concrete (0 to 4 inches) | s.y. | 220 | | | |
| 0406303A | Sawing and Sealing Joints | l.f. | 27 | | | |
| 0506015A | Resetting Stone Masonry | c.f. | 930 | | | |
| 0601000 | Class "A" Concrete | c.y. | | | | |
| 0601107A | High Early Strength Concrete | c.y. | 18 | | | |
| 0601248A | Precast Concrete Slab | c.y. | 36 | | | |
| 0602000 | Deformed Steel Bars | lb. | 2715 | | | |
| 0602006 | Deformed Steel Bars - Epoxy Coated | lb. | 1170 | | | |
| 0602911A | Drilling Holes and Grouting Anchor Bolts | ea. | 8 | | | |
| 0603512A | Temporary Deck Plate | l.f. | 180 | | | |
| 0605003A | Masonry Facing | s.f. | 450 | | | |

CE included the correct 36 CY



Kindly insert here the total amount of your Bid \$ _____
It is understood that the unit prices shall govern in case of discrepancy between the unit-prices and this amount.
This bid includes addenda no.: N O N E

**CITY OF NORWICH
SCHEDULE OF PRICES
FOR THE CONSTRUCTION OF**

**STATE PROJECT NO. 0103-0261, FAP #6103(010)
REPLACEMENT OF BRIDGE NO. 04746
SUNNYSIDE STREET OVER YANTIC RIVER
IN THE CITY OF NORWICH**

DATE OF
BID OPENING _____, 2018

TIME: _____ P.M. NO BIDS WILL BE ACCEPTED AFTER _____ P.M. **"NO EXCEPTIONS"**

Note: --- The bidder shall fill in, under the column "Unit Prices Bid," the unit prices, written in words and in numbers, for which he proposes to perform the various items of work called for, and under the column headed "Amount," the amount of each of the items at the unit price bid. After the proposal is opened and read, the quantities will be extended and totaled in accordance with the written bid prices and the bid will be verified or corrected.

| Item Number | Items | Unit | Approximate Quantities | Unit Prices Bid | | Amount (Figures) |
|-------------|---|------|------------------------|-----------------|--------------------------------------|------------------|
| | | | | Figures | Writing | |
| 0609030A | Repoint Mortar Joints | l.f. | 1850 | | | |
| 0653001 | Clean Existing Catch Basin | ea. | 4 | | | |
| 0703011 | Intermediate Riprap | c.y. | 10 | | | |
| 0703022A | Reset Existing Riprap | c.y. | 110 | | | |
| 0707009A | Membrane Waterproofing (Cold Liquid Elastomeric) | s.y. | 280 | | | |
| 0708001 | Dampproofing | s.y. | 30 | | | |
| 0716000A | Temporary Earth Retaining System | s.f. | 825 | | | |
| 0717000A | Earth Retaining System Left in Place | s.f. | 745 | | | |
| 0728030A | No. 3 Crushed Stone | c.f. | 751 | | | |
| 0728032A | No. 6 Crushed Stone | c.y. | 12 | | | |
| 0755009 | Geotextile | s.y. | 140 | | | |
| 0755014 | Geotextile (Separation - High Survivability) | s.y. | 25 | | | |
| 0813041 | 6" x 18" Granite Stone Curbing | l.f. | 180 | | | |
| 0822001 | Temporary Precast Concrete Barrier Curb | l.f. | 210 | | | |
| 0822002 | Relocated Temporary Precast Concrete Barrier Curb | l.f. | 420 | | | |
| 0910090A | Steel-Backed Timber Guiderail - Type A | l.f. | 50 | | | |
| 0910091A | Steel-Backed Timber Guiderail - Terminal Section | ea. | 2 | | | |
| 0910092A | Steel-Backed Timber Guiderail - Bridge Attachment | ea. | 2 | | | |
| 0913835A | Remove and Reset Chain Link Fence | l.f. | 26 | | | |
| 0921001A | Concrete Sidewalk | s.f. | 580 | | | |
| 0921039 | Detectable Warning Strip | ea. | 2 | | | |
| 0969062A | Construction Field Office, Medium | mo. | 11 | | | |
| 0970006 | Trafficperson (Municipal Police Officer) | EST. | 1 | \$20,000.00 | Twenty Thousand Dollars and No Cents | \$20,000.00 |
| 0970007 | Trafficperson (Uniform Flagger) | hrs. | 900 | | | |
| 0971001A | Maintenance and Protection of Traffic | L.S. | 1 | | | |

It is understood that the unit prices shall govern in case of discrepancy between the unit-prices and this amount.
This bid includes addenda no.: N O N E

**CITY OF NORWICH
SCHEDULE OF PRICES
FOR THE CONSTRUCTION OF**

**STATE PROJECT NO. 0103-0261, FAP #6103(010)
REPLACEMENT OF BRIDGE NO. 04746
SUNNYSIDE STREET OVER YANTIC RIVER
IN THE CITY OF NORWICH**

DATE OF
BID OPENING _____, 2018

TIME: _____ P.M. NO BIDS WILL BE ACCEPTED AFTER _____ P.M. **"NO EXCEPTIONS"**

Note: --- The bidder shall fill in, under the column "Unit Prices Bid," the unit prices, written in words and in numbers, for which he proposes to perform the various items of work called for, and under the column headed "Amount," the amount of each of the items at the unit price bid. After the proposal is opened and read, the quantities will be extended and totaled in accordance with the written bid prices and the bid will be verified or corrected.

| Item Number | Items | Unit | Approximate Quantities | Unit Prices Bid | | Amount (Figures) |
|-------------|---|------|------------------------|-----------------|---------|------------------|
| | | | | Figures | Writing | |
| 0973012A | Construction Monitoring - Existing Bridge | L.S. | 1 | | | |
| 0974001 | Removal of Existing Masonry | c.y. | 68 | | | |
| 0974106A | Timber Support Mat | L.S. | 1 | | | |
| 0975004 | Mobilization and Project Closeout | L.S. | 1 | | | |
| 0976002 | Barricade Warning Lights - High Intensity | day | 360 | | | |
| 0979003 | Construction Barricade Type III | ea. | 6 | | | |
| 0980001 | Construction Staking | L.S. | 1 | | | |
| 1002110A | Decorative Light Pole Foundation | ea. | 3 | | | |
| 1003585A | Decorative Light Pole with Single Luminaire | ea. | 3 | | | |
| 1017030A | Service | ea. | 3 | | | |
| 1131002 | Remote Control Changeable Message Sign | day | 120 | | | |
| 1208931A | Sign Face - Sheet Aluminum (Type IX Retroreflective Sheeting) | s.f. | 15 | | | |
| 1208932A | Sign Face - Sheet Aluminum (Type IV Retroreflective Sheeting) | s.f. | 15 | | | |
| 1210101 | 4" White Epoxy Resin Pavement Markings | l.f. | 650 | | | |
| 1210102 | 4" Yellow Epoxy Resin Pavement Markings | l.f. | 205 | | | |
| 1210105 | Epoxy Resin Pavement Markings, Symbols, and Legends | s.f. | 16 | | | |
| 1220027 | Construction Signs | s.f. | 130 | | | |
| 1507000A | Protection and Support of Existing Utilities | L.S. | 1 | | | |

Kindly insert here the total amount of your Bid \$ _____
It is understood that the unit prices shall govern in case of discrepancy
between the unit-prices and this amount.
This bid includes addenda no.: N O N E

**CITY OF NORWICH
SCHEDULE OF PRICES
FOR THE CONSTRUCTION OF**

**STATE PROJECT NO. 0103-0261, FAP #6103(010)
REPLACEMENT OF BRIDGE NO. 04746
SUNNYSIDE STREET OVER YANTIC RIVER
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DATE OF
BID OPENING _____, 2018

TIME: _____ P.M. NO BIDS WILL BE ACCEPTED AFTER _____ P.M. **"NO EXCEPTIONS"**

CONTRACT TIME AND LIQUIDATED DAMAGES

One Hundred Ninety Six (196) calendar days will be allowed for completion of all work as described in the contract documents for Federal Project No. 6103(010), State Project No. 103-261 and the liquidated damages charge to apply will be Two Thousand One Hundred Dollars (\$2,100.00) per calendar day.

Note: PRIME CONTRACTOR'S REQUIREMENTS:

- A. Proposal Guaranty (Bid Bond): Except when otherwise specified, no proposal will be considered unless accompanied by a proposal guaranty in the form of a bond furnished by a surety company, satisfactory to the Engineer, in an amount equal to at least 30% of the amount of the bid, or unless the bidder has on file in the Municipality, an annual bid bond in the proper amount.

The surety must be a corporate surety licensed to sign surety bonds in the State of Connecticut.
- B. Not less than 5% of the total Contract value shall be subcontracted to, performed by, and paid to DBE.
- C. If the Contractor is unable to fulfill the DBE's percentage requirement, he may request an exception of the above percentage, by completing and submitting to the Municipality, the "Application for Review of Pre-award Good Faith Efforts", as contained in the General Provisions.
- D. Contractors must make sure that at the time of bidding, their Firms have an approved Affirmative Action Plan with the State of Connecticut, Department of Transportation.
- E. The low bidder is required to submit to the Municipality, both a Certificate of Insurance (including Builder's Risk) and a Workers' Compensation Certificate on or before the signing of the Contract.
- F. Statement of Bidder's Qualifications: Each bidder is required to submit to the Municipality a recent sworn statement of the bidder's qualifications the form furnished by the Municipality for this purpose.
- G. Prospective bidders must have a current sworn Statement (CON-16) on file with the Connecticut Department of Transportation and be prequalified to perform Group No. 8 (Minor Bridges) work. The CON-16 shall be included as part of the bid package submitted to the Municipality.
- H. Contracts will not be awarded until the above requirements have been submitted and approved.
- I. Please be aware that the Municipality, prior to the awarding of the Contract, may require further financial and other information from any applicant who becomes the low bidder for that Contract.
- J. The apparent low bidder, as determined by the Municipality immediately after the bid opening, shall submit the Pre-award DBE Commitment Approval request form(s) to the Municipality no later than five days after the bid opening. This is a requirement of Title 49, Code of Federal Regulations (CFR) Part 26, Participation of DBE's. Failure to comply with this requirement may be cause for rejection of the bid.

Kindly insert here the total amount of your Bid \$ _____
It is understood that the unit prices shall govern in case of discrepancy
between the unit-prices and this amount.
This bid includes addenda no.: _N_O_N_E_

Town/City of _____

STANDARD BID BOND

Name of Principal (Contractor, Second Party, etc.):

Project(s) or Contract Identifier:

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____ of _____
(hereinafter called the Principal), as Principal, and _____, a corporation organized
and existing under the laws of the State of _____ and duly authorized to transact a surety business in the
State of Connecticut (hereinafter called the Surety), as Surety, are held and firmly bound unto the Town/City of _____
(hereinafter called the Municipality) as Obligee, in the penal sum of **THIRTY PERCENT (30%) OF THE AMOUNT OF THE
ATTACHED BID** in lawful money of the United States of America, for the payment of which, well and truly to be made to the
Obligee, we bind ourselves, our heirs, successors, and assigns, jointly and severally, firmly by these presents, has herewith submitted a
bid for the contract for the above referenced project(s), bids for which are scheduled to be opened on the
_____ day of _____, _____ A.D.

THE CONDITION OF THIS OBLIGATION is such, that whereas the Principal has herewith submitted a bid for the contract for
the above-referenced projects(s)

NOW, THEREFORE, if the following conditions are satisfied, this obligation shall become void:

- a) the Principal shall not withdraw its bid within sixty (60) days after the bid opening of the same without the consent of the Municipality (or designee), and
- b) the Municipality (or designee) shall Award said Project(s) to the Principal in writing, and
- c) the Principal shall, as required by the Municipality (or designee) pursuant to the bid specifications for the Project(s), execute a contract in writing for the Project(s) within the time specified by the Municipality, after being notified by the Municipality in writing of the Award, including all submissions relating to that contract execution as may be required by the bid specifications, to be submitted to the Municipality (or designee) prior to contract execution, and
- d) the Principal shall deliver such surety bond as shall be acceptable to said Municipality for the performance of the work according to said written agreement (contract), and shall in all other respects perform the agreement created by the acceptance of said bid.

Otherwise, the Principal and Surety hereto agree to pay unto the Obligee the difference between the amount of the bid of said Principal, submitted herewith, and the amount for which the Obligee may contract with another party to perform the work covered by the said bid of the Principal.

The Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for contract execution that the Principal and Obligee may agree to, notice of which extension(s) to the Surety being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the original sixty (60) days allowed for expiration of this bid bond.

IN TESTIMONY WHEREOF, the said Principal and Surety have caused this bond to be signed by their duly-authorized representatives and have caused their names and corporate seals to be affixed on this form on the respective dates of their signatures.

Surety

Principal

Print Surety Name

Print Principal Name

Agent's Signature and date, enclose a valid Power of Attorney

Signature and date of Authorized Representative

NON-COLLUSION AFFIDAVIT

This Affidavit must be completed, notarized and attached to your Bid Proposal. Failure to do so will result in the rejection of your Bid. A separate Affidavit must be submitted by each principal of a Joint Venture.

State Project No. _____
F.A. # _____
City/Town _____
Description of Project _____

I, _____, acting in behalf of _____
(Name of Party Signing Affidavit)

_____,
(Person, Firm, Association, Corporation or Organization)

of which I am the _____, submitting a bid for the above
(Title of Person)

project, certify and affirm in accordance with Section 112(c) of Title 23, U.S. Code - Highways that the

(Person, Firm, Association, Corporation or Organization)

has neither 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 such bid. False statements made herein may be the subject of criminal prosecution.

Name of Corporation or Firm

Signature and Title of Official Making the Affidavit

Subscribed and sworn to before me, this _____ day of _____, 20____.

Notary Public/Commissioner of the Superior Court
My Commission Expires _____

CERTIFICATE OF CORPORATION

I, _____, certify that I am the _____

Secretary of the Corporation named in the foregoing instrument; that I have been duly authorized to affix the seal of the Corporation to such papers as require the seal; that _____, who signed said instrument on behalf of the Corporation, was then _____ of said Corporation; that said instrument was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

(Corporate Seal)

Signature of Person Certifying

Department _____

_____ Compliance Officer

Date _____

APPROVED

DISAPPROVED

PENDING INVESTIGATION

INVESTIGATION REQUESTED

STATE OF CONNECTICUT

LABOR DEPARTMENT

EMPLOYER REPORT OF PERMANENT COMPLIANCE STAFFING

The following report is submitted as part consideration of the proposed contract dated _____ between the undersigned and the City/Town of _____.

Name of Contracting Firm _____

Type of Report _____

Address (No. and Street) (City) (State) _____

Prime Contractor _____

Subcontractor _____

EMPLOYEE INFORMATION

| Total Employed | White | Black | Spanish Surname | Other (specify) |
|----------------|-------|-------|-----------------|-----------------|
| | | | | |

Does your firm have a collective bargaining agreement or other Contract or understanding with a labor organization or employment agency for the recruitment of labor?

YES

If yes, list the name and address of the agency or organization.

Name _____

Address (No. and Street, City, State) _____

NO

If no, indicate the usual methods of recruitment.

- Connecticut State Employment Service
- Private Employment Agency
- Newspaper Advertisement
- Walk-in
- Other (specify) _____

The signer certifies that its 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 agrees it will affirmatively cooperate in the implementation of the policy and provisions of Executive Order Number Three, and consent and agreement is made that recruitment, employment and the terms and conditions of employment under the contract shall be in accordance with the purposes and provisions of Executive Order Number Three.

Yes No Is firm in minority ownership? (51% of assets in control of minorities)

I certify that the above is correct to the best of my knowledge.

Employer _____
Business Name

Date _____

By _____
Signature

_____ Title

AFFIRMATIVE ACTION PROGRAM CERTIFICATION

City/Town of _____

FIRM NAME: _____

ADDRESS: _____

DESCRIPTION OF PROJECT _____

BID AMOUNT: \$ _____

DATE: _____

I (Name of Person), _____ of

(Name of Firm) _____, intend

to honor our Affirmative Action Program on file with the Connecticut Department of Transportation, Office of Contract Compliance. I further certify that our Affirmative Action Program is current and that the last approval was on _____, 20____ and it expires on _____.

SIGNED BY: _____

TITLE: _____

EEO OFFICER

DISADVANTAGED BUSINESS ENTERPRISES

Each Contractor submitting a bid proposal for any Highway or Bridge construction work with the City/Town of _____, must complete this and the attached forms for the project(s) which he intends to bid.

PROJECT: _____

SUBCONTRACT CERTIFICATION

Bids will not be read or accepted unless the following certification has been submitted; prime contractors will not be granted permission to subcontract work unless the following certification has been submitted.

The _____ certifies
Firm Name (Bidder, Contractor)

(a) _____ that they intend

(b) _____ that they do not intend

to subcontract a portion of the work.

The Firm that subcontracts a portion of the work, shall refer for guidelines to the Special Provisions for “Disadvantaged Business Enterprises”, and the “Required Contract Provisions” of the Special Provisions for Affirmative Action Requirements.

The above firm also certifies that all interested prospective subcontractors solicited have been or will be provided with the same information concerning the item(s) to be sublet.

Please note that whenever the Special Provisions call for DBE’s Set Aside percent of work to be subcontracted, you shall check conditions (a).

(Company or Firm)

By: _____
(Title)

Date: _____

STATEMENT OF BIDDER'S QUALIFICATIONS

CITY/TOWN: _____ PROJECT NO. _____

All bidders are required to file this form, properly completed, WITH THEIR PROPOSAL. Failure of a bidder to answer any question or provide required information may be grounds for the awarding authority to disqualify and reject their bid. If a question or request for information does not pertain to your organization in any way, use the symbol "NA" (Not Applicable). Use additional 8½" x 11" sheets with your letterhead as necessary.

1. Indicate exactly the name by which this organization is known:

Name _____

2. How many years has this organization been in business under its present business name?

Years _____

3. How many years has this organization been in business as a General Contractor?

Years _____

4. If this organization has not always been a General Contractor, list the trade(s) that your firm customarily performed prior to the time that you became a General Contractor:

1. _____

2. _____

3. _____

5. Indicate all other names by which this organization has been known and the length of time known by each name:

1. _____

2. _____

3. _____

6. This firm is a ___Corporation ___Partnership ___Sole Proprietorship ___Joint Venture ___Other.

7. Attach resumes of all supervisory personnel, such as Principals, Project Managers, and Superintendents, who will be directly involved with projects on which you are now a bidder. Indicate the number of years of construction experience and number of years of which they were in a supervisory capacity.

8. List all sub-trades which your firm customarily performs with own employees.

1. _____

2. _____

3. _____

9. Trade References: Names, addresses and telephone numbers of several firms with whom your organization has regular business dealings.

(Attach separate sheet)

10. All Construction Projects Your Organization has in Process:

| TITLE & LOCATION | CONTR. AMOUNT | PRIME* OR SUB-CONTRACTOR | OWNER | DESIGNER | START DATE | FINISH DATE | ANY COMPLAINT AS TO QUALITY OR MANAGEMENT | NAME & PHONE OF OWNER'S REP | NAME & PHONE OF DESIGNER REP |
|------------------|---------------|--------------------------|-------|----------|------------|-------------|---|-----------------------------|------------------------------|
| | | | | | | | | | |

Please attach a separate sheet explaining any negative entry in these three columns.

Notes: Indicate "Prime" only if your organization performed 51% or greater of the total contract amount.

11. All Construction Projects Your Organization has completed in the past five years or the twenty projects most recently completed:

| TITLE & LOCATION | CONTR. AMOUNT | PRIME* OR SUB-CONTRACTOR | OWNER | DESIGNER | START DATE | FINISH DATE | ANY COMPLAINT AS TO QUALITY OR MANAGEMENT | NAME & PHONE OF OWNER'S REP | NAME & PHONE OF DESIGNER REP |
|------------------|---------------|--------------------------|-------|----------|------------|-------------|---|-----------------------------|------------------------------|
| | | | | | | | | | |

Please attach a separate sheet explaining any negative entry in these three columns.

Notes: Indicate "Prime" only if your organization performed 51% or greater of the total contract amount.

12. Has your organization ever failed, or has any officer or partner of your organization ever been an officer or partner of another organization that failed to complete a contract in any jurisdiction. If so, indicate the circumstances leading to the project failure.

13. List all legal or administrative proceedings currently pending or concluded adversely within the last five years which relate to procurement or performance of any public or private construction contracts in any jurisdiction.

1. _____ Attached 2. _____ N/A

Dated at _____ this _____ day
of _____, 20_____.

Name of Organization:

Signature _____ (Seal)

(Print Name) _____

Title _____

Notary Statement:

Mr./Mrs./Ms. _____ being duly
sworn deposes and says that he/she is the _____ of
(Position or Title)

_____, and that the answers to the
(Firm Name)
foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn before me this _____ day of _____, 20_____.

Notary Public/Commissioner of the Superior Court: _____

My Commission Expires _____ 20_____.

DESIGN STATEMENT

FEDERAL PROJECT NO. 6103(010)

STATE PROJECT NO. 103-261

CITY: Norwich

BRIDGE NO. 04746

LOCATION: Sunnyside Street over Yantic River

DISTRICT NO. 2

PROPOSED WORK: Rehabilitation

FINAL MAINTENANCE RESPONSIBILITY: To be maintained by City of Norwich

PUBLIC UTILITIES:

The Southern New England Telephone Company dba Frontier Communications of Connecticut
Norwich Public Utilities
Comcast of Connecticut, Inc.

SALVAGE: Stone Masonry

PERMITS AND AGREEMENTS:

Flood Management General Certification - Approval received.
Inland Wetlands, Watercourses and Conservation Commission – Permit received.

MAINTENANCE AND PROTECTION OF TRAFFIC:

Traffic will be maintained by Trafficmen and Construction Signs

SPECIAL CONSIDERATIONS: Best Management Practices for the protection of public watershed, well head protection area, aquifer protection area (APA), or sole source aquifer (SSA) in the vicinity of the project site are stipulated in the Special Provisions.

CALENDAR DAYS: 196

DBE % (Construction): 5%

PLAN DISTRIBUTION: City of Norwich

Consultant Design Engineer: **ALFRED BENESCH & COMPANY, INC.**
Consultant Liaison Engineer: **CLOSE, JENSEN AND MILLER, P.C.**

Federal Project No. 6103(010)
State Project No. 103-261
Municipality: Norwich

INDEX TO SPECIAL PROVISIONS

Note: This index has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this index shall not be considered part of the contract.

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Federal Project No. 6103(010)
State Project No. 103-261
Municipality: Norwich

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DATE: December 21, 2018
FEDERAL PROJECT NO. 6103(010)
STATE PROJECT NO. 103-261

**Rehabilitation of Bridge No. 04746
Sunnyside Street over Yantic River
City of Norwich**

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817, 2016, as revised by the Supplemental Specifications dated January 2018 (otherwise referred to collectively as "ConnDOT Form 817") is hereby made part of this contract, as modified by the Special Provisions contained herein. Form 817 is available at the following DOT website link <http://www.ct.gov/dot/cwp/view.asp?a=3609&q=430362>. The current edition of the State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), is hereby made part of this contract. If the provisions of this Manual conflict with provisions of other Department documents (not including statutes or regulations), the provisions of the Manual will govern. The Manual is available at the following DOT website link <http://www.ct.gov/dot/cwp/view.asp?a=2288&q=259258>. The Special Provisions relate in particular to the rehabilitation of Bridge No. 04746 in the City of Norwich.

CONTRACT TIME AND LIQUIDATED DAMAGES

One hundred ninety-six (196) calendar days will be allowed for completion of all work as described in the contract documents for Federal Project No. 6103(010), State Project No. 103-261 and the liquidated damages charge to apply will be Two Thousand One Hundred Dollars (\$2,100.00) per calendar day.

NOTICE TO CONTRACTOR – FEDERAL WAGE DETERMINATIONS
(Davis Bacon Act)

The following Federal Wage Determinations are applicable to this Federal- Aid contract and are hereby incorporated by reference. During the bid advertisement period, it is the bidder’s responsibility to obtain the latest Federal wage rates from the US Department of Labor website, as may be revised 10 days prior to bid opening. Any revisions posted 10 days prior to the bid opening shall be the wage determinations assigned to this contract.

| Check Applicable WD# (DOT Use Only) | WD# | Construction Type | Counties |
|--|------------|----------------------------------|---|
| | CT1 | Highway | Fairfield, Litchfield, Middlesex, New Haven, Tolland, Windham |
| X | CT2 | Highway | New London |
| | CT3 | Highway | Hartford |
| | CT5 | Heavy Dredging (Hopper Dredging) | Fairfield, Middlesex, New Haven, New London |
| | CT6 | Heavy Dredging | Statewide |
| | CT13 | Heavy | Fairfield |
| | CT14 | Heavy | Hartford |
| | CT15 | Heavy | Middlesex, Tolland |
| | CT16 | Heavy | New Haven |
| | CT17 | Heavy | New London |
| | CT26 | Heavy | Litchfield, Windham |
| | CT18 | Building | Litchfield |
| | CT19 | Building | Windham |
| | CT20 | Building | Fairfield |
| | CT21 | Building | Hartford |
| | CT22 | Building | Middlesex |
| | CT23 | Building | New Haven |
| | CT24 | Building | New London |
| | CT25 | Building | Tolland |
| | CT4 | Residential | Litchfield, Windham |
| | CT7 | Residential | Fairfield |
| | CT8 | Residential | Hartford |
| | CT9 | Residential | Middlesex |
| | CT10 | Residential | New Haven |
| | CT11 | Residential | New London |
| | CT12 | Residential | Tolland |

The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website (<http://www.wdol.gov/dba.aspx>) as may be revised 10 days prior to bid opening. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents. These

applicable Federal wage rates will be incorporated in the final contract document executed by both parties.

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

To obtain the latest Federal wage rates, go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose "Selecting DBA WDs" and follow the instruction to search the latest wage rates for the State, County and Construction Type.

NOTICE TO CONTRACTOR - PROCUREMENT OF MATERIALS

Upon award, the Contractor shall proceed with shop drawings, working drawings, procurement of materials, and all other submittals required to complete the work in accordance with the contract documents.

NOTICE TO CONTRACTOR - SECTION 4.06 AND M.04 MIX DESIGNATION EQUIVALENCY AND PG BINDER EQUIVALENCY

Sections 4.06 and M.04 have been replaced in their entirety with the Special Provisions included as part of this contract. These Special Provisions reflect changes in mix designations for various types of hot-mix asphalt (HMA) and include the removal of mixes designed and governed by the Marshall Mix Design method. The following table is to be used to associate mix designations noted on the plans with those in the contract specifications and related documents. Mix designations on each row are equivalent and refer to a single mix, which shall be subject to the requirements of the Section 4.06 and M.04 Special Provisions for the Official Mix Designation in the leftmost column of the corresponding row in the table.

Mix Designation Equivalency Table

| Official Mix Designation | Equivalent Mix Designation (a) | Equivalent Mix Designation (b) |
|---------------------------------|---|---|
| (c) | Superpave 1.5 inch | Superpave 37.5 mm |
| HMA S1 | Superpave 1.0 inch | Superpave 25.0 mm |
| HMA S0.5 | Superpave 0.5 inch | Superpave 12.5 mm |
| HMA S0.375 | Superpave 0.375 inch | Superpave 9.5 mm |
| HMA S0.25 | Superpave 0.25 inch | Superpave 6.25 mm |
| (c) | Superpave #4 | Superpave #4 |
| HMA S0.5 (d) | Bituminous Concrete Class 1 (e) | Bituminous Concrete Class 1 (e) |
| HMA S0.375 (d) | Bituminous Concrete Class 2 where it is specified in lifts 1.25 or thicker (e) | Bituminous Concrete Class 2 where it is specified in lifts 1.25 or thicker (e) |
| HMA S0.25 (d) | Bituminous Concrete Class 2 where it is specified in lifts 1.0 inches to less than 1.25 inches (e); Bituminous Concrete Class 12 (e) | Bituminous Concrete Class 2 where it is specified in lifts 1.0 inches to less than 1.25 inches (e); Bituminous Concrete Class 12 (e) |
| HMA S1 (d) | Bituminous Concrete Class 4 (e) | Bituminous Concrete Class 4 (e) |
| Curb Mix | Bituminous Concrete Class 3 | Bituminous Concrete Class 3 |

Notes

(a) This mix designation is generally included with projects where the English measurement system is used. The mix designation may contain both the English measurement system designation and the SI (metric) measurement system designation, one of which would be in parenthesis.

(b) This mix designation is generally included with projects where the SI (metric) measurement system is used. The mix designation may contain both the English measurement system designation and the SI measurement system designation, one of which would be in parenthesis.

(c) This mix is no longer in use except by contract-specific Special Provision; if this mix is called for in the Plans but no such Special Provision is included for this contract a suitable substitute must be approved by the Engineer.

(d) Unless approved by the Engineer, the Superpave Design Level for the Official Mix Designation bituminous concrete replacing a Marshall mix called for in the plans or other contract documents shall be Design Level 2 for mixes used on mainline or shoulders of state-maintained roadways and Design Level 1 elsewhere, including but not limited to driveways or sidewalks.

(e) All mixes designed under the Marshall mix-design method are no longer covered by the 4.06 Special Provision. Wherever they appear in Contract plans and documents they shall be substituted by the “Official Mix Designation” in the same row of the Mix Designation Equivalency Table. Unless approved by the Engineer, the Superpave Design Level shall be Level 1.

PG Binder Designation Equivalency Table

| Official Binder Designation | Equivalent Binder Designation | Use |
|------------------------------------|--------------------------------------|---|
| PG 64S-22 | PG 64-22 | Hot-Mix Asphalt (HMA S* pay items and pay items using HMA S* materials)(a),(b) |
| PG 64E-22 | PG 76-22 | Polymer-Modified Asphalt (PMA S* pay items and pay items using HMA S* materials)(a),(b) |

Notes

- (a) Use the Mix Designation Equivalency Table above to identify the Official Mix Designation for materials using the Marshall mix design method, i.e. “Bituminous Concrete Class *.”
- (b) Refer to the NTC – Superpave Design Level for the Superpave Design Level to use for each mix on a project. The PG Binder Designation Equivalency Table can be used to obtain the Official Binder Designation for each mix identified in the NTC – Superpave Design Level.

NOTICE TO CONTRACTOR – STANDARD DRAWINGS

Bidders are hereby notified that the standard drawings (if any) referenced on the plans for this Project are available on the State of Connecticut Department of Transportation's website.

NOTICE TO CONTRACTOR – PREQUALIFICATION REQUIREMENT

Prospective bidders must have a current sworn Statement (CON-16) on file with the Connecticut Department of Transportation and be prequalified to perform Group No. 8 (Minor Bridges) work. The CON-16 shall be included as part of the bid package submitted to the Municipality.

NOTICE TO CONTRACTOR - BID REJECTION

Bidders are hereby notified that until the award of the Contract, the Municipality reserves, the right to reject any or all bids for any reason whatsoever, and to waive technicalities as deemed to be in the best interests of the Municipality.

NOTICE TO CONTRACTOR – PRE-AWARD DOCUMENTS/ NON-RESPONSIVE BIDDER

The apparent low bidder, as determined by the City of Norwich immediately after the bid opening, shall submit the Pre-award DBE Commitment Approval Request form(s) to the City of Norwich NO LATER THAN FIVE (5) calendar days after the bid opening. This is a requirement of Title 49, Code of Federal Regulations (CFR) Part 26, Participation of DBEs.

Bidders are hereby notified that all other required pre-award submittals, properly executed on the forms provided by the Municipality shall be furnished to the Municipality NO LATER THAN FOURTEEN (14) calendar days after the bid opening. These documents include but are not limited to: Affirmative Action Program Certification; Contractor's Proposed Progress Chart; Anticipated Source of Materials; Statement of Bidders Qualifications.

The Municipality may reject a bid as non-responsive if the bidder does not make all required pre-award submittals within the herein stipulated calendar days.

NOTICE TO CONTRACTOR - INSURANCE

The insurance industry's standard ACORD Certificate of Liability Insurance will replace the CON-32 Form. All required levels (\$) of insurance coverage governed by the Connecticut DOT's Standard Specifications (Form 817) Section 1.03.07, or as amended by special provision, shall be identified on the ACORD Form.

The ACORD Form shall identify the Municipality, with its official address, as the certificate holder. The project description together with the State Project number shall be included under "Description of Operations". The Municipality and the State shall be named as additional insured, as required in Section 1.03.07.

NOTICE TO CONTRACTOR – SUPERVISION AND INSPECTION

This project will be supervised and inspected by the Municipality or its authorized agent. The "Notice to Proceed", stipulating the date on which the Contractor will begin the construction and from which date the contract time will be charged, will be issued by the Municipality.

NOTICE TO CONTRACTOR – MUNICIPAL PROJECT/FIELD OFFICE

Bidders are hereby notified that this is a Municipal project. As such the construction field office requires the approval of the Municipality's electrical inspector instead of the State's ConnDOT electrical inspector. Additionally, the installation of a data communication circuit between the field office and the ConnDOT Data Communications Center in Newington will not be required.

NOTICE TO CONTRACTOR – APPROVALS AND INSPECTION BY THE STATE

The Contractor is hereby notified that pursuant to an Agreement between the State and the Municipality for the construction, inspection and maintenance of this project, the Municipality is required to obtain written approvals from the State of Connecticut Department of Transportation for the following contract administration matters prior to the Municipality giving its approval to the Contractor:

- Award and Execution of Contract
- Changes in Scope of Work including Extra Work and Value Engineering Proposals
- Extensions of Contract Time

The Contractor is also hereby notified that pursuant to the aforementioned Agreement, the Department will provide certain services, including, but not limited to, materials testing, periodic construction inspection, and liaison services with other governmental agencies to ensure satisfactory adherence to state and federal requirements for this project.

NOTICE TO CONTRACTOR - VERIFICATION OF EXISTING CONDITIONS

Included in this contract is the modification, alteration and/or addition to existing structures. Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from information shown on the plans or contained elsewhere in the specifications.

NOTICE TO CONTRACTOR – PROTECTION OF EXISTING UTILITIES

Existing utilities shall be maintained during construction. The Contractor shall verify the location of underground and overhead utilities. Construction work within the vicinity of utilities shall be performed in accordance with current safety regulations.

The Contractor shall notify “Call Before You Dig” (1-800-922-4455) for the location of underground Utilities, in accordance with Section 16-345 of the Regulations of the Department of Utility Control.

Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from the information shown on the plans or contained elsewhere in the specifications.

There are special areas of concern with regards to existing and proposed utilities within the limits of this project. They are the following:

Overhead utility lines and poles are being permanently relocated. Contractor must coordinate this with the respective utility company prior to any construction. Contractor must employ protective measures when working around these new locations and the existing locations.

The Contractor shall have the location of the underground utilities marked out prior to the excavation.

Any work related to the temporary support of existing buried utilities adjacent to the retaining wall excavation during Stage 1 shall be paid for under the item “Protection and Support of Existing Utilities”.

The Contractor’s attention is directed to the requirements of Article 1.07.13 – Contractor’s Responsibility for Adjacent Property and Services. In areas where a minimum 3 feet nominal cover cannot be maintained, the Contractor shall employ positive methods of protection such as steel plates to insure load transfer around the utilities. Wheel loads shall not exceed 24,000 pounds where construction equipment traverses water mains. Any work related to installation of a temporary deck plate to protect the buried utilities, during Stage 2 and after removal of the existing sidewalk, shall be paid for under the item “Temporary Deck Plate”.

The Contractor shall perform all work in such a manner that will protect each Utility Company’s facilities from damage. This may include excavation by hand methods as well as modified compaction methods when working close to underground Utilities.

The Contractor shall consider in his bid any inconvenience and work required to meet these conditions. The work to repair or replace any damage caused by the Contractor's Operations will be made solely at the Contractor's expense.

Representatives of the various utility companies shall be allowed access to the site.

The Contractor shall be liable for all damages or claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULE

The attached project specific utility work schedules were provided to the Connecticut Department of Transportation (Department) by the utility companies regarding their identified work on this project.

The utility scheduling information is provided to assist the Contractor in scheduling its activities. However, the Department does not ensure its accuracy and Section 1.05.06 of the Standard Specifications still is in force.

The utility scheduling information shall be incorporated into the Contractor's pre-award schedule in accordance with the Department's Bidding and Award Manual and Section 1.05.08 of the Contract.

After award, the Contractor shall conduct a utility coordination meeting or meetings to obtain contemporaneous scheduling information from the utilities prior to submitting its baseline schedule to the Department in accordance with Section 1.05.08 of the Contract.

The Contractor shall incorporate the contemporaneous utility scheduling information into its baseline schedule submittal. The baseline schedule shall include Contractor predecessor and successor activities to the utility work in such detail as acceptable to the Engineer.

| UTILITY WORK SCHEDULE Rev 3/2015 | | | |
|---|---------------------------------------|----------------|-----------------------|
| CTDOT Project Number: | 103-261 | Town: | NORWICH |
| Project Description: | REPAIR OF THE BRIDGE ON SUNNYSIDE AVE | | |
| CTDOT Utilities Engineer: | RICK MEARS | | |
| Phone: | 860.633.8341 | Email: | rmears@benesch.com |
| Utility Company: | FRONTIER COMMUNICATIONS | | |
| Prepared By: | JOHN PLIKUS | Date Prepared: | 7/26/2018 |
| Phone: | 860.450.2793 | Email: | john.m.plikus@ftr.com |
| Scope of Work | | | |
| <p>The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.</p> | | | |
| <p>TEMPORARY RELOCATION - SUNNYSIDE AVE PLACE AND SHIFT AERIAL CABLES AND GUYING ON SUNNYSIDE AVE FROM POLE S982 TO POLE 976 SUNNYSIDE AVE TO A TEMPORARY LOCATION. PERMANENT RELOCATION - SUNNYSIDE AVE. PLACE AND SHIFT AERIAL CABLES AND GUYING ON SUNNYSIDE AVE FROM POLE S982 TO POLE 976 SUNNYSIDE AVE BACK TO THE ORIGINAL LOCATION.</p> | | | |
| Special Considerations and Constraints | | | |
| <p>The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..</p> | | | |
| <p>1. Prior to any temporary/permanent relocation work CT. Dept. of Transportation to secure ROW as submitted for guying of relocated pole #4050 in order to proceed. 2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Preliminary Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.</p> | | | |

| UTILITY WORK SCHEDULE Rev 3/2015 | | | |
|--|--|---|----------------------------|
| CTDOT Project Number: 103-261 | | | |
| Utility Company: FRONTIER COMMUNICATIONS | | | |
| Prepared By: JOHN PLUKUS | | Total Working Days: 5 | |
| Schedule | | | |
| Location (Station to Station) | Description of Utility Work Activity | Predecessor Activity | Duration (working days) |
| | TEMPORARY RELOCATION | | |
| POLE S982 TO POLE 977 | Relocation of Aerial Plant at Sheldon Road | Other Utilities work completion required. | 5 |
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| UTILITY WORK SCHEDULE Rev 08 02 2016 | |
|--|--------------------------------------|
| CTDOT Project Number: 103-261 | Town: Norwich |
| Project Description: Rehabilitation of Sunnyside Street Bridge (Pole Shift) | |
| CTDOT Utilities Engineer: | |
| Phone: | Email: |
| | |
| Utility Company: Comcast | |
| Prepared By: S. Wildrick | Date Prepared: 10/24/2017 |
| Phone: 860-303-9403 | Email: franklin_wildrick@comcast.com |
| Scope of Work | |
| <p>The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.</p> | |
| <p>Complete 3 pole shifts after power is completed their work, 1 days work for Comcast, requiring 48 hrs notice.</p> | |
| Special Considerations and Constraints | |
| <p>The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..</p> | |
| | |

| UTILITY WORK SCHEDULE Rev 3/2015 | | | |
|---|---|---|----------------------------|
| CTDOT Project Number: 103-261 | | Total Working Days: 1 | |
| Utility Company: Comcast | | | |
| Prepared By: S. Wildrick | | | |
| Schedule | | | |
| Location (Station to Station) | Description of Utility Work Activity | Predecessor Activity | Duration (working days) |
| 1+00 to 3+25 | Shifting of lines to accommodate new NPUD poles | Alley-arm and replacement of poles (others) | 1 |
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The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

| UTILITY WORK SCHEDULE Rev 08 02 2016 | |
|--|--------------------------------|
| CTDOT Project Number: 103-0261 | Town: Norwich |
| Project Description: Rehabilitation of Sunnyside Street Bridge (Pole Shift and Replacement) | |
| CTDOT Utilities Engineer: | |
| Phone: | Email: |
| | |
| Utility Company: Norwich Public Utilities | |
| Prepared By: Brian Hedler | Date Prepared: 11.7.17 |
| Phone: 860.823.4134 | Email: brianhedler@npumail.com |
| Scope of Work | |
| <p>The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.</p> | |
| <p>Install temp pole set and / or alley arm existng pole line for rehabilitation of bridge. To be deternmind in field, permanent pole set with taller poles and cover up of wires for contractor before project.</p> | |
| Special Considerations and Constraints | |
| <p>The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..</p> | |
| | |

| UTILITY WORK SCHEDULE Rev 3/2015 | | | |
|---|--------------------------------------|---|-------------------------|
| CTDOT Project Number: 0103-0261 | | Total Working Days: 10 | |
| Utility Company: Norwich Public Utilities | | Schedule | |
| Prepared By: Brian Hedler | | The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates. | |
| Location (Station to Station) | Description of Utility Work Activity | Predecessor Activity | Duration (working days) |
| 1+00 to 3+00 | Install temp pole line | | 5 |
| 1+00 to 3+00 | Install permanent pole line set | | 5 |
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NOTICE TO CONTRACTOR - UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

Cultural resources consist of a broad array of structures, features, and artifacts ranging from self-evident and even striking historic properties like remarkable older or unique buildings, to less apparent buried archaeological sites, to natural aspects of topography where important historical or cultural events may have transpired upon the landscape. Although every attempt is made to identify such properties in advance of transportation related undertakings, some resources particularly those of an archaeological nature are virtually impossible to completely account for beforehand. These properties are nonetheless protected by state and federal laws and must be respected.

Archaeological resources are minimally defined by federal regulations as material remains of 50 to 100 years of age or older. They typically consist of subsurface concentrations of bone, ceramic, shaped or flaked stone artifacts. They may also consist of features such as buried building foundations, trash-filled pits, linear or circular walls made of individual stones rather than concrete or cement, patches of burned earth, and/or distinct patterns of neatly circular or elliptical discolorations in newly exposed soil accompanied by the materials described above.

If any substantial concentrations of such materials or features or any sets of bone that could be human are unexpectedly encountered during construction or other project related activity, the contractor should immediately cease all construction activities in the vicinity of the find extending to the area that may reasonably be assumed to affect the resource. The contractor or supervisor on site should immediately contact both his supervising engineer per Connecticut Department of Transportation (CTDOT)'s own Standard Specifications for Construction Form 817, Section 1.10.06, AND the CTDOT Office of Environmental Planning (OEP) who will arrange for a qualified OEP archaeologist to assess the find as soon as possible. Any historic properties discovered in this manner should be protected in situ pending identification by the OEP archaeologist. The specialist will attempt to determine whether or not the remains are historic, Native American, or are medico-legally relevant. If there is a possibility that the remains may have forensic significance, the OEP archaeologist will immediately arrange for authorities to be contacted per Connecticut General Statutes (CGS) Title 10, Chapter 184a, Section 10-388. In the event that such finds are deemed to be historically significant and/or subject to legal protections, the resources will be left in place long enough to allow for consultation among the project proponents, the State Historic Preservation Office, the State Archaeologist, Tribal Officials, and any other key stake holding parties, as appropriate. If the remains are deemed not to qualify as historic properties by the OEP archaeologist, he or she may give permission for the work to resume.

Any identified historic properties may be preserved in situ or mitigated on a case-by-case basis as determined through consultation with the Parties and the Tribes. No artifacts should be removed from the site unless approved by all parties. Notwithstanding anything to the contrary herein, the curation and disposition of any cultural resources shall be consistent with Connecticut Statutes and other applicable law. All artifacts removed from State land should be recovered and

documented by a qualified professional archaeologist and transferred to the Connecticut State Museum of Natural History under the domain of the Office of the State Archaeologist per CGS Title 10, Chapter 184a, Section 10-383. From there, any archaeological materials may be conserved or repatriated as determined to be appropriate among the consulting parties.

Human remains are protected by particularly stringent laws. If skeletal remains believed to be human are unexpectedly encountered during project construction, all work that could potentially affect the remains must stop, the remains protected in place and treated in a respectful manner, and the Chief Medical Examiner and the State Archaeologist must be contacted in accordance with CGS Title 10, Chapter 184a, Section 10-388. If the remains are determined to be Native American, the Native American Heritage Advisory Council shall be contacted to assist in the determination of how to proceed. No work may resume until authorized by both the Chief Medical Examiner and the State Archaeologist or five (5) days have passed from the time of notification of these authorities.

NOTICE TO CONTRACTOR – PERMITS/PERMIT APPLICATIONS

The Contractor is hereby notified that all permit approvals and permit applications (contained elsewhere in these specifications) shall be made a part of this Contract, and that the Contractor shall be bound to comply with all requirements of such permits and permit applications as though the Contractor were the permittee. If at the time the permit is received its contents differ from that which is outlined in the application, the permit shall govern.

Should the permit be received after the receipt of bids and the permit requirements significantly change the character of the work, adjustment will be made to the contract in accordance with the appropriate articles in Section 1.04. The requirements and conditions set forth in the permit and permit application shall be binding on the Contractor just as any other specification would be. In the case of a conflict between a provision of the environmental permit or permit application and another provision in the contract documents, the former shall govern.

NOTICE TO CONTRACTOR – FLOOD CONTINGENCY PLAN REQUIREMENTS

The Contractor is hereby made aware that under "Article 1.10.03 – Water Pollution Control" of Form 817, as amended by the Supplemental Specifications, the Contractor is required to submit a contingency plans for flood events, in writing, to the Municipality or its authorized agent for approval. The contingency plan must be submitted by the Contractor and approved by the Municipality or its authorized agent prior to the commencement of any Project construction in the waterway.

NOTICE TO CONTRACTOR – TRANSMITTAL OF APPROVED DRAWINGS

The Contractor is hereby notified that, upon receipt of any and all approved shop drawings, and working drawings for permanent construction, the Contractor shall transmit one set of such approved drawings and product data to the Municipality, the oversight Construction District and Mr. Robert G. Lauzon, Connecticut Department of Transportation, Office of Research and Materials, Division of Materials Testing, 280 West Street, Rocky Hill, Connecticut 06067, telephone (860) 258-0312.

NOTICE TO CONTRACTOR – SALVAGEABLE MATERIALS

As noted in the special provisions, the Contractor shall remove and salvage the following materials:

1. Existing Stones from Stone Masonry Parapets / Barriers
All surplus stones not necessary for rebuilding the existing stone masonry parapets under “Resetting Stone Masonry” is to be delivered to a site determined by the Municipality and shall become property of the Municipality.
2. Existing Stones from Retaining Wall
All surplus stones remaining after cutting for use on the stone masonry veneer under “Masonry Facing” is to be delivered to a site determined by the Municipality and shall become property of the Municipality.

SECTION 1.01

DEFINITIONS OF TERMS AND PERMISSIBLE ABBREVIATIONS

1.01.01—Definitions: is amended and supplemented as follows:

Substitute the word "Municipality" or "Municipal" for "Department" wherever "Department" appears in the definitions for each of the following terms: Award, Contract, Highway, Plans, and Project.

Substitute the word "Engineer" for "Commissioner" wherever "Commissioner" appears in the definitions for each of the following terms: Subcontractor and Sub-subcontractor.

Engineer: Delete the definition in its entirety and replace with the following:

The Municipality's *First Selectman/Mayor/Town Manager*, acting directly or through a duly authorized representative.

Add the following:

Municipal: Of or relating to the Municipality.

Municipal Liaison: That individual identified by the Municipality to act as liaison with the State of Connecticut, Department of Transportation.

Municipality: City of Norwich, Connecticut

SECTION 1.02 PROPOSAL REQUIREMENTS AND CONDITIONS

Section 1.02 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Commissioner" and for "Division of Contracts."

Substitute "Municipality" or "Municipal" for "Department" and for "Contract Section".

1.02.01—Contract Bidding and Awards: is amended as follows:

Add the following two (2) paragraphs to the end of the existing paragraph.

Should the Municipality NOT allow electronically submitted bids, then each paper bid proposal must be submitted in a sealed envelope large enough to hold the proposal documents (recommended size 10-1/2 x 13). **The envelope must clearly state the name and address of the firm submitting the bid, the name of the Town and Project Number for the bid.** The envelope must be delivered to the Municipality on or before the hour and date, and to the location, set forth in the bid advertisement for the opening of proposals, unless the bidder is otherwise directed.

On the date and at the time and place designated in the bid advertisement and in the related Notice to Contractors or addendum notice, the sealed paper bid proposals shall be publicly opened and read out loud. At the time that paper bid proposal is opened, it shall be checked for "responsiveness" in various respects, to determine if it complies with applicable statutes, regulations, and the Municipality's Specifications, including Connecticut DOT's Standard Specifications. Each bidder is required to include with its paper bid proposal the following documents: the completed paper bid proposal form (incl. the schedule of prices), the required bid bond, a non-collusion affidavit, and any other information required by the bid documents or by the bid advertisement. Each paper bid proposal shall be governed by the terms and conditions, as applicable, that are stipulated in the Connecticut DOT's Construction Bidding and Award Manual, for electronically submitted bids.

Add the sentence below following the end of the last paragraph;

Prequalification by the State of Connecticut Department of Transportation is required for this project.

1.02.04—Examination of Plans, Specifications, Special Provisions, and Site of Work:

Delete the last paragraph and replace with the following:

"Bidders must inform the Municipality's Designer, at the earliest opportunity, in writing, of any and all omissions, errors, and/or discrepancies that the bidder discovers within or among the plans, specifications, and bidding documents. Information and inquiries concerning such matters, and any other information or inquiry concerning the conditions of bidding or award or the interpretation of contract documents must be transmitted in writing to:

Mr. Ricky D. Mears, P.E.
Project Manager
Alfred Benesch & Company, Inc.
120 Hebron Avenue, Floor 2
Glastonbury, CT 06033
(860) 633-8341 ext. 7234
rmears@benesch.com

The Municipality and/or the Municipality's Designer cannot ensure a response to inquiries received later than ten (10) days prior to the scheduled bid opening of the related bid. When deemed warranted by the Municipality and/or the Municipality's Designer, responses to such inquiries that relate to changes in or interpretations of the Project documents (plans and specifications) will be issued to all bidders in the form of addenda and made a part of the Contract. Bidders are responsible for ensuring that they are aware of all addenda. Failure by the Municipality, Municipality's Designer or postal or other courier services to deliver addenda or other information regarding a Contract being bid does not release the bidder from any obligations under said addenda or the conditions of the bid."

SECTION 1.03
AWARD AND EXECUTION OF CONTRACT

Section 1.03 is supplemented and amended as follows:

Throughout this Section, except for Article 1.03.07, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Commissioner," for "Manager of Contracts" and for "Transportation Manager of Contracts".

Substitute "Municipality" for "Department" and "State".

SECTION 1.04 SCOPE OF WORK

Section 1.04 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Engineer" for "Department's Assistant District Engineer".
Substitute "Municipality" for "Department" and for "State".

1.04.05 – Extra Work: is amended as follows:

Add the following after the fourth sentence:

Bonding costs shall not be included in the contractor's compensation request. However, if the contractor incurs or will incur increased bonding costs related to the extra work, the contractor shall request separate compensation for such costs. The contractor's request shall be itemized and include a certified statement from the bonding company stating that the value of the work will require an increase in bonding coverage and shall detail the additional costs (within allowable contract amount limitations). If *satisfactory* substantiation is provided, a new item for increased bonding costs will be incorporated into the contract by means of a construction order.

Insert the following immediately following "Department's Assistant District Engineer" near the bottom of the paragraph: "and/or the Municipality's authorized representative".

SECTION 1.05 CONTROL OF THE WORK

Section 1.05 is supplemented and amended as follows:

Substitute "Municipality" for "Department" and/or "State" and "Engineer" for "Department's Assistant District Engineer".

1.05.02-1. Plans: Substitute "Municipality" for "Department.

Add the following sentence to the end of the Subarticle: "The Working Drawings, Shop Drawings and Product Data shall be submitted to the Designer as hereinafter noted; copies of transmittal letters shall be sent to the oversight District and the Municipality.

Designer

Mr. Ricky D. Mears, P.E.
Project Manager
Alfred Benesch & Company, Inc.
120 Hebron Avenue, Floor 2
Glastonbury, CT 06033
(860) 633-8341 ext. 7234
rmears@benesch.com

Oversight District

Ms. Eileen Ego, P.E.
Assistant District Engineer – District 2
171 Salem Turnpike
Norwich, CT 06360
(860) 823-3249

Municipality

Mr. Patrick J. McLaughlin, P.E.
City Engineer
City of Norwich
50 Clinton Avenue
Norwich, CT 06360
pmclaughlin@cityofnorwich.org

1.05.02-2. Working Drawings: Substitute "Municipality" for "Assistant District Engineer".

1.05.02-5. Submittal Preparation and Processing – Review Timeframes: Substitute "Designer" for "Department".

Add the following paragraphs:

"Prior to the submission of any working, shop or erection drawings, the Contractor shall prepare and submit to the Engineer, for approval, a schedule for all proposed working and shop drawings. This initial schedule should be submitted within thirty (30) days of contract award and must be submitted before the Notice to Proceed. The Contractor shall coordinate, schedule and control all submittals of working and shop drawings including those of his various subcontractors, suppliers and engineers to provide for an orderly and balanced distribution of the work.

Each Shop Drawing shall include the name and telephone number of the fabricator's contact person who is familiar with the drawing and who will be available to answer questions by the Engineer or Designer should any arise during the review process.

It is incumbent upon the Contractor to submit his shop drawings in accordance with the approved working and shop drawing schedule to facilitate expeditious review. Voluminous submittals of shop drawings at one time are discouraged and may result in increased review time. In no case will the Municipality accept liability for resulting delays, added costs and related damages when the time required for approval extends beyond the approximate times shown herein when the shop drawings are not submitted in conformance with the approved schedule."

1.05.02-5(a). Submissions: Substitute "oversight" for "administering" when citing the Construction District and add "and Municipality" to the end of the sentence.

1.05.02-5(b). Submissions: Substitute "Designer" for "Assistant District Engineer of the administering Construction District".

1.05.02-5(c). Submissions: Substitute "Designer" for "administering Construction District".

1.05.06 – Cooperation with Utilities (including railroads):

Add the following:

Within the project there may be public utility structures; and, notwithstanding any other clause or clauses of this Contract, the Contractor cannot proceed with his work until he has made diligent inquiry with the utility companies, municipal authorities or other utility owners to determine their exact location, and notified "Call Before You Dig". The Contractor shall notify, in writing, the utility companies, municipalities or other owners involved of the nature and scope of the project and of his operations that may affect their facilities or property. Copies of such notices shall be sent to the Engineer.

SECTION 1.06
CONTROL OF MATERIALS

Section 1.06 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Department/Municipality" or "Municipal" for "Department".

SECTION 1.07
LEGAL RELATIONS AND RESPONSIBILITIES

1.07.01—Laws to be Observed: is amended as follows:

In the second sentence of the first paragraph, after the word "State" add the words "and Municipality".

1.07.03—Proprietary Devices, Materials and Processes: is amended as follows:

After the word "State" add the words "and Municipality" throughout this Article.

1.07.04—Restoration of Surfaces Opened Pursuant to Permit or Contract: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

1.07.07—Safety and Public Convenience: is amended as follows:

In the penultimate paragraph, after the word "Department," add the words "or Municipality".

1.07.09—Protection and Restoration of Property: is supplemented and amended as follows:

Add the words "or Municipality" after the word "State" wherever the word "State" appears in this Article.

Add the phrase "or Municipality, as applicable" after the word "Department" wherever the word "Department" appears in this Article.

Add the following:

The Contractor shall notify the Tree Warden of the Municipality in which the bridge project is located, five (5) days prior to flagging so that the Tree Warden may be present during the flagging.

All trees scheduled to be removed outside of the proposed gutter or curb lines of the highway shall be visibly marked or flagged by the Contractor at least five (5) days prior to cutting of such trees.

The Engineer will inspect the identified trees and verify the limits of tree removal prior to the Contractor proceeding with his cutting operation, should such an operation be required elsewhere in this contract.

1.07.10—Contractor's Duty to Indemnify the State Against Claims for Injury or Damage: is amended as follows:

Revise the title of this Article to read "Contractor's Duty to Indemnify the State and/or Municipality Against Claims for Injury or Damage."

In the first sentence, delete the words "the Department".

Replace the word "State" with "State and/or Municipality" throughout this Article.

Replace the word "Commissioner" with "Engineer" throughout this Article.

Add the following paragraph after the only paragraph:

"It is further understood and agreed by the parties hereto, that the Contractor shall not use the defense of Sovereign Immunity in the adjustment of claims or in the defense of any suit, including any suit between the State and/or Municipality and the Contractor, unless requested to do so by the State and/or Municipality."

1.07.13—Contractor's Responsibility for Adjacent Property and Services: is supplemented with the following:

The Contractor's attention is directed to the fact that there are utilities on the existing bridge. In addition, overhead utilities (including utility poles, pole guys and overhead wires) and buried utilities do exist in the immediate vicinity of the project.

The Contractor shall be liable for all damages and claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

The following companies and their representatives shall be contacted by the Contractor to coordinate the protection of their utilities on the construction site two (2) weeks prior to the start of any work on the project involving their utilities:

Mr. John F. Bilda
General Manager
Norwich Public Utilities
16 South Golden Street
Norwich, CT 06360
(860) 823-4192
bellison@cityofnorwich.org

Mr. Mark E. Bonjuklian
Supervisor – Construction Engineering
Eversource Energy
626 Glenbrook Road
Stamford, CT 06906
(203) 352-5412
steven.testa@eversource.com

Ms. Lynne DeLucia
Engineering
Frontier Communications of CT
1441 North Colony Road
Meriden, CT 06450-1979
(203) 238-5000
lynne.m.anasyasio@ftr.com

Mr. Eric Clark
Manager Fiber Construction
Lighttower Fiber Network
1781 Highland Avenue, Suite 102
Cheshire, CT 06410
(203) 649-3904
eclark@lighttower.com

Mr. Jim Bitzas
Comcast of Connecticut, Inc.
Sr. Manager of Western New England
1110 East Mountain Road
(413) 562-9923
Jim_bitzas@cable.comcast.com

All work shall be in conformance with Rules and Regulations of Public Utility Regulatory Authority (PURA) concerning Traffic Signals attached to Public Service Company Poles.

1.07.14—Personal Liability of Representatives of the State: is amended as follows:

Add the words "and Municipality" after the word "State".

1.07.15—No Waiver of Legal Rights: is amended as follows:

Replace the words "Commissioner" and "Department" with "Municipality" or "Municipal" throughout this Article.

1.07.16—Unauthorized Use of Area(s) within the Project Site: is amended as follows:

Replace the words "Commissioner" and "State" with "Municipality" throughout this Article.

Add the following new Subarticle:

1.07.19—Personal Liability of Representatives of the Municipality

In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the Contract, the Engineer and his authorized representatives, including consultant engineering firms and their employees, shall be subject to no liability, either personally or as officials of the Municipality, it being understood that in all such matters they act solely as agents and representatives of the Municipality.

SECTION 1.08 PROSECUTION AND PROGRESS

Section 1.08 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Municipality" or "Municipal" for "Department" and for "State".

Substitute "Engineer" for "Commissioner".

Article 1.08.04 - Limitation of Operations: is supplemented by the following:

The Contractor's activities on the site shall be limited to the following operations:

All work not prohibiting passage of vehicles on Sunnyside Street shall be limited to operations between 7:00 a.m. and 5:00 p.m., Monday through Friday except legal holidays.

State Observed Legal Holidays:

New Year's Day
Good Friday, Easter
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

The Contractor will be allowed to temporarily close Sunnyside Street for the following operations:

- Installation of temporary earth retaining systems, in front of the retaining wall, between bridge spans at the roadway level
- Installation and removal of steel plates over the existing buried utilities
- Removal of existing wearing surface
- Installation of new precast concrete slab
- Installation of new waterproofing membrane
- Installation of HMA overlay

The temporary closure of Sunnyside Street shall be restricted to the following times:

- Monday through Friday between
9:00 a.m. and 12:00 p.m.
12:30 p.m. and 3:00 p.m.

The temporary roadway closures shall not occur during a week or weekend of which there is a holiday, including the Monday after the Holiday.

The total duration of the temporary daily intermittent roadway closures during allowable hours shall not exceed 45 days, unless otherwise approved by the Engineer.

The Contractor shall demobilize off the roadway and open a minimum of a 10' wide path to emergency equipment within 5 minutes of being notified by the Engineer during operations that require a temporary roadway closure or during any operation that prohibits vehicle passage over Bridge No. 04746.

The Contractor shall notify the Engineer and City of Norwich at least 14 days in advance of each roadway closure. The Engineer will notify the City of Norwich and Emergency Services.

The Contractor will be compensated to repair, remove, and/or replace the waterproofing membrane in the event that the full 30-minute cure time has not been achieved prior to re-opening the roadway for emergency equipment as required by the "Membrane Waterproofing (Cold Liquid Elastomeric)" special provision.

Additional Lane Closure Restrictions

The Contractor shall be aware that coordination will be required to maintain proper traffic flow at all times on all project roadways, in a manner consistent with these specifications and acceptable to the Engineer.

The Contractor will not be allowed to perform any work that will interfere with traffic operations on a roadway when traffic operations are being restricted on that same roadway, unless there is at least a one mile clear area length where the entire roadway is open to traffic or the closures have been coordinated and are acceptable to the Engineer. The one mile clear area length shall be measured from the end of the first work area to the beginning of the signing pattern for the next work area.

SECTION 1.09
MEASUREMENT AND PAYMENT

Section 1.09 is supplemented and amended as follows:

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

"Municipality" or "Municipal" for "Department" and for "State".

Substitute "Engineer" for "Commissioner".

SECTION 1.10 ENVIRONMENTAL COMPLIANCE

1.10.02—Compliance with Laws and Regulations: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

In the last sentence of the last paragraph of this Article, and delete the phrase "under any other State contract".

1.10.03—Water Pollution Control: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

In the last sentence of the second paragraph, delete the phrase "under any other State contract".

Add the following sentence after the second sentence of the third paragraph:

The following items may also be superseded by specific permits from the Connecticut Department of Energy and Environmental Protection (DEEP) and/or the appropriate local wetlands and watercourses regulatory authority.

In Paragraph No. 13, replace "State right-of-way" with "State or Municipal right-of-way."

BEST MANAGEMENT PRACTICES

Add the following after Required Best Management Practices Number 13:

14. The Contractor is hereby notified that the location of the Project occurs within a public watershed, well head protection area, aquifer protection area (APA), or sole source aquifer (SSA). The Contractor is hereby notified that the location of 103-261 occurs within one of these sensitive areas. The protected areas encompass the area of contribution and recharge for the protected resource, as depicted on the graphical map. Please note that the Office of Environmental Planning will provide the graphical map to the District after the Project has been awarded as this information is considered proprietary. As a result of this location, special requirements must be followed for cleaning machinery, storage of materials, and servicing/fueling equipment.

- a. All Contractors and their employees must be informed of the sensitive area that they are working in. No pollutants may be discharged that could have adverse effects on the public drinking water supply. Any fuel or other hazardous chemical spills must be reported immediately to the DEEP Oil and Chemical Spills Unit at (860) 424-3338, the Department of Public Health's Drinking Water Division at 860-509-7333, and South Central Connecticut Regional Water Authority at (203) 562-4020, **no exceptions**.

When working within the Pootatuck SSA in *Newtown* or within the Pawcatuck SSA in *North Stonington* which also encompasses areas in *Sterling*, *Stonington* and *Voluntown*, Mr. Jeff Butensky from the Environmental Protection Agency (EPA) must be contacted at (617) 918-1665. Mr. Robert Adler from the EPA must also be contacted at (617) 918-1396, if a Project is near the Rhode Island state border.

- b. Contractors must adhere to specialized cleanup procedures while working within the watershed, well head protection area, APA or SSA. No cleaning of any machinery shall be performed within one hundred (100) feet of any water body within the sensitive area.

Specifically for cleanup associated with pavers, material transfer vehicles (MTV) and concrete mixers, the Contractor must move the equipment off line onto a tarp. The tarp must be in an acceptable condition so as to prevent liquids and solids from passing through to the ground beneath, when the area is used for paving operations. The cleanup area shall have oil absorbent pads placed on the tarp. The equipment shall be cleaned over the absorbent pads in a manner that will allow the pads to collect any liquids that are used for cleanup.

- i. Specifically for cleanup associated with dump trucks, a liquid tight five gallon pail shall be placed at each corner of the dump body below the lower hinges to capture any materials generated during the cleanup.
- c. All materials generated during the cleanup procedures shall be removed off-site at the end of each day and disposed of in a manner consistent with all applicable laws and regulations. These materials shall not be buried outside of the roadway limits.
- d. Servicing and fueling of equipment shall be conducted outside of a public watershed area, APA, SSA, and/or well head protection area.
 - i. If equipment cannot be serviced and refueled outside of the watershed area, well head protection area, APA, or SSA then the Contractor shall utilize the proper spoils handling areas that are identified on the plans.
 - ii. Servicing and fueling of equipment is not permitted within a 500 foot radius of a non-community well and within a 1000 foot radius of a community well.

- iii. Any fuel and/or hazardous materials that must be kept within these sensitive areas during working hours shall be stored in an enclosed spill proof container.
 - iv. Spill containment systems must be utilized during fueling operations, and shall be manufactured by Sentry Lite Berms, Collapse-a-tainer, or approved equal. It shall have a minimum capacity of 80-gallons and shall be made of plastic or vinyl which is inert to all fuel types.
 - v. Fuel spill remediation kits shall be stored on-site so that spills may be contained and cleaned quickly.
- e. Construction staging and laydown areas are prohibited within a watershed area, APA, SSA, and/or well head protection area. The Contractor shall submit to the Engineer the desired location of trailer(s), construction staging/laydown areas, containment systems, and sedimentation control systems for review and approval prior to the start of construction.
 - f. Millings may be re-used as asphalt material. Disposal of excess millings must be performed off-site in a manner consistent with all applicable laws and regulations. At no time can millings be dumped or buried outside of the roadway limits.
 - g. South Central Connecticut Regional Water Authority and Norwich Public Utilities shall be contacted prior to the start of construction.
 - h. South Central Connecticut Regional Water Authority and Norwich Public Utilities personnel shall be allowed to periodically inspect this project to ensure that drinking water quality is not being adversely impacted.
 - i. Servicing of machinery shall be completed outside of the Source Water Area.
 - j. Refueling of vehicles or machinery shall take place on an impervious pad with secondary containment design to contain fuels. See special provision "Spoil Handling Areas" for additional details.
 - k. Fuel and other hazardous materials should not be stored within the Source Water Area. Any fuel or hazardous materials that must be kept within the Aquifer Protection Area / Source Water Area during working hours shall be stored on an impervious surface utilizing secondary containment.
 - l. A fuel spill remediation kit shall be stored on-site so that any spills may be contained and cleaned quickly.

1.10.07—Controlled and Hazardous Materials: is amended as follows:

Replace the word "Department" with "Municipality" throughout this Article.

SECTION 1.11
CLAIMS

Section 1.11 is supplemented and amended as follows:

Throughout this Section make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Chief Administrative Official of the Municipality" for "Commissioner".
Substitute "Municipality" or "Municipal" for "Department".

DIVISION II
CONSTRUCTION DETAILS

Throughout all the various Sections contained in Division II, substitute the word "Municipality" or "Municipal" for "Department" wherever "Department" appears, except in those instances where the word "Department" is used to identify a state agency.

SECTION 4.06 - BITUMINOUS CONCRETE

Section 4.06 is being deleted in its entirety and replaced with the following:

4.06.01—Description

4.06.02—Materials

4.06.03—Construction Methods

4.06.04—Method of Measurement

4.06.05—Basis of Payment

4.06.01—Description: Work under this section shall include the production, delivery, placement, and compaction of an uniform textured, non-segregated, smooth bituminous concrete pavement to the grade and cross section shown on the plans.

The terms listed below as used in this specification are defined as:

Bituminous Concrete: A composite material consisting of prescribed amounts of asphalt binder, and aggregates. Asphalt binder may also contain additives engineered to modify specific properties and/or behavior of the composite material. References to bituminous concrete apply to all of its forms, such as those identified as hot-mix asphalt (HMA), or polymer-modified asphalt (PMA).

Bituminous Concrete Plant (Plant): A structure where aggregates and asphalt binder are combined in a controlled fashion into a bituminous concrete mixture suitable for forming pavements and other paved surfaces.

Course: A continuous layer (a lift or multiple lifts) of the same bituminous concrete mixture placed as part of the pavement structure.

Density Lot: The total tonnage of all bituminous concrete placed in a single lift and as defined in Article 4.06.03.

Disintegration: Erosion or fragmentation of the pavement surface which can be described as polishing, weathering-oxidizing, scaling, spalling, raveling, or formation of potholes.

Dispute Resolution: A procedure used to resolve conflicts between the Engineer and the Contractor's test results that may affect payment.

Hot Mix Asphalt (HMA): A bituminous concrete mixture typically produced at 325°F.

Job Mix Formula (JMF): A recommended aggregate gradation and asphalt binder content to achieve the required mixture properties.

Lift: An application of a bituminous concrete mixture placed and compacted to a specified thickness in a single paver pass.

Percent Within Limits (PWL): The percentage of the lot falling between the Upper Specification Limit (USL) and the Lower Specification Limit (LSL).

Polymer-Modified Asphalt (PMA): A bituminous concrete mixture containing a polymer modified asphalt binder and using a qualified warm mix technology.

Production Lot: The total tonnage of a bituminous concrete mixture from a single source that may receive an adjustment.

Production Sub Lot: Portion of the production lot typically represented by a single sample.

Quality Assurance (QA): All those planned and systematic actions necessary to provide ConnDOT the confidence that a Contractor will perform the work as specified in the Contract.

Quality Control (QC): The sum total of activities performed by the vendor (Producer, Manufacturer, and Contractor) to ensure that a product meets contract specification requirements.

Superpave: A bituminous concrete mix design used in mixtures designated as “S*” Where “S” indicates Superpave and * indicates the sieve related to the nominal maximum aggregate size of the mix.

Segregation: A non-uniform distribution of a bituminous concrete mixture in terms of gradation, temperature, or volumetric properties.

Warm Mix Asphalt (WMA) Technology: A qualified additive or technology that may be used to produce a bituminous concrete at reduced temperatures and/or increase workability of the mixture.

4.06.02—Materials: All materials shall conform to the requirements of Section M.04.

1. Materials Supply: The bituminous concrete mixture must be from one source of supply and originate from one Plant unless authorized by the Engineer.

2. Recycled Materials: Reclaimed Asphalt Pavement (RAP), Crushed Recycled Container Glass (CRCG), Recycled Asphalt Shingles (RAS), or crumb rubber (CR) from recycled tires may be incorporated in bituminous concrete mixtures in accordance with Project Specifications.

4.06.03—Construction Methods:

1. Material Documentation: All vendors producing bituminous concrete must have Plants with automated vehicle-weighing scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

- a. "State of Connecticut" printed on ticket.
- b. Name of producer, identification of Plant, and specific storage silo if used.
- c. Date and time.
- d. Mixture Designation; Mix type and level Curb mixtures for machine-placed curbing must state "curb mix only".
- e. If WMA Technology is used, the additive name and dosage rate or water injection rate must be listed.
- f. Net weight of mixture loaded into the vehicle (When RAP and/or RAS is used the moisture content shall be excluded from mixture net weight).
- g. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
- h. Tare weight of vehicle (Daily scale weight of the empty vehicle).
- i. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
- j. Vehicle number - unique means of identification vehicle.
- k. For Batch Plants, individual aggregate, recycled materials, and virgin asphalt max/target/min weights when silos are not used.
- l. For every mixture designation the running daily total delivered and sequential load number.

The net weight of mixture loaded into the vehicle must be equal to the cumulative measured weights of its components.

The Contractor must notify the Engineer immediately if, during production, there is a malfunction of the weight recording system in the automated Plant. Manually written tickets containing all required information will be allowed for no more than one hour.

The State reserves the right to have an inspector present to monitor batching and /or weighing operations.

2. Transportation of Mixture: The mixture shall be transported in vehicles that are clean of all foreign material, excessive coating or cleaning agents, and, that have no gaps through which mixture might spill. Any material spilled during the loading or transportation process shall be quantified by re-weighing the vehicle. The Contractor shall load vehicles uniformly so that segregation is minimized. Loaded vehicles shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The cover must minimize air infiltration. Vehicles found not to be in conformance shall not be loaded.

Vehicles with loads of bituminous concrete being delivered to State projects must not exceed the statutory or permitted load limits referred to as gross vehicle weight (GVW). The Contractor shall furnish a list and allowable weights of all vehicles transporting mixture.

The State reserves the right to check the gross and tare weight of any vehicle. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4 percent, the Engineer will recalculate the net weight. The Contractor shall correct the discrepancy to the satisfaction of the Engineer.

If a vehicle delivers mixture to the project and the delivery ticket indicates that the vehicle is overweight, the load may not be rejected but a "Measured Weight Adjustment" will be taken in accordance with Article 4.06.04.

Vehicle body coating and cleaning agents must not have a deleterious effect on the mixture. The use of solvents or fuel oil, in any concentration, is prohibited for the coating of vehicle bodies.

For each delivery, the Engineer shall be provided a clear, legible copy of the delivery ticket.

3. Paving Equipment: The Contractor shall have the necessary paving and compaction equipment at the project site to perform the work. All equipment shall be in good working order and any equipment that is worn, defective or inadequate for performance of the work shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. During the paving operation, the use of solvents or fuel oil, in any concentration, is prohibited as a release agent or cleaner on any paving equipment (i.e., rollers, pavers, transfer devices, etc.).

Refueling or cleaning of equipment is prohibited in any location on the project where fuel or solvents might come in contact with paved areas or areas to be paved. Solvents used in cleaning mechanical equipment or hand tools shall be stored off of areas paved or to be paved.

Pavers: Each paver shall have a receiving hopper with sufficient capacity to provide for a uniform spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screed units as part of the system shall have auger extensions and tunnel extenders as necessary. Automatic screed controls for grade and slope shall be used at all times unless otherwise authorized by the Engineer. The controls shall automatically adjust the screed to compensate for irregularities in the preceding course or existing base. The controls shall maintain the proper transverse slope and be readily adjustable, and shall operate from a fixed or moving reference such as a grade wire or floating beam.

Rollers: All rollers shall be self-propelled and designed for compaction of bituminous concrete. Roller types shall include steel-wheeled, pneumatic or a combination thereof. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination of. Vibratory rollers shall be equipped with indicators for amplitude, frequency and speed settings/readouts to measure the impacts per foot during the compaction process. Oscillatory rollers shall be equipped with frequency indicators. Rollers can operate in the dynamic mode using the oscillatory system on concrete structures such as bridges and catch basins if at the lowest frequency setting.

Pneumatic tire rollers shall be equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 pounds per square inch uniformly over the surface, The Contractor shall furnish documentation to the Engineer regarding tire size; pressure and loading

to confirm that the proper contact pressure is being developed and that the loading and contact pressure is uniform for all wheels.

Lighting: For paving operations, which will be performed during hours of darkness, the paving equipment shall be equipped with lighting fixtures as described below, or with an approved equal. Lighting shall minimize glare to passing traffic. The lighting options and minimum number of fixtures are listed in Tables 4.06-1 and 4.06-2:

TABLE 4.06-1: Minimum Paver Lighting

| Option | Fixture Configuration | Fixture Quantity | Requirement |
|--------|----------------------------------|------------------|-----------------------------------|
| 1 | Type A | 3 | Mount over screed area |
| | Type B (narrow) or Type C (spot) | 2 | Aim to auger and guideline |
| | Type B (wide) or Type C (flood) | 2 | Aim 25 feet behind paving machine |
| 2 | Type D Balloon | 2 | Mount over screed area |

TABLE 4.06-2: Minimum Roller Lighting

| Option | Fixture Configuration* | Fixture Quantity | Requirement |
|--------|------------------------|------------------|--|
| 1 | Type B (wide) | 2 | Aim 50 feet in front of and behind roller |
| | Type B (narrow) | 2 | Aim 100 feet in front of and behind roller |
| 2 | Type C (flood) | 2 | Aim 50 feet in front of and behind roller |
| | Type C (spot) | 2 | Aim 100 feet in front of and behind roller |
| 3 | Type D Balloon | 1 | Mount above the roller |

*All fixtures shall be mounted above the roller.

Type A: Fluorescent fixture shall be heavy-duty industrial type. Each fixture shall have a minimum output of 8,000 lumens. The fixtures shall be mounted horizontally, and be designed for continuous row installation.

Type B: Each floodlight fixture shall have a minimum output of 18,000 lumens.

Type C: Each fixture shall have a minimum output of 19,000 lumens.

Type D: Balloon light: Each balloon light fixture shall have a minimum output of 50,000 lumens, and emit light equally in all directions.

Material Transfer Vehicle (MTV): A MTV shall be used when placing a bituminous concrete surface course as indicated in the contract documents.

The MTV must be a vehicle specifically designed for the purpose of delivering the bituminous concrete mixture from the delivery vehicle to the paver. The MTV must continuously remix the bituminous concrete mixture throughout the placement process.

The use of a MTV will be subject to the requirements stated in Article 1.07.05- Load Restrictions. The Engineer may limit the use of the vehicle if it is determined that the use of the MTV may damage highway components, utilities, or bridges. The Contractor shall submit to the Engineer at time of pre-construction the following information:

- The make and model of the MTV.
- The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
- A working drawing showing the axle spacing in combination with all pieces of equipment that will comprise the paving echelon.

4. Test Section: The Engineer may require the Contractor to place a test section whenever the requirements of this specification or Section M.04 are not met.

The Contractor shall submit the quantity of mixture to be placed and the location of the test section for review and approval by the Engineer. The same equipment used in the construction of a passing test section shall be used throughout production.

If a test section fails to meet specifications, the Contractor shall stop production, make necessary adjustments to the job mix formula, Plant operations, or procedures for placement and compaction. The Contractor shall construct test sections, as allowed by the Engineer, until all the required specifications are met. All test sections shall also be subject to removal as set forth in Article 1.06.04.

5. Transitions for Roadway Surface: Transitions shall be formed at any point on the roadway where the pavement surface deviates, vertically, from the uniform longitudinal profile as specified on the plans. Whether formed by milling or by bituminous concrete mixture, all transition lengths shall conform to the criteria below unless otherwise specified.

Permanent Transitions: Defined as any gradual change in pavement elevation that remains as a permanent part of the work.

A transition shall be constructed no closer than 75 feet from either side of a bridge expansion joint or parapet. All permanent transitions, leading and trailing, shall meet the following length requirements:

- a) Posted speed limit is greater than 35 MPH: 30 feet per inch of elevation change.
- b) Posted speed limit is 35 MPH or less: 15 feet per inch of elevation change.

In areas where it is impractical to use the above described permanent transition lengths the use of a shorter permanent transition length may be permitted when approved by the Engineer.

Temporary Transitions: A temporary transition is defined as a transition that does not remain a permanent part of the work. All temporary transitions shall meet the following length requirements:

- a) Posted speed limit is greater than 50 MPH
 - (1) Leading Transitions = 15 feet per inch of vertical change (thickness)
 - (2) Trailing Transitions = 6 feet per inch of vertical change (thickness)
- b) Posted speed limit is 40, 45, or 50 MPH
 - (1) Leading and Trailing = 4 feet per inch of vertical change (thickness)
- c) Posted speed limit is 35 MPH or less
 - (1) Leading and Trailing = 3 feet per inch of vertical change (thickness)

Note: Any temporary transition to be in-place over the winter shutdown period or during extended periods of inactivity (more than 14 calendar days) shall conform to the greater than 50 MPH requirements shown above.

6. Spreading and Finishing of Mixture: Prior to the placement of the mixture, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance.

Immediately before placing a bituminous concrete lift, a uniform coating of tack coat shall be applied to all existing underlying pavement surfaces and on the exposed surface of a wedge joint. Such surfaces shall be clean and dry. Sweeping or other means acceptable to the Engineer shall be used.

The mixture shall not be placed whenever the surface is wet or frozen.

The Engineer may verify the mixture temperature by means of a probe or infrared type of thermometer. The Engineer may reject the load based on readings from a probe type thermometer and the specify temperature in the quality control plan (QCP) for placement.

Tack Coat Application: The tack coat shall be applied by a pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gallons per square yard for a non-milled surface and an application rate of 0.05 to 0.07 gallons per square yard for a milled surface. For areas where both milled and un-milled surfaces occur, the tack coat shall be an application rate of 0.03 to 0.05 gallons per square yard. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall not be heated in excess of 160°F and shall not be further diluted.

Tack coat shall be allowed sufficient time to break prior to any paving equipment or haul vehicles driving on it.

The Contractor may request to omit the tack coat application between bituminous concrete layers that have not been exposed to traffic and are placed during the same work shift. Requests to omit tack coat application on the exposed surface of a wedge joint will not be considered.

Placement: The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

When unforeseen weather conditions prevent further placement of the mixture, the Engineer is not obligated to accept or place the bituminous concrete mixture that is in transit from the Plant.

In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work including density testing is completed.

The Contractor shall inspect the newly placed pavement for defects in the mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impractical due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

Placement Tolerances: Each lift of bituminous concrete placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge or shim course, shall not be subject to thickness and area adjustments.

- a) Thickness- Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with Article 4.06.04.

TABLE 4.06-3: Thickness Tolerances

| Mixture Designation | Lift Tolerance |
|----------------------------|-----------------------|
| S1 | +/- 3/8 inch |
| S0.25, S0.375, S0.5 | +/- 1/4 inch |

Where the thickness of the lift of mixture is less than that shown on the plans beyond the tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this specification.

- b) Area- Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in accordance with Article 4.06.04.

- c) **Delivered Weight of Mixture** - When the delivery ticket shows that the vehicle exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with Article 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in Article 4.06.03 and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage.

When placing a lift with a specified thickness less than one and one-half (1 ½) inches, or a wedge course, the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.

The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities, or adjacent property, the Contractor shall provide alternate compaction equipment. The Engineer may allow the Contractor to operate rollers in the dynamic mode using the oscillatory system at the lowest frequency setting.

Rollers operating in the dynamic mode shall be shut off when changing directions.

These allowances will not relieve the Contractor from meeting pavement compaction requirements.

Surface Requirements:

Each lift of the surface course shall not vary more than ¼ inch from a Contractor-supplied 10 foot straightedge. For all other lifts, the tolerance shall be ⅜ inch. Such tolerance will apply to all paved areas.

Any surface that exhibits these characteristics or exceeds these tolerances shall be corrected by the Contractor at its own expense.

7. Longitudinal Joint Construction Methods: The Contractor shall use Method I- Notched Wedge Joint (see Figure 4.06-1) when constructing longitudinal joints where lift thicknesses are between 1½ and 3 inches. S1.0 mixtures shall be excluded from using Method I. Method II Butt Joint (see Figure 4.06-2) shall be used for lifts less than 1½ inches or greater than or equal to 3 inches. During placement of multiple lifts, the longitudinal joint shall be constructed in such a

manner that it is located at least 6 inches from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. Each longitudinal joint shall maintain a consistent offset from the centerline of the roadway along its entire length. The difference in elevation between the two faces of any completed longitudinal joint shall not exceed ¼ inch in any location.

Method I - Notched Wedge Joint:

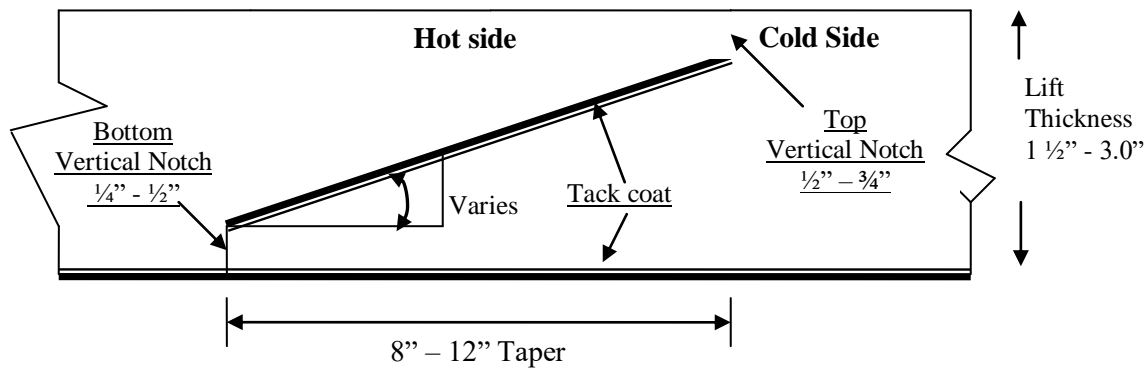


FIGURE 4.06-1: Notched Wedge Joint

A notched wedge joint shall be constructed as shown in Figure 4.06-1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches. The device shall have an integrated vibratory system.

The taper portion of the wedge joint must be placed over the longitudinal joint in the lift immediately below. The top vertical notch must be located at the centerline or lane line in the final lift. The requirement for paving full width “curb to curb” as described in Method II may be waived if addressed in the QC plan and approved by the Engineer.

The taper portion of the wedge joint shall be evenly compacted using equipment other than the paver or notch wedge joint device.

The taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

Any exposed wedge joint must be located to allow for the free draining of water from the road surface.

The Engineer reserves the right to define the paving limits when using a wedge joint that will be exposed to traffic.

If Method I, Notched Wedge Joint cannot be used on lifts between 1.5 and 3 inches, Method III Butt Joint may be substituted according to the requirements below for “Method III – Butt Joint with Hot Pour Rubberized Asphalt Treatment.”

Method II - Butt Joint:

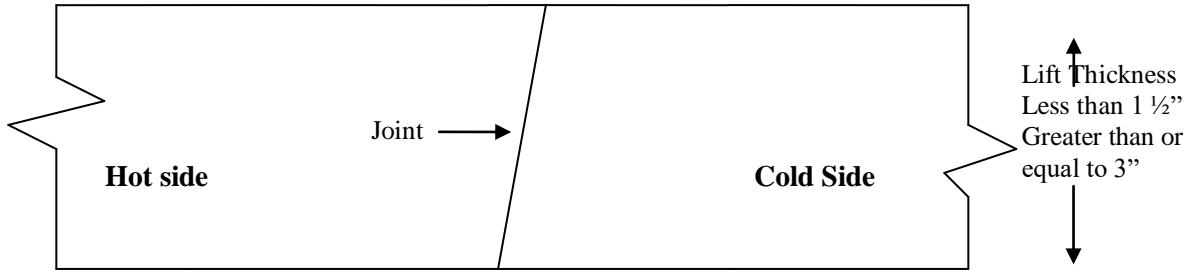


FIGURE 4.06-2: Butt Joint

When adjoining passes are placed, the Contractor shall utilize equipment that creates a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

The Contractor shall not allow any butt joint to be incomplete at the end of a work shift unless otherwise allowed by the Engineer. When using this method, the Contractor is not allowed to leave a vertical edge exposed at the end of a work shift and must complete paving of the roadway full width “curb to curb.”

Method III- Butt Joint with Hot Poured Rubberized Asphalt Treatment: If Method I Wedge Joint cannot be used due to physical constraints in certain limited locations; the contractor may submit a request in writing for approval by the Engineer, to utilize Method III Butt Joint as a substitution in those locations. There shall be no additional measurement or payment made when the Method III Butt Joint is substituted for the Method I Notched Wedge Joint. When required by the contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.

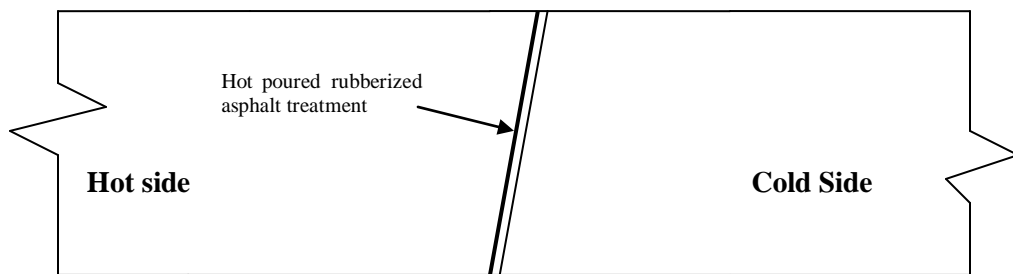


FIGURE 4.06-3: Butt Joint with Hot Poured Rubberized Asphalt Treatment

All of the requirements of Method II must be met with Method III. In addition, the longitudinal vertical edge must be treated with a rubberized joint seal material meeting the requirements of ASTM D 6690, Type 2. The joint sealant shall be placed on the face of the “cold side” of the butt joint as shown above prior to placing the “hot side” of the butt joint. The joint seal material shall be applied in accordance with the manufacturer’s recommendation so as to provide a uniform coverage and avoid excess bleeding onto the newly placed pavement.

8. Contractor Quality Control (QC) Requirements: The Contractor shall be responsible for maintaining adequate quality control procedures throughout the production and placement operations. Therefore, the Contractor must ensure that the materials, mixture and work provided by Subcontractors, Suppliers and Producers also meet contract specification requirements.

This effort must be documented in Quality Control Plans and address the actions, inspection, or sampling and testing necessary to keep the production and placement operations in control, to determine when an operation has gone out of control and to respond to correct the situation in a timely fashion.

The Standard QCP for production shall consist of the quality control program specific to the production facility.

There are three components to the QCP for placement: a Standard QCP, a Project Summary Sheet that details project specific information, and if applicable a separate Extended Season Paving Plan as required in Section 9 “Temperature and Seasonal Requirements”.

The Standard QCP for both production and placement shall be submitted to the Department for approval each calendar year and at a minimum of 30 days prior to production or placement.

Production or placement shall not occur until all QCP components have been approved by the Engineer.

Each QCP shall include the name and qualifications of a Quality Control Manager (QCM). The QCM shall be responsible for the administration of the QCP, and any modifications that may become necessary. The QCM shall have the ability to direct all Contractor personnel on the project during paving operations. All Contractor sampling, inspection and test reports shall be reviewed and signed by the QCM prior to submittal to the Engineer. The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor.

Approval of the QCP does not relieve the Contractor of its responsibility to comply with the project specifications. The Contractor may modify the QCPs as work progresses and must document the changes in writing prior to resuming operations. These changes include but are not limited to changes in quality control procedures or personnel. The Department reserves the right to deny significant changes to the QCPs.

QCP for Production: Refer to Section M.04.03-1.

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided by the Engineer. The format is available at http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp_outline_hma_placement.pdf.

The Contractor shall perform all quality control sampling and testing, provide inspection, and exercise management control to ensure that placement conforms to the requirements as outlined in its QCP during all phases of the work. The Contractor shall document these activities for each day of placement.

The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours in a manner acceptable to the Engineer.

The Contractor may obtain one (1) mat core and one (1) joint core per day for process control, provided this process is detailed in the QCP. The results of these process control cores shall not be used to dispute the Department determinations from the acceptance cores. The Contractor shall submit the location of each process control core to the Engineer for approval prior to taking the core. The core holes shall be filled to the same requirements described in sub-article 4.06.03-10.

9. Temperature and Seasonal Requirements: Paving, including placement of temporary pavements, shall be divided into two seasons, “In-Season” and “Extended-Season”. In-Season paving occurs from May 1 – October 14, and Extended Season paving occurs from October 15-April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or sub base temperature is less than 40°F regardless of the season.
- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the project that addresses minimum delivered mix temperature considering WMA, PMA or other additives, maximum paver speed, enhanced rolling patterns and the method to balance mixture delivery and placement operations. Paving during Extended Season shall not commence until the Engineer has approved the plan.

10. Obtaining Bituminous Concrete Cores: This Section describes the methodology and sampling frequency the Contractor shall use to obtain pavement cores.

Coring shall be performed on each lift specified to a thickness of one and one-half (1 ½) inches or more within 5 days of placement. The Contractor shall extract cores (4 or 6 inch diameter for S0.25, S0.375 and S0.5 mixtures 6 inch diameter for S1.0 mixtures) from locations determined

by the Engineer. The Engineer must witness the extraction, labeling of cores and filling of the core holes.

A density lot will be complete when the full designed paving width and length of the lot has been placed and shall include all longitudinal joints between the curb lines. HMA S1 mixes are excluded from the longitudinal joint density requirements.

A standard density lot is the quantity of material placed within the defined area exclusive of any structures. A combo density lot is the quantity of material placed within the defined area inclusive of structures less than or equal to 500 feet long. A bridge density lot is the quantity of material placed on a structure larger than 500 feet in length.

Prior to paving, the type and number of lot (s) shall be determined by the Engineer. The number of cores per lot shall be determined in accordance to Tables 4.06-4, 4.06-5A and 4.06-5B. Noncontiguous areas such as highway ramps may be combined to create one lot. Combined areas should be set up to target a 2000 ton lot size. The longitudinal locations of mat cores within a lot containing multiple paving passes will be determined using the total distance covered by the paver. The locations of the joint cores will be determined using the total length of longitudinal joints within the lot.

Sampling is in accordance with the following tables:

TABLE 4.06-4: Bridge Density Lot(s)

| Length of Each Structure (Feet) | No. of Mat Cores | No. of Joint Cores |
|--|--------------------------|---------------------------|
| ≤ 500' | See Table 4.06-5(A or B) | See Table 4.06-5(A or B) |
| 501' – 1500' | 3 | 3 |
| 1501' – 2500' | 4 | 4 |
| 2501' and greater | 5 | 5 |

All material placed on structures less than or equal to 500 feet in length shall be included as part of a standard lot as follows:

TABLE 4.06-5A: Standard and Combo Density Lot(s) ≥ 500 Tons

| Lot Type | No. of Mat Cores | | No. of Joint Cores | | Target Lot Size (Tons) |
|---|-------------------------|-------------------------------|---------------------------|-------------------------------|-------------------------------|
| Standard Lot / Without Bridge (s) | 4 | | 4 | | 2000 |
| Combo Lot / Lot With Bridge(s) ⁽¹⁾ | 4 plus | 1 per structure (≤ 300') | 4 plus | 1 per structure (≤ 300') | 2000 |
| | | 2 per structure (301' – 500') | | 2 per structure (301' – 500') | |

TABLE 4.06-5B: Standard and Combo Density Lot < 500 Tons

| Lot Type | No. of Mat Cores | | No. of Joint Cores | |
|---|------------------|-----------------|--------------------|-----------------|
| Standard Lot / Without Bridge (s) | 3 | | 3 | |
| Combo Lot / Lot With Bridge(s) ⁽¹⁾ | 2 plus | 1 per structure | 2 plus | 1 per structure |

Note:

⁽¹⁾ If a combo lot mat or joint core location randomly falls on a structure, the core is to be obtained on the structure in addition to the core(s) required on the structure.

After the lift has been compacted and cooled, the Contractor shall cut cores to a depth equal to or greater than the lift thickness and remove them without damaging the lift(s) to be tested. Any core that is damaged or obviously defective while being obtained will be replaced with a new core from a location within 2 feet measured in a longitudinal direction.

A mat core shall not be located any closer than one foot from the edge of a paver pass. If a random number locates a core less than one foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is one foot from the edge of the paver pass.

Method I, Notched Wedge Joint cores shall be taken so that the center of the core is 5 inches from the visible joint on the hot mat side (Figure 4.06-5).

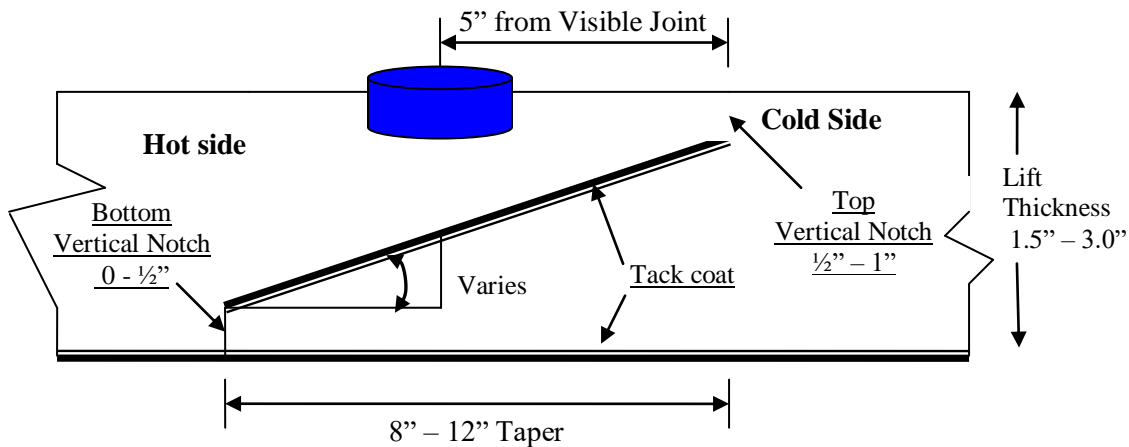


FIGURE 4.06-5: Notched Wedge Joint Cores

When Method II or Method III Butt Joint is utilized, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

The cores shall be labeled by the Contractor with the project number, date placed, lot number and sub-lot number. The core's label shall include "M" for a mat core and "J" for a joint core. A mat core from the second lot and first sub-lot shall be labeled "M2 - 1" (Figure 4.06-4). The Engineer shall fill out a MAT-109 to accompany the cores. The Contractor shall deliver the

cores and MAT-109 to the Department’s Central Lab. The Contractor shall use a container approved by the Engineer. The container shall have a lid capable of being locked shut and tamper proof. The Contractor shall use foam, bubble wrap, or another suitable material to prevent the cores from being damaged during handling and transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using a security seal. The security seal’s identification number must be documented on the MAT-109. Central Lab personnel will break the security seal and take possession of the cores.

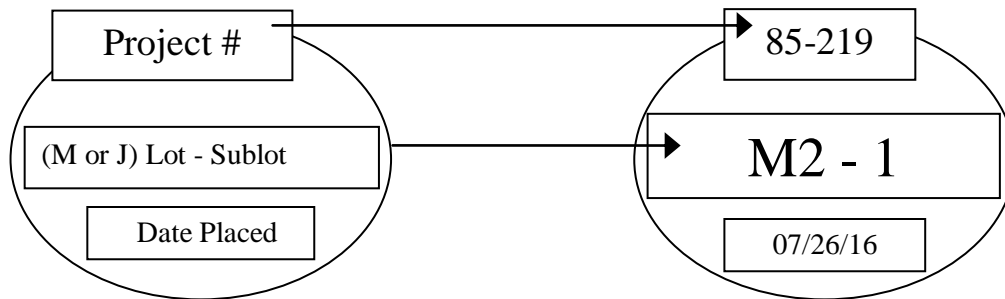


FIGURE 4.06-4: Labeling of Cores

Each core hole shall be filled within four hours upon core extraction. Prior to being filled, the hole shall be prepared by removing any free water and applying tack coat using a brush or other means to uniformly cover the cut surface. The core hole shall be filled using a bituminous concrete mixture at a minimum temperature of 240°F containing the same or smaller nominal maximum aggregate size and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The bituminous concrete shall be compacted to 1/8 inch above the finished pavement.

11. Acceptance Sampling and Testing: Sampling and testing shall be performed at a frequency not less than the minimum frequency specified in Section M.04 and sub-article 4.06.03-10.

Sampling shall be performed in accordance with ASTM D 3665, or a statistically based procedure of stratified random sampling approved by the Engineer.

Plant Material Acceptance: The Contractor shall provide the required sampling and testing during all phases of the work in accordance with Section M.04. The Department will verify the Contractor’s acceptance test results. Should any test results exceed the specified tolerances in the Department’s current QA Program for Materials, the Contractor test results for a subject lot or sub lot may be replaced with the Department’s results for the purpose of calculating adjustments. The verification procedure is included in the Department’s current QA Program for Materials.

Density Acceptance: The Engineer will perform all acceptance testing in accordance with AASHTO T 331. The density of each core will be determined using the daily production’s

average maximum theoretical specific gravity (Gmm) established during the testing of the parent material at the Plant. When there was no testing of the parent material or any Gmm exceeds the specified tolerances in the Department's current QA Program for Materials, the Engineer will determine the maximum theoretical density value to be used for density calculations.

12. Density Dispute Resolution Process: The Contractor and Engineer will work in partnership to avoid potential conflicts and to resolve any differences that may arise during quality control or acceptance testing for density. Both parties will review their sampling and testing procedures and results and share their findings. If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the Dispute Resolution Process within 7 calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results within the timeframe described in sub-article 4.06.03-9 supporting its position. No request for Dispute Resolution will be allowed for a Density Lot in which any core was not taken within the required 5 calendar days of placement. Should the dispute not be resolved through evaluation of existing testing data or procedures, the Engineer may authorize the Contractor to obtain a new set of core samples per disputed lot. The core samples must be extracted no later than 14 calendar days from the date of Engineer's authorization.

The number and location (mat, joint, or structure) of the cores taken for dispute resolution must reflect the number and location of the original cores. The location of each core shall be randomly located within the respective original sub lot. All such cores shall be extracted and the core hole filled using the procedure outlined in Article 4.06.03. The dispute resolution results shall be added to the original results and averaged for determining the final in-place density value.

13. Corrective Work Procedure:

If pavement placed by the Contractor does not meet the specifications, and the Engineer requires its replacement or correction, the Contractor shall:

- a) Propose a corrective procedure to the Engineer for review and approval prior to any corrective work commencing. The proposal shall include:
 - Limits of pavement to be replaced or corrected, indicating stationing or other landmarks that are readily distinguishable.
 - Proposed work schedule.
 - Construction method and sequence of operations.
 - Methods of maintenance and protection of traffic.
 - Material sources.
 - Names and telephone numbers of supervising personnel.

- b) Any corrective courses placed as the final wearing surface shall match the specified lift thickness after compaction.

14. Protection of the Work: The Contractor shall protect all sections of the newly finished pavement from damage that may occur as a result of the Contractor's operations for the duration of the Project.

15. Cut Bituminous Concrete Pavement: Work under this item shall consist of making a straight-line cut in the pavement to the lines delineated on the plans or as directed by the Engineer. The cut shall provide a straight, clean, vertical face with no cracking, tearing or breakage along the cut edge.

4.06.04—Method of Measurement:

1. HMA S* or PMA S*: The quantity of bituminous concrete measured for payment will be determined by the documented net weight in tons accepted by the Engineer in accordance with this specification and Section M.04.

2. Adjustments: Adjustments may be applied to bituminous concrete quantities and will be measured for payment using the following formulas:

Yield Factor for Adjustment Calculation = 0.0575 Tons/SY/inch

Actual Area = [(Measured Length (ft)) x (Avg. of width measurements (ft))]

Actual Thickness (t) = Total tons delivered / [Actual Area (SY) x 0.0575 Tons/SY/inch]

- a) Area: If the average width exceeds the allowable tolerance, an adjustment will be made using the following formula. The tolerance for width is equal to the specified thickness (in.) of the lift being placed.

Tons Adjusted for Area (T_A) = [(L x W_{adj})/9] x (t) x 0.0575 Tons/SY/inch = (-) Tons

Where: L = Length (ft)

(t) = Actual thickness (inches)

W_{adj} = (Designed width (ft) + tolerance /12) - Measured Width)

- b) Thickness: If the actual average thickness is less than the allowable tolerance, the Contractor shall submit a repair procedure to the Engineer for approval. If the actual thickness exceeds the allowable tolerance, an adjustment will be made using the following formula:

Tons Adjusted for Thickness (T_T) = A x t_{adj} x 0.0575 = (-) Tons

Where: A = Area = {[L x (Designed width + tolerance (lift thickness)/12)] / 9}

t_{adj} = Adjusted thickness = [(Dt + tolerance) - Actual thickness]

Dt = Designed thickness (inches)

- c) Weight: If the quantity of bituminous concrete representing the mixture delivered to the project is in excess of the allowable gross vehicle weight (GVW) for each vehicle, an adjustment will be made using the following formula:

$$\text{Tons Adjusted for Weight (T}_w) = \text{GVW} - \text{DGW} = (-) \text{Tons}$$

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale.

- d) Mixture Adjustment: The quantity of bituminous concrete representing the production lot at the Plant will be adjusted as follow:

- i. Non-PWL Production Lot (less than 3500 tons):

The adjustment values in Table 4.06-6 and 4.06-7 shall be calculated for each sub lot based on the Air Void (AV) and Asphalt Binder Content (PB) test results for that sub lot. The total adjustment for each day's production (lot) will be computed using tables and the following formulas:

$$\text{Tons Adjusted for Superpave Design (T}_{SD}) = [(\text{AdjAV}_t + \text{AdjPB}_t) / 100] \times \text{Tons}$$

$$\text{Percent Adjustment for Air Voids} = \text{AdjAV}_t = [\text{AdjAV}_1 + \text{AdjAV}_2 + \text{AdjAV}_i + \dots + \text{AdjAV}_n] / n$$

Where: AdjAV_t = Total percent air void adjustment value for the lot
 AdjAV_i = Adjustment value from Table 4.06-7 resulting from each sub lot or the average of the adjustment values resulting from multiple tests within a sub lot, as approved by the Engineer.
 n = number of sub lots based on Table M.04.03-2

TABLE 4.06-6: Adjustment Values for Air Voids

| Adjustment Value (AdjAV _i) (%) | S0.25, S0.375, S0.5, S1 Air Voids (AV) |
|--|--|
| +2.5 | 3.8 - 4.2 |
| +3.125*(AV-3) | 3.0 - 3.7 |
| -3.125*(AV-5) | 4.3 - 5.0 |
| 20*(AV-3) | 2.3 - 2.9 |
| -20*(AV-5) | 5.1 - 5.7 |
| -20.0 | ≤ 2.2 or ≥ 5.8 |

$$\text{Percent Adjustment for Asphalt Binder} = \text{AdjPB}_t = [(\text{AdjPB}_1 + \text{AdjPB}_2 + \text{AdjPB}_i + \dots + \text{AdjPB}_n)] / n$$

Where: AdjPB_t = Total percent asphalt binder adjustment value for the lot
 AdjPB_i = Adjustment value from Table 4.06-7 resulting from each sub lot

n = number of binder tests in a production lot

TABLE 4.06-7: Adjustment Values for Binder Content

| Adjustment Value (AdjAV _i) (%) | <u>S0.25, S0.375, S0.5, S1</u> Pb |
|---|--------------------------------------|
| 0.0 | JMF Pb ± 0.3 |
| - 10.0 | ≤ JMF Pb - 0.4 or ≥ JMF Pb + 0.4 |

ii. PWL Production Lot (3500 tons or more):

For each lot, the adjustment values shall be calculated based on PWL for AV, VMA and PB test results. The lot will be considered as being normally distributed and all applicable equations in AASHTO R9 and AASHTO R42 Appendix X4 will apply.

Only one test result will be considered for each sub lot. The specification limits are listed in Section M.04.

For AV, PB and voids in mineral aggregate (VMA), the individual material quality characteristic adjustment (Adj) will be calculated as follow:

For PWL between 50 and 90%: Adj(AV_t or PB_t or VMA_t)= (55 + 0.5 PWL) - 100

For PWL at and above 90%: Adj(AV_t or PB_t or VMA_t)= (77.5 + 0.25 PWL) - 100

Where:

AdjAV_t= Total percent AV adjustment value for the lot

AdjPB_t= Total percent PB adjustment value for the lot

AdjVMA_t= Total percent VMA adjustment value for the lot

Lots with PWL less than 50% in any of the three individual material quality characteristics will be evaluated under 1.06.04.

The total adjustment for each production lot will be computed using the following formula:

$$\text{Tons Adjusted for Superpave Design (T}_{SD}) = [(0.5\text{AdjAV}_t + 0.25\text{AdjPB}_t + 0.25\text{AdjVMA}_t) / 100] \times \text{Tons}$$

iii. Partial Lots:

Lots with less than 4 sublots will be combined with the prior lot. If there is no prior lot with equivalent material or if the last test result of the prior lot is over 30 calendar days old, the adjustment will be calculated as indicated in 4.06.04-2.d.i.

Lots with 4 or more sublots will be calculated as indicated in 4.06.04-2.d.ii.

- e) **Density Adjustment:** The quantity of bituminous concrete measured for payment in a lift of pavement specified to be 1½ inches or greater may be adjusted for density. Separate density adjustments will be made for each lot and will not be combined to establish one density adjustment. The final lot quantity shall be the difference between the total payable tons for the project and the sum of the previous lots. If either the Mat or Joint adjustment value is “remove and replace”, the density lot shall be removed and replaced (curb to curb).

No positive adjustment will be applied to a Density Lot in which any core was not taken within the required 5 calendar days of placement.

Tons Adjusted for Density (T_D) = [(PA_M x .50) + (PA_J x .50) / 100] X Density Lot Tons

Where: T_D = Total tons adjusted for density for each lot

PA_M = Mat density percent adjustment from Table 4.06-9

PA_J = Joint density percent adjustment from Table 4.06-10

TABLE 4.06-9: Adjustment Values for Pavement Mat density

| Average Core Result Percent Mat Density | Percent Adjustment (Bridge and Non-Bridge) ⁽¹⁾⁽²⁾ |
|--|---|
| 97.1 - 100 | -1.667*(ACRPD-98.5) |
| 94.5 – 97.0 | +2.5 |
| 93.5 – 94.4 | +2.5*(ACRPD-93.5) |
| 92.0 – 93.4 | 0 |
| 90.0 – 91.9 | -5*(92-ACRPD) |
| 88.0 – 89.9 | -10*(91-ACRPD) |
| 87.0 – 87.9 | -30 |
| 86.9 or less | Remove and Replace (curb to curb) |

TABLE 4.06-10: Adjustment Values for Pavement Joint Density

| Average Core Result Percent Joint Density | Percent Adjustment (Bridge and Non-Bridge) ⁽¹⁾⁽²⁾ |
|--|---|
| 97.1 – 100 | -1.667*(ACRPD-98.5) |
| 93.5 – 97.0 | +2.5 |
| 92.0 – 93.4 | +1.667*(ACRPD-92) |
| 91.0 – 91.9 | 0 |
| 89.0 – 90.9 | -7.5*(91-ACRPD) |
| 88.0 – 88.9 | -15*(90-ACRPD) |
| 87.0 – 87.9 | -30 |
| 86.9 or less | Remove and Replace (curb to curb) |

⁽¹⁾ ACRPD = Average Core Result Percent Density

⁽²⁾ All Percent Adjustments to be rounded to the second decimal place. For example, 1.667 is to be rounded to 1.67.

3. Transitions for Roadway Surface: The installation of permanent transitions shall be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions shall be measured for payment under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is not measured for payment.

4. Cut Bituminous Concrete Pavement: The quantity of bituminous concrete pavement cut will be measured in accordance with Article 2.02.04.

5. Material for Tack Coat: The quantity of tack coat will be measured for payment by the number of gallons furnished and applied on the Project and approved by the Engineer. No tack coat material shall be included that is placed in excess of the tolerance described in Article 4.06.03.

- a. Container Method- Material furnished in a container will be measured to the nearest ½ gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container capable of measuring the volume to the nearest ½ gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.

b. Vehicle Method-

i. Measured by Weight: The number of gallons furnished will be determined by weighing the material on calibrated scales furnished by the Contractor. To convert weight to gallons, one of the following formulas will be used:

$$\text{Tack Coat (gallons at } 60^{\circ}\text{F)} = \frac{\text{Measured Weight (pounds)}}{\text{Weight per gallon at } 60^{\circ}\text{F}}$$

$$\text{Tack Coat (gallons at } 60^{\circ}\text{F)} = \frac{0.996 \times \text{Measured Weight (pounds)}}{\text{Weight per gallon at } 77^{\circ}\text{F (from test report)}}$$

ii. Measured by automated metering system on the delivery vehicle:

Tack Coat (gallons at 60°F) = Factor (from Table 4.06-11) multiplied by the measured gallons.

TABLE 4.06-11: Factor to Convert Volume of Tack Coat to 60°F

| Tack Coat Application Temperature (°F) | Factor | Tack Coat Application Temperature (°F) | Factor |
|--|--------|--|--------|
| 75 | 0.996 | 120 | 0.985 |
| 80 | 0.995 | 125 | 0.984 |
| 85 | 0.994 | 130 | 0.983 |
| 90 | 0.993 | 135 | 0.982 |
| 95 | 0.991 | 140 | 0.980 |
| 100 | 0.990 | 145 | 0.979 |
| 105 | 0.989 | 150 | 0.978 |
| 110 | 0.988 | 155 | 0.977 |
| 115 | 0.986 | 160 | 0.976 |

6. Material Transfer Vehicle (MTV): The furnishing and use of a MTV will be measured separately for payment based on the actual number of surface course tons delivered to a paver using the MTV.

4.06.05—Basis of Payment:

1. HMA S* or PMA S*: The furnishing and placing of bituminous concrete will be paid for at the Contract unit price per ton for “HMA S*” or “PMA S*”.

- All costs associated with providing illumination of the work area are included in the general cost of the work.

- All costs associated with cleaning the surface to be paved, including mechanical sweeping, are included in the general cost of the work. All costs associated with constructing longitudinal joints are included in the general cost of the work.

- All costs associated with obtaining cores for acceptance testing and dispute resolution are included in the general cost of the work.

2. Bituminous Concrete Adjustment Costs: The adjustment will be calculated using the formulas shown below if all of the measured adjustments in Article 4.06.04 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

Production Lot: $[T_T + T_A + T_W + T_{SD}] \times \text{Unit Price} = \text{Est. (P)}$

Density Lot: $T_D \times \text{Unit Price} = \text{Est. (D)}$

Where: Unit Price = Contract unit price per ton per type of mixture

T_* = Total tons of each adjustment calculated in Article 4.06.04

Est. () = Pay Unit represented in dollars representing incentive or disincentive.

The Bituminous Concrete Adjustment Cost item if included in the bid proposal or estimate is not to be altered by the Contractor.

3. Transitions for Roadway Surface: The installation of permanent transitions shall be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions shall be paid under the appropriate pay item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is included in the general cost of the work.

4. The cutting of bituminous concrete pavement will be paid in accordance with Article 2.02.05.

5. Material for tack coat will be paid for at the Contract unit price per gallon at 60°F for "Material for Tack Coat".

6. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for a "Material Transfer Vehicle".

| <u>Pay Item*</u> | <u>Pay Unit*</u> |
|-------------------------------------|------------------|
| HMA S* | ton |
| PMA S* | ton |
| Bituminous Concrete Adjustment Cost | est. |
| Material for Tack Coat | gal. |
| Material Transfer Vehicle | ton |

*For contracts administered by the State of Connecticut, Department of Administrative Services, the pay items and pay units are as shown in contract award price schedule.

DIVISION III
MATERIALS SECTION

Throughout all the various Sections contained in Division III, substitute the word "Municipality" or "Municipal" for "Department" wherever "Department" appears, except in those instances where the word "Department" is used to identify a state agency.

SECTION M.04 BITUMINOUS CONCRETE MATERIALS

Section M.04 is being deleted in its entirety and replaced with the following:

M.04.01—Bituminous Concrete Materials and Facilities

M.04.02—Mix Design and Job Mix Formula (JMF)

M.04.03—Production Requirements

M.04.01—Bituminous Concrete Materials and Facilities: Each source of component material, Plant and laboratory used to produce and test bituminous concrete must be qualified on an annual basis by the Engineer. AASHTO or ASTM Standards noted with an (M) have been modified and are detailed in Table M.04.03-6.

Aggregates from multiple sources of supply must not be blended or stored in the same stockpile.

1. Coarse Aggregate:

All coarse aggregate shall meet the requirements listed in Section M.01.

2. Fine Aggregate:

All fine aggregate shall meet the requirements listed in Section M.01

3. Mineral Filler:

Mineral filler shall conform to the requirements of AASHTO M 17.

4. Performance Graded (PG) Asphalt Binder:

a. General:

- i. PG asphalt binder shall be uniformly mixed and blended and be free of contaminants such as fuel oils and other solvents. Binder shall be properly heated and stored to prevent damage or separation.
- i. The binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29. The Contractor shall submit a Certified Test Report and bill of lading representing each delivery in accordance with AASHTO R 26(M). The Certified Test Report must also indicate the binder specific gravity at 77°F; rotational viscosity at 275°F and 329°F and the mixing and compaction viscosity-temperature chart for each shipment.
- ii. The Contractor shall submit the name(s) of personnel responsible for receipt, inspection, and record keeping of PG binder. Contractor plant personnel shall document specific storage tank(s) where binder will be transferred and stored until used, and provide binder samples to the Engineer upon request. The person(s) shall assure that each shipment is accompanied by a statement certifying that the transport vehicle was inspected before loading and was found acceptable for the material

shipped, and, that the binder is free of contamination from any residual material, along with two (2) copies of the bill of lading.

iii. The blending or combining of PG binders in one storage tank at the Plant from different suppliers, grades, or additive percentages is prohibited.

b. Basis of Approval:

The request for approval of the source of supply shall list the location where the material will be manufactured, and the handling and storage methods, along with necessary certification in accordance with AASHTO R 26(M). Only suppliers/refineries that have an approved “Quality Control Plan for Performance Graded Binders” formatted in accordance with AASHTO R 26(M) may supply PG binders to Department projects.

c. Standard Performance Grade (PG) Binder:

i. Standard PG binder shall be defined as “Neat”. Neat PG binders shall be free from modification with: fillers, extenders, reinforcing agents, adhesion promoters, thermoplastic polymers, acid modification and other additives such as re-refined motor oil, and shall indicate such information on each bill of lading and certified test report.

ii. The standard asphalt binder grade shall be PG 64S-22.

d. Modified Performance Grade (PG) Binder:

The modified asphalt binder shall be Performance Grade PG 64E-22 asphalt modified solely with a Styrene-Butadiene-Styrene (SBS) polymer. The polymer modifier shall be added at either the refinery or terminal and delivered to the bituminous concrete production facility as homogenous blend. The stability of the modified binder shall be verified in accordance with ASTM D7173 using the Dynamic Shear Rheometer (DSR). The DSR $G^*/\sin(\delta)$ results from the top and bottom sections of the ASTM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1) and AASHTO R 29.

e. Warm Mix Additive or Technology:

i. The warm mix additive or technology must be listed on the North East Asphalt User Producer Group (NEAUPG) Qualified Warm Mix Asphalt (WMA) Technologies List at the time of bid, which may be accessed online at <http://www.neaupg.uconn.edu>.

ii. The warm mix additive shall be blended with the asphalt binder in accordance with the manufacturer’s recommendations.

iii. The blended binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29 for the specified binder grade. The Contractor shall submit a Certified Test Report showing the results of the testing demonstrating the binder grade. In addition, it must include the grade of the virgin binder, the brand name of the warm mix additive, the manufacturer’s suggested rate for

the WMA additive, the water injection rate (when applicable) and the WMA Technology manufacturer's recommended mixing and compaction temperature ranges.

5. Emulsified Asphalts:

a. General:

- i. The emulsified asphalt shall meet the requirements of AASHTO M 140 or AASHTO M 208 as applicable.
- ii. The emulsified asphalts shall be free of contaminants such as fuel oils and other solvents.
- iii. The blending at mixing plants of emulsified asphalts from different suppliers is prohibited.

b. Basis of Approval

- i. The request for approval of the source of supply shall list the location where the material is manufactured, the handling and storage methods, and certifications in accordance with AASHTO PP 71. Only suppliers that have an approved "Quality Control Plan for Emulsified Asphalt" formatted in accordance with AASHTO PP 71 and submit monthly split samples per grade to the Engineer may supply emulsified asphalt to Department projects.
- ii. Each shipment of emulsified asphalt delivered to the project site shall be accompanied with the corresponding Certified Test Report listing Saybolt viscosity, residue by evaporation, penetration of residue, and weight per gallon at 77°F and Material Certificate.
- iii. Anionic emulsified asphalts shall conform to the requirements of AASHTO M-140. Materials used for tack coat shall not be diluted and meet grade RS-1 or RS-1H. When ambient temperatures are 80°F and rising, grade SS-1 or SS-1H may be substituted if permitted by the Engineer.
- iv. Cationic emulsified asphalt shall conform to the requirements of AASHTO M-208. Materials used for tack coat shall not be diluted and meet grade CRS-1. The settlement and demulsibility test will not be performed unless deemed necessary by the Engineer. When ambient temperatures are 80°F and rising, grade CSS-1 or CSS-1h may be substituted if permitted by the Engineer.

6. Reclaimed Asphalt Pavement (RAP):

- a. General: RAP is a material obtained from the cold milling or removal and processing of bituminous concrete pavement. RAP material shall be crushed to 100% passing the ½ inch sieve and free from contaminants such as joint compound, wood, plastic, and metals.
- b. Basis of Approval: The RAP material will be accepted on the basis of one of the following criteria:
 - i. When the source of all RAP material is from pavements previously constructed on Department projects, the Contractor shall provide a Materials Certificate listing the detailed locations and lengths of those pavements and that the RAP is only from those locations listed.
 - ii. When the RAP material source or quality is not known, the Contractor shall request for approval to the Engineer at least 30 calendar days prior to the start of the paving operation. The request shall include a Material Certificate and applicable test results stating that the RAP consists of aggregates that meet the specification requirements of sub articles M.04.01-1 through 3, and, that the binder in the RAP is substantially free of solvents, tars and other contaminants. The Contractor is prohibited from using unapproved material on Department projects and shall take necessary action to prevent contamination of approved RAP stockpiles. Stockpiles of unapproved material shall remain separate from all other RAP materials at all times. The request for approval shall include the following:
 - 1. A 50-pound sample of the RAP to be incorporated into the recycled mixture.
 - 2. A 25-pound sample of the extracted aggregate from the RAP.

7. Crushed Recycled Container Glass (CRCG):

- a. Requirements: The Contractor may propose to use clean and environmentally-acceptable CRCG in an amount not greater than 5% by weight of total aggregate.
- b. Basis of Approval: The Contractor shall submit to the Engineer a request to use CRCG. The request shall state that the CRCG contains no more than 1% by weight of contaminants such as paper, plastic and metal and conform to the following gradation:

| CRCG Grading Requirements | |
|----------------------------------|------------------------|
| <u>Sieve Size</u> | <u>Percent Passing</u> |
| 3/8-inch | 100 |
| No. 4 | 35-100 |
| No. 200 | 0.0-10.0 |

The Contractor shall submit a Materials Certificate to the Engineer stating that the CRCG complies with all the applicable requirements in this specification.

8. Joint Seal Material:

- a. Requirements: Joint seal material must meet the requirements of ASTM D 6690 – Type 2. The Contractor shall submit a Material Certificate in accordance with Article 1.06.07 certifying that the joint seal material meets the requirements of this specification.

9. Recycled Asphalt Shingles (RAS)

- a. Requirements: RAS shall consist of processed asphalt roofing shingles from post-consumer asphalt shingles or from manufactured shingle waste. The RAS material under consideration for use in bituminous concrete mixtures must be certified as being asbestos free and shall be entirely free of whole, intact nails. The RAS material shall meet the requirements of AASHTO MP 23.

The producer shall test the RAS material to determine the asphalt content and the gradation of the RAS material. The producer shall take necessary action to prevent contamination of RAS stockpiles.

The Contractor shall submit a Materials Certificate to the Engineer stating that the RAS complies with all the applicable requirements in this specification.

10. Plant Requirements:

- a. General: The Plant producing bituminous concrete shall comply with AASHTO M 156.
- b. Storage Silos: The Contractor may use silos for short-term storage with the approval of the Engineer. A silo must have heated cones and an unheated silo cylinder if it does not contain a separate internal heating system. When multiple silos are filled, the Contractor shall discharge one silo at a time. Simultaneous discharge of multiple silos for the same Project is not permitted.

| <u>Type of silo cylinder</u> | <u>Maximum storage time for all classes (hr)</u> | |
|------------------------------|--|----------------------|
| | HMA | WMA/PMA |
| Open Surge | 4 | Mfg Recommendations* |
| Unheated – Non-insulated | 8 | Mfg Recommendations* |
| Unheated – Insulated | 18 | Mfg Recommendations* |
| Heated – No inert gas | TBD by the Engineer | |
| *Not to exceed HMA limits | | |

- c. Documentation System: The mixing plant documentation system shall include equipment for accurately proportioning the components of the mixture by weight and in the proper order, controlling the cycle sequence and timing the mixing operations.

Recording equipment shall monitor the batching sequence of each component of the mixture and produce a printed record of these operations on each Plant ticket, as specified herein.

If recycled materials are used, the Plant tickets shall include their dry weight, percentage and daily moisture content.

If a WMA Technology is added at the Plant, the Plant tickets shall include the actual dosage rate.

For drum Plants, the Plant ticket shall be produced at 5 minute intervals and maintained by the vendor for a period of three years after the completion of the project.

For batch Plants, the Plant ticket shall be produced for each batch and maintained by the vendor for a period of three years after the completion of the project. In addition, an asterisk (*) shall be automatically printed next to any individual batch weight(s) exceeding the following tolerances:

| | |
|-----------------------------------|--|
| Each Aggregate Component | ±1.5% of individual or cumulative target weight for each bin |
| Mineral Filler | ±0.5% of the total batch |
| Bituminous Material | ±0.1% of the total batch |
| Zero Return (Aggregate) | ±0.5% of the total batch |
| Zero Return (Bituminous Material) | ±0.1% of the total batch |

The entire batching and mixing interlock cut-off circuits shall interrupt and stop the automatic batching operations when an error exceeding the acceptable tolerance occurs in proportioning.

The scales shall not be manually adjusted during the printing process. In addition, the system shall be interlocked to allow printing only when the scale has come to a complete rest. A unique printed character (m) shall automatically be printed on the ticket when the automatic batching sequence is interrupted or switched to auto-manual or full manual during proportioning.

- d. Aggregates: Aggregate stockpiles shall be managed to prevent segregation and cross contamination. For drum plants only, the percent moisture content at a minimum prior to production and half way through production shall be determined.
- e. Mixture: The dry and wet mix times shall be sufficient to provide a uniform mixture and a minimum particle coating of 95% as determined by AASHTO T 195(M) .

Bituminous concrete mixtures shall contain no more than 0.5% moisture when tested in accordance with AASHTO T 329.

- f. RAP: RAP moisture content shall be determined a minimum of twice daily (prior to production and halfway through production).
- g. Asphalt Binder: A binder log shall be submitted to the Department's Central Lab on a monthly basis.
- h. Warm mix additive: For mechanically foamed WMA, the water injection rate shall be monitored during production and not exceed 2.0% by total weight of binder. For additive added at the Plant, the dosage rate shall be monitored during production.
- i. Plant Laboratory: The Contractor shall maintain a laboratory at the production facility to test bituminous concrete mixtures during production. The laboratory shall have a minimum of 300 square feet, have a potable water source and drainage in accordance with the CT Department of Public Health Drinking Water Division, and be equipped with all necessary testing equipment as well as with a PC, printer, and telephone with a dedicated hard-wired phone line. In addition, the PC shall have internet connection and a functioning web browser with unrestricted access to <https://ctmail.ct.gov>. This equipment shall be maintained in working order at all times and be made available for use by the Engineer.

The laboratory shall be equipped with a heating system capable of maintaining a minimum temperature of 65°F. It shall be clean and free of all materials and equipment not associated with the laboratory. Sufficient light and ventilation must be provided. During summer months, adequate cooling or ventilation must be provided so the indoor air temperature shall not exceed the ambient outdoor temperature.

The laboratory testing apparatus, supplies, and safety equipment shall be capable of performing all tests in their entirety that are referenced in AASHTO R 35 and AASHTO M 323. The Contractor shall ensure that the Laboratory is adequately supplied at all times during the course of the project with all necessary testing supplies and equipment.

The Contractor shall maintain a list of laboratory equipment used in the acceptance testing processes including but not limited to, balances, scales, manometer/vacuum gauge, thermometers, gyratory compactor, clearly showing calibration and/or inspection dates, in accordance with AASHTO R 18. The Contractor shall notify the Engineer if any modifications are made to the equipment within the laboratory. The Contractor shall take immediate action to replace, repair, and/or recalibrate any piece of equipment that is out of calibration, malfunctioning, or not in operation.

M.04.02—Mix Design and Job Mix Formula (JMF)

1. Curb Mix:

- a. Requirements: The Contractor shall use bituminous concrete that meets the requirements of Table M.04.02-1. RAP may be used in 5% increments by weight up to 30%.
- b. Basis of Approval: Annually, an approved JMF based on a mix design for curb mix must be on file with the Engineer prior to use. .

Any change in component source of supply or consensus properties must be approved by the Engineer. A revised JMF shall be submitted prior to use.

**TABLE M.04.02 – 1:
Control Points for Curb Mix Mixtures**

| | | |
|--|--------------------------------|--|
| Notes: (a) Compaction Parameter 50gyration N_{des} . (b) The percent passing the #200 sieve shall not exceed the percentage of bituminous asphalt binder. | | |
| Mix | Curb Mix | Production Tolerances from JMF target |
| Grade of PG Binder content % | PG 64S-22 6.5 - 9.0 | 0.4 |
| Sieve Size | | |
| # 200 | 3.0 – 8.0 (b) | 2.0 |
| # 50 | 10 - 30 | 4 |
| # 30 | 20 - 40 | 5 |
| # 8 | 40 - 70 | 6 |
| # 4 | 65 - 87 | 7 |
| 1/4" | | |
| 3/8 " | 95 - 100 | 8 |
| 1/2 " | 100 | 8 |
| 3/4" | | 8 |
| 1" | | |
| 2" | | |
| Additionally, the fraction of material retained between any two consecutive sieves shall not be less than 4% | | |
| Mixture Temperature | | |
| Binder | 325°F maximum | |
| Aggregate | 280-350° F | |
| Mixtures | 265-325° F | |
| Mixture Properties | | |
| Air Voids (VA) % | 0 – 4.0 (a) | |

2. Superpave Design Method – S0.25, S0.375, S0.5, and S1

- a. Requirements: All designated mixes shall be designed using the Superpave mix design method in accordance with AASHTO R 35. A JMF based on the mix design shall meet the requirements of Tables M.04.02-2 through Table M.04.02-5. Each JMF must be submitted no less than seven (7) days prior to production and must be approved by the Engineer prior to use. All approved JMFs expire at the end of the calendar year.

All aggregate component consensus properties and tensile strength ratio (TSR) specimens shall be tested at an AASHTO Materials Reference Laboratory (AMRL) by NETTCP certified technicians.

All bituminous concrete mixes shall be tested for stripping susceptibility by performing the tensile strength ratio (TSR) test procedure in accordance with AASHTO T 283(M) at a minimum every 36 months. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. TSR specimens, and corresponding JMF shall be submitted with each test report.

- i. Superpave Mixtures with RAP: RAP may be used with the following conditions:
- RAP amounts up to 15% may be used with no binder grade modification.
 - RAP amounts up to 20% may be used provided a new JMF is approved by the Engineer.
The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
 - Two representative samples of RAP shall be obtained. Each sample shall be split and one split sample shall be tested for binder content in accordance with AASHTO T 164 and the other in accordance AASHTO T 308.
 - RAP material shall not be used with any other recycling option.
- ii. Superpave Mixtures with RAS: RAS may be used solely in HMA S1 mixtures with the following conditions:
- RAS amounts up to 3% may be used.
 - RAS total binder replacement up to 15% may be used with no binder grade modification.
 - RAS total binder replacement up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance to AASHTO M 323 appendix X1 or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions,

warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.

- Superpave Mixtures with RAS shall meet AASHTO PP 78 design considerations. The RAS asphalt binder availability factor (F) used in AASHTO PP 78 shall be 0.85.
- iii. Superpave Mixtures with CRCG: CRCG may be used solely in HMA S1 mixtures. One percent of hydrated lime, or other accepted non-stripping agent, shall be added to all mixtures containing CRCG. CRCG material shall not be used with any other recycling option.
- b. Basis of Approval: The following information must be included with the JMF submittal:
 - Gradation, consensus properties and specific gravities of the aggregate, RAP or RAS.
 - Average asphalt content of the RAP or RAS by AASHTO T 164.
 - Source of RAP or RAS, and percentage to be used.
 - Warm mix Technology, manufacturer's recommended additive rate and tolerances and manufacturer recommended mixing and compaction temperatures.
 - TSR test report and anti-strip manufacturer and recommended dosage rate if applicable.
 - Mixing and compaction temperature ranges for the mix with and without the warm-mix technology incorporated.
 - JMF ignition oven correction factor by AASHTO T 308.
 -

With each JMF submittal, the following samples shall be submitted to the Division of Materials Testing:

- 4 - one quart cans of PG binder, with corresponding Safety Data Sheet (SDS)
- 1 - 50 lbs bag of RAP
- 2 - 50 lbs bag of plant blended virgin aggregate

A JMF may not be approved if any of the properties of the aggregate components or mix do not meet the verification tolerances as described in the Department's current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures.

Any material based on a JMF, once approved, shall only be acceptable for use when it is produced by the designated plant, it utilizes the same components, and the production of material continues to meet all criteria as specified herein, and component aggregates are maintained within the tolerances shown in Table M.04.02-2. A new JMF must be submitted to the Engineer for approval whenever a new component source is proposed.

Only one mix with one JMF will be approved for production at any one time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

- c. Mix Status: Each facility will have each type of mixture rated based on the results of the previous year's production. Mix Status will be provided to each bituminous concrete producer annually prior to the beginning of the paving season.

The rating criteria are based on compliance with Air Voids and Voids in Mineral Aggregate (VMA) as indicated in Table M.04.03-4 and are calculated as follows:

Criteria A: Percentage of acceptance test results with compliant air voids.

Criteria B: The average of the percentage of acceptance test results with compliant VMA, and percentage of acceptance test results with compliant air voids.

The final rating assigned will be the lower of the rating obtained with Criteria A or B.

Mix status is defined as:

"A" – Approved:

Assigned to each mixture type from a production facility with a current rating of 70% or greater, or to each mixture type completing a successful PPT.

"PPT" – Pre-Production Trial:

Temporarily assigned to each mixture type from a production facility when:

1. there are no compliant acceptance production test results submitted to the Department from the previous year;
2. there is a source change in one or more aggregate components
3. there is a component percentage change of more than 5% by weight;
4. there is a change in RAP percentage;
5. the mixture has a rating of less than 70% from the previous season;
6. a new JMF not previously submitted.

Bituminous concrete mixtures with a "PPT" status cannot be used on Department projects. Testing shall be performed by the Producer with NETTCP certified personnel on material under this status. Test results must confirm that specifications requirements in Table M.04.02-2 and Table M.04.02-5 are met before material can be used. One of the following methods must be used to verify the test results:

Option A: Schedule a day when a Department Inspector can be at the facility to witness testing or,

Option B: When the Contractor or their representative performs testing without being witnessed by an Inspector, the Contractor shall submit the test results and a split sample including 2 gyratory molds, 5,000 grams of boxed bituminous concrete, and 5,000 grams of cooled loose bituminous concrete for verification testing and approval.

Option C: When the Contractor or their representative performs testing without being witnessed by a Department Inspector, the Engineer may verify the mix in the Contractor's laboratory.

Witnessing or verifying by the Department of compliant test results will change the mix's status to an "A".

The differences between the Department's test results and the Contractor's must be within the "C" tolerances included in the Department's QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures in order to be verified.

"U" – Not Approved:

Status assigned to a type of mixture that does not have an approved JMF. . Bituminous concrete mixtures with a "U" status cannot be used on Department projects.

TABLE M.04.02– 2: Superpave Mixture Design Criteria

| Notes: ⁽¹⁾ For all mixtures using a WMA technology, the mix temperature shall meet PG binder and WMA manufacturer's recommendations. | | | | | | | | |
|---|--|---------|----------------|---------|----------------|---------|----------------|---------|
| | S0.25 | | S0.375 | | S0.5 | | S1 | |
| Sieve | CONTROL POINTS | | CONTROL POINTS | | CONTROL POINTS | | CONTROL POINTS | |
| inches | Min (%) | Max (%) | Min (%) | Max (%) | Min (%) | Max (%) | Min (%) | Max (%) |
| 2.0 | - | - | - | - | - | - | - | - |
| 1.5 | - | - | - | - | - | - | 100 | - |
| 1.0 | - | - | - | - | - | - | 90 | 100 |
| 3/4 | - | - | - | - | 100 | - | - | 90 |
| 1/2 | 100 | - | 100 | - | 90 | 100 | - | - |
| 3/8 | 97 | 100 | 90 | 100 | - | 90 | - | - |
| #4 | 75 | 90 | - | 75 | - | - | - | - |
| #8 | 32 | 67 | 32 | 67 | 28 | 58 | 19 | 45 |
| #16 | - | - | - | - | - | - | - | - |
| #30 | - | - | - | - | - | - | - | - |
| #50 | - | - | - | - | - | - | - | - |
| #100 | - | - | - | - | - | - | - | - |
| #200 | 2.0 | 10.0 | 2.0 | 10.0 | 2.0 | 10.0 | 1.0 | 7.0 |
| VMA (%) | 16.5 ± 1 | | 16.0 ± 1 | | 15.0 ± 1 | | 13.0 ± 1 | |
| VA (%) | 4.0 ± 1 | | 4.0 ± 1 | | 4.0 ± 1 | | 4.0 ± 1 | |
| Gse | JMF value | | JMF value | | JMF value | | JMF value | |
| Gmm | JMF ± 0.030 | | JMF ± 0.030 | | JMF ± 0.030 | | JMF ± 0.030 | |
| Dust / binder | 0.6 – 1.2 | | 0.6 – 1.2 | | 0.6 – 1.2 | | 0.6 – 1.2 | |
| Mix Temp ⁽¹⁾ | 265 – 325°F | | 265 – 325°F | | 265 – 325°F | | 265 – 325°F | |
| TSR | ≥ 80% | | ≥ 80% | | ≥ 80% | | ≥ 80% | |
| T-283 Stripping | Minimal, as determined by the Engineer | | | | | | | |

TABLE M.04.02–3: Superpave Consensus Properties Requirements for Combined Aggregate

| Notes: (1) 95/90 denotes that a minimum of 95% of the coarse aggregate, by mass, shall have one fractured face and that a minimum of 90% shall have two fractured faces.. (2) Criteria presented as maximum Percent by mass of flat and elongated particles of materials retained on the #4 sieve, determined at 5:1 ratio. | | | | | |
|--|---------------------------------------|--|---|---|--|
| Traffic Level | Design ESALs (80 kN), Millions | Coarse Aggregate Angularity ⁽¹⁾ ASTM D 5821, Minimum % | Fine Aggregate Angularity AASHTO T 304, Method A Minimum % | Flat and Elongated Particles ⁽²⁾ ASTM D 4791, Maximum % | Sand Equivalent AASHTO T 176, Minimum % |
| 1 | < 0.3 | 55/- - | 40 | 10 | 40 |
| 2 | 0.3 to < 3.0 | 75/- - | 40 | 10 | 40 |
| 3 | ≥ 3.0 | 95/90 | 45 | 10 | 45 |

TABLE M.04.02– 4: Superpave Traffic Levels and Design Volumetric Properties

| Traffic Level | Design ESALs (million) | Number of Gyration by Superpave Gyrotory Compactor | | | Percent Density of Gmm from HMA/WMA specimen | | | Void Filled with Asphalt (VFA) Based on Nominal mix size – inch | | | |
|----------------------|-------------------------------|---|-------------|-------------|---|-------------|-------------|--|--------------|------------|----------|
| | | Nini | Ndes | Nmax | Nini | Ndes | Nmax | 0.25 | 0.375 | 0.5 | 1 |
| 1 | < 0.3 | 6 | 50 | 75 | ≤ 91.5 | 96.0 | ≤ 98.0 | 70 - 80 | 70 - 80 | 70 - 80 | 67 - 80 |
| 2 | 0.3 to < 3.0 | 7 | 75 | 115 | ≤ 90.5 | 96.0 | ≤ 98.0 | 65 - 78 | 65 - 78 | 65 - 78 | 65 - 78 |
| 3 | ≥ 3.0 | 8 | 100 | 160 | ≤ 90.0 | 96.0 | ≤ 98.0 | 65 - 77 | 73 - 76 | 65 - 75 | 65 - 75 |

**TABLE M.04.02– 5:
Superpave Minimum Binder Content by Mix Type and Level**

| Mix Type | Level | Binder Content Minimum |
|----------|-------|---------------------------|
| S0.25 | 1 | 5.70 |
| S0.25 | 2 | 5.60 |
| S0.25 | 3 | 5.50 |
| S0.375 | 1 | 5.70 |
| S0.375 | 2 | 5.60 |
| S0.375 | 3 | 5.50 |
| S0.5 | 1 | 5.10 |
| S0.5 | 2 | 5.00 |
| S0.5 | 3 | 4.90 |
| S1 | 1 | 4.60 |
| S1 | 2 | 4.50 |
| S1 | 3 | 4.40 |

M.04.03— Production Requirements:

1. Standard Quality Control Plan (QCP) for Production:

The QCP for production shall describe the organization and procedures which the Contractor shall use to administer quality control. The QCP shall include the procedures used to control the production process, to determine when immediate changes to the processes are needed, and to implement the required changes. The QCP must detail the inspection, sampling and testing protocols to be used, and the frequency for each.

Control Chart(s) shall be developed and maintained for critical aspect(s) of the production process as determined by the Contractor. The control chart(s) shall identify the material property, applicable upper and lower control limits, and be updated with current test data. As a minimum, the following quality characteristics shall be included in the control charts: percent passing #4 sieve, percent passing #200 sieve, binder content, air voids, Gmm and VMA. The control chart(s) shall be used as part of the quality control system to document variability of the bituminous concrete production process. The control chart(s) shall be submitted to the Engineer the first day of each month.

The QCP shall also include the name and qualifications of a Quality Control Manager. The Quality Control Manager shall be responsible for the administration of the QCP, including compliance with the plan and any plan modifications.

The Contractor shall submit complete production testing records to the Engineer within 24 hours in a manner acceptable to the Engineer.

The QCP shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QCP must also include a list of sampling & testing methods and frequencies used during production, and the names of all Quality Control personnel and their duties.

Approval of the QCP does not imply any warranty by the Engineer that adherence to the plan will result in production of bituminous concrete that complies with these specifications. The Contractor shall submit any changes to the QCP as work progresses.

2. Acceptance Requirements:

i. General:

Acceptance samples shall be obtained from the hauling vehicles and tested by the Contractor at the Plant.

The Contractor shall submit all acceptance tests results to the Engineer within 24 hours or prior to the next day's production. All acceptance test specimens and supporting documentation must be retained by the Contractor and may be disposed of with the approval of the Engineer. All quality control specimens shall be clearly labeled and separated from the acceptance specimens.

Contractor personnel performing acceptance sampling and testing must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP HMA Plant Technician or Interim HMA Plant Technician and be in good standing. Production of material for use on State projects must be suspended by the Contractor if such personnel are not present. Technicians found by the Engineer to be non-compliant with NETTCP policies and procedures or Department policies may be removed by the Engineer from participating in the acceptance testing process for Department projects until their actions can be reviewed.

Anytime during production that testing equipment becomes defective or inoperable, production can continue for a maximum of 1 hour. The Contractor shall obtain box sample(s) in accordance with Table M.04.03-2 to satisfy the daily acceptance testing requirement for the quantity shipped to the project. The box sample(s) shall be tested once the equipment issue has been resolved to the satisfaction of the Engineer. Production beyond 1 hour may be considered by the Engineer. Production will not be permitted beyond that day until the subject equipment issue has been resolved.

Verification testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

Should the Department be unable to verify the Contractor's acceptance test result(s) due to a failure of the Contractor to retain acceptance test specimens or supporting documentation, the Contractor shall review its quality control plan, determine the cause of the nonconformance and

respond in writing within 24 hours to the Engineer describing the corrective action taken. In addition, the Contractor must provide supporting documentation or test results to validate the subject acceptance test result(s). The Engineer may invalidate any adjustments for material corresponding to the subject acceptance test(s). Failure of the Contractor to adequately address quality control issues at a facility may result in suspension of production for Department projects at that facility.

ii. Curb Mix Acceptance Sampling and Testing Procedures:

Curb Mix shall be tested in accordance to Table M.04.03-1 by the Contractor at a frequency of one test per every 250 tons of cumulative production, regardless of the day of production.

TABLE M.04.03 – 1: Curb Mix Acceptance Test Procedures

| Protocol | Reference | Description |
|-----------------|--------------------------------------|---|
| 1 | AASHTO T 30(M) | Mechanical Analysis of Extracted Aggregate |
| 2 | AASHTO T 168 | Sampling of Bituminous Concrete |
| 3 | AASHTO T 308 | Binder content by Ignition Oven method (adjusted for aggregate correction factor) |
| 4 | AASHTO T 209(M)⁽²⁾ | Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures |
| 5 | AASHTO T 312⁽²⁾ | ⁽¹⁾ Superpave Gyrotory molds compacted to N _{des} |
| 6 | AASHTO T 329 | Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method |

Notes: ⁽¹⁾ One set equals two six-inch molds. Molds to be compacted to 50 gyrations

⁽²⁾ Once per year or when requested by the Engineer

a. Determination of Off-Test Status:

- i. Curb Mix is considered “off test” when the test results indicate that any single value for bitumen content or gradation are not within the tolerances shown in Table M.04.02-1. If the mix is “off test”, the Contractor must take immediate actions to correct the deficiency and a new acceptance sample shall be tested on the same day or the following day of production.
- ii. When multiple silos are located at one site, mixture supplied to one project is considered as coming from one source for the purpose of applying the “off test” status.
- iii. The Engineer may cease supply from the plant when test results from three consecutive samples are not within the JMF tolerances or the test results from two consecutive samples not within the control points indicated in Table M.04.02-1 regardless of production date.

b. JMF revisions

- i. If a test indicates that the bitumen content or gradation are outside the tolerances, the Contractor may make a single JMF revision as allowed by the Engineer prior to any additional testing. Consecutive test results outside the requirements of Table M.04.02-1 JMF tolerances may result in rejection of the mixture.
- ii. Any modification to the JMF shall not exceed 50% of the JMF tolerances indicated in Table M.04.02-1 for any given component of the mixture without approval of the Engineer. When such an adjustment is made to the bitumen, the corresponding production percentage of bitumen shall be revised accordingly.

iii. Superpave Mix Acceptance:

a. Sampling and Testing Procedures

Production Lot: The Lot will be defined as one of the following types:

- Non-PWL Production Lot for total estimated project quantities per mixture less than 3500 tons: All mixture placed during a single continuous paving operation.
- PWL Production Lot for total estimated project quantities per mixture of 3500 tons or more: Each 3500 tons of mixture produced within 30 calendar days.

Production Sub Lot:

- For Non-PWL: As defined in Table M.04.03 – 2
- For PWL: 500 tons (the last Sub Lot may be less than 500 tons)

Partial Production Lots (For PWL only): A Lot with less than 3500 tons due to:

- completion of the Course
- a Job Mix Formula revision due to changes in:
 - o cold feed percentages over 5%
 - o target combined gradation over 5%
 - o target binder over 0.15%
 - o any component specific gravity
- a Lot spanning 30 calendar days

The acceptance sample(s) location(s) shall be selected using stratified – random sampling in accordance with ASTM D 3665 based on:

- the total daily estimated tons of production for non-PWL lots, or
- the total lot size for PWL lots.

One acceptance sample shall be obtained and tested per Sub Lot. The Engineer may direct that additional acceptance samples be obtained. For non-PWL lots, one acceptance test shall always be performed in the last sub-lot based on actual tons of material produced.

For Non-PWL lots, quantities of the same mixture per plant may be combined daily for multiple State projects to determine the number of sub lots.

The payment adjustment will be calculated as described in 4.06.

**TABLE M.04.03 – 2:
Superpave Acceptance Testing Frequency per Type/Level/Plant for Non-PWL lots**

| Daily quantity produced in tons (lot) | Number of Sub Lots/Tests |
|---------------------------------------|-------------------------------------|
| 0 to 150 | 0, Unless requested by the Engineer |
| 151 to 500 | 1 |
| 501 to 1,000 | 2 |
| 1,001 to 2,000 | 3 |
| 2,001 or greater | 1 per 500 tons or portions thereof |

The following test procedures shall be used for acceptance:

TABLE M.04.03– 3: Superpave Acceptance Testing Procedures

| Protocol | Procedure | Description |
|----------|-----------------|---|
| 1 | AASHTO T 168 | Sampling of bituminous concrete |
| 2 | AASHTO R 47 | Reducing samples to testing size |
| 3 | AASHTO T 308 | Binder content by ignition oven method (adjusted for aggregate correction factor) |
| 4 | AASHTO T 30(M) | Gradation of extracted aggregate for bituminous concrete mixture |
| 5 | AASHTO T 312 | ⁽¹⁾ Superpave gyratory molds compacted to N _{des} |
| 6 | AASHTO T 166 | ⁽²⁾ Bulk specific gravity of bituminous concrete |
| 7 | AASHTO R 35 | ⁽²⁾ Air voids, VMA |
| 8 | AASHTO T 209(M) | Maximum specific gravity of bituminous concrete (average of two tests) |
| 9 | AASHTO T 329 | Moisture content of bituminous concrete |

Notes: ⁽¹⁾ One set equals two six-inch molds. Molds to be compacted to N_{max} for PPTs and to N_{des} for production testing. The first subplot of the year will be compacted to N_{max}

⁽²⁾ Average value of one set of six-inch molds.

If the average ignition oven corrected binder content differs by 0.3% or more from the average of the Plant ticket binder content in five (5) consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause and correct the issue. When two consecutive moving average differences are 0.3% or more and no assignable cause has been established, the Engineer may require a new ignition oven aggregate correction factor to be performed or to adjust the current factor by the average of the differences between the corrected binder content and production Plant ticket for the last five (5) acceptance results.

The test specimen must be placed in an ignition oven for testing in accordance with AASHTO T 308 within thirty minutes of being obtained from the hauling vehicle and the test shall start immediately after.

The Contractor shall perform TSR testing within 30 days after the start of production for all design levels of HMA- and PMA- S0.5 plant-produced mixtures, in accordance with AASHTO T 283(M). The TSR test shall be performed at an AMRL certified laboratory by NETTCP certified technicians. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. The test results and specimens shall be submitted to the Engineer for review. Superpave mixtures that require anti-strip additives (either liquid or mineral) shall continue to meet all requirements specified herein for binder and bituminous concrete. The Contractor shall submit the name, manufacturer, percent used, technical datasheet and SDS for the anti-strip additive (if applicable) to the Engineer.

b. Determination of Off-Test Status:

- i. Superpave mixes shall be considered "*off test*" when any Control Point Sieve, binder content, VA, VMA, or Gmm value is outside of the limits specified in Table M.04.03-4 or the target binder content at the Plant is below the minimum binder content stated in Table M.04.02-5. Note that further testing of samples or portions of samples not initially tested for this purpose cannot be used to change the status.
- ii. Any time the bituminous concrete mixture is considered Off-test:
 1. The Contractor shall notify the Engineer when the Plant is "*off test*" for any mix design that is delivered to the project in any production day. When multiple silos are located at one site, mixture supplied to one project is considered as coming from one source for the purpose of applying the "*off test*" determination.
 2. The Contractor must take immediate actions to correct the deficiency, minimize "*off test*" production to the project, and obtain an additional Process Control (PC) test after any corrective action to verify production is in conformance to the specifications. A PC test will not be used for acceptance and is solely for the use of the Contractor in its quality control process.

c. Cessation of Supply for Superpave Mixtures in non-PWL lots:

A mixture shall not be used on Department's projects when it is "off test" for:

- i. four (4) consecutive tests in any combination of VA, VMA or Gmm, regardless of date of production, or,
- ii. two (2) consecutive tests in the Control Point sieves in one production shift.

As a result of cessation of supply, the mix status will be changed to PPT.

d. JMF revisions:

JMF revisions are only permitted prior to or after a production shift. A JMF revision is effective from the time it was submitted and is not retroactive to the previous test(s).

JMF revisions shall be justified by a documented trend of test results.

Revisions to aggregate and RAP specific gravities are only permitted when testing is performed at an AMRL certified laboratory by NETTCP certified technicians.

A JMF revision is required when the Plant target RAP and/or bin percentage deviates by more than 5% and/or the Plant target binder content deviates by more than 0.15% from the active JMF.

TABLE M.04.03– 4: Superpave Mixture Production Requirements

| Notes: (1) 300°F minimum after October 15. (2) JMF tolerances shall be defined as the limits for production compliance. (3) For all mixtures with WMA technology, changes to the minimum aggregate temperature will require Engineer's approval. (4) For PMA and mixtures with WMA technology, the mix temperature shall meet manufacturer's recommendations. In addition, for all mixtures with WMA technology, the maximum mix temperature shall not exceed 325°F. (5) 0.4 for PWL lots (6) 1.3 for PWL lots (7) 1.2 for PWL lots | | | | | | | | | |
|--|----------------------------|--------|----------------------------|--------|---------------------------------------|--------|----------------------------|--------|--|
| | S0.25 | | S0.375 | | S0.5 | | S1 | | Tolerances |
| Sieve | CONTROL POINTS | | CONTROL POINTS | | CONTROL POINTS | | CONTROL POINTS | | From JMF Targets ⁽²⁾ |
| inches | Min(%) | Max(%) | Min(%) | Max(%) | Min(%) | Max(%) | Min(%) | Max(%) | ±Tol |
| 1.5 | - | - | - | - | - | - | 100 | - | |
| 1.0 | - | - | - | - | - | - | 90 | 100 | |
| 3/4 | - | - | - | - | 100 | - | - | 90 | |
| 1/2 | 100 | - | 100 | - | 90 | 100 | - | - | |
| 3/8 | 97 | 100 | 90 | 100 | - | 90 | - | - | |
| #4 | 75 | 90 | - | 75 | - | - | - | - | |
| #8 | 32 | 67 | 32 | 67 | 28 | 58 | 19 | 45 | |
| #16 | - | - | - | - | - | - | - | - | |
| #200 | 2.0 | 10.0 | 2.0 | 10.0 | 2.0 | 10.0 | 1.0 | 7.0 | |
| Pb | JMF value | | JMF value | | JMF value | | JMF value | | 0.3 ⁽⁵⁾ |
| VMA (%) | 16.5 | | 16.0 | | 15.0 | | 13.0 | | 1.0 ⁽⁶⁾ |
| VA (%) | 4.0 | | 4.0 | | 4.0 | | 4.0 | | 1.0 ⁽⁷⁾ |
| Gmm | JMF value | | JMF value | | JMF value | | JMF value | | 0.030 |
| Agg. Temp ⁽³⁾ | 280 – 350F | | 280 – 350F | | 280 – 350F | | 280 – 350F | | |
| Mix Temp ⁽⁴⁾ | 265 – 325 F ⁽¹⁾ | | 265 – 325 F ⁽¹⁾ | | 265 – 325 F ⁽¹⁾ | | 265 – 325 F ⁽¹⁾ | | |
| Prod. TSR | N/A | | N/A | | ≥80% | | N/A | | |
| T-283 Stripping | N/A | | N/A | | Minimal as determined by the Engineer | | N/A | | |

**TABLE M.04.03– 5:
Superpave Traffic Levels and Design Volumetric Properties**

| Traffic Level | Design ESALs | Number of Gyration by Superpave Gyratory Compactor | |
|---------------|--------------|--|------|
| | (million) | Nini | Ndes |
| 1 | < 0.3 | 6 | 50 |
| 2 | 0.3 to < 3.0 | 7 | 75 |
| 3 | ≥3.0 | 8 | 100 |

**TABLE M.04.03-6:
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures**

| AASHTO Standard Method of Test | |
|--------------------------------|--|
| Reference | Modification |
| T 30 | Section 7.2 thru 7.4 Samples are not routinely washed for production testing |
| T 168 | <p>Samples are taken at one point in the pile. Samples from a hauling vehicle are taken from only one point instead of three as specified.</p> <p>Selection of Samples: Sampling is equally important as the testing, and the sampler shall use every precaution to obtain samples that are truly representative of the bituminous mixture.</p> <p>Box Samples: In order to enhance the rate of processing samples taken in the field by construction or maintenance personnel the samples will be tested in the order received and data processed to be determine conformance to material specifications and to prioritize inspections by laboratory personnel.</p> |
| T 195 | Section 4.3 only one truck load of mixture is sampled. Samples are taken from opposite sides of the load. |
| T 209 | <p>Section 7.2 The average of two bowls is used proportionally in order to satisfy minimum mass requirements.</p> <p>8.3 Omit Pycnometer method.</p> |
| T 283 | When foaming technology is used, the material used for the fabrication of the specimens shall be cooled to room temperature, and then reheated to the manufactures recommended compaction temperature prior to fabrication of the specimens. |

| AASHTO Standard Recommended Practices | |
|--|--|
| Reference | Modification |
| R 26 | <p>All laboratory technician(s) responsible for testing PG-binders be certified or Interim Qualified by the New England Transportation Technician Certification Program (NETTCP) as a PG Asphalt Binder Lab Technician.</p> <p>All laboratories testing binders for the Department are required to be accredited by the AASHTO Materials Reference Laboratory (AMRL).</p> <p>Sources interested in being approved to supply PG-binders to the Department by use of an “in-line blending system,” must record properties of blended material, and additives used.</p> <p>Each source of supply of PG-binder must indicate that the binders contain no additives used to modify or enhance their performance properties. Binders that are manufactured using additives, modifiers, extenders etc., shall disclose the type of additive, percentage and any handling specifications/limitations required.</p> <p>All AASHTO M 320 references shall be replaced with AASHTO M 332.</p> <p>Once a month, one split sample and test results for each asphalt binder grade and each lot shall be submitted by the PG binder supplier to the Department’s Central Lab. Material remaining in a certified lot shall be re-certified no later than 30 days after initial certification. Each April and September, the PG binder supplier shall submit test results for two (2) BBR tests at two (2) different temperatures in accordance with AASHTO R 29.</p> |

CODE OF ETHICS

The Contractor shall comply with the provisions contained in Section 1-86e of the Connecticut General Statutes, which provides as follows:

- (a) No person hired by the state as a Contractor or independent contractor shall:
 - (1) Use the authority provided to the person under the contract, or any confidential information acquired in the performance of the contract, to obtain financial gain for the person, an employee of the person or a member of the immediate family of any such person or employee;
 - (2) Accept another state contract which would impair the independent judgment of the person in the performance of the existing contract; or
 - (3) Accept anything of value to a person hired by the state as a Contractor or independent contractor based on an understanding that the actions of the Contractor or independent contractor on behalf of the state would be influenced.
- (b) No person shall give anything of value to a person hired by the state as a Contractor or independent contractor based on an understanding that the actions of the Contractor or independent contractor on behalf of the state would be influenced.

The following clause is applicable to those contracts with a value of Five Hundred Thousand Dollars (\$500,000) or more:

The Contractor shall comply with the Code of Ethics for Public Officials, Conn. Gen. Stat. §§ 1-79 *et seq.*, and Code of Ethics for Lobbyists, Conn. Gen. Stat. §§ 1-91 *et seq.*, when and where applicable. Insofar as state contractors are concerned, a summary of the most relevant provisions of the Codes of Ethics is contained in the Summary of State Ethics Laws for Current and Potential State Contractors. The Contractor acknowledges receiving such Summary, which is incorporated herein by reference. The Summary may change from time to time and may be accessed via the Internet at www.ethics.state.ct.us.

The Contractor agrees that the above clause will also be incorporated in all of its contracts with its subcontractors and consultants.

The Contractor agrees that any instance of its violating the Code of Ethics or the Department of Transportation Ethics Policy will be sufficient cause for the Department to terminate any or all of the Contractor's pending contracts with the Department.

In addition, the Contractor hereby acknowledges and agrees to comply with the policies enumerated in "Connecticut Department of Transportation Policy Statement Policy No. F&A-10, Subject: Code of Ethics Policy", dated June 1, 2007, a copy of which is attached hereto and made a part hereof.



CONNECTICUT DEPARTMENT OF TRANSPORTATION POLICY STATEMENT

POLICY NO. F&A-10

June 1, 2007

SUBJECT: Code of Ethics Policy

The purpose of this policy is to establish and maintain high standards of honesty, integrity, and quality of performance for all employees of the Department of Transportation ("DOT" or "Department"). Individuals in government service have positions of significant trust and responsibility that require them to adhere to the highest ethical standards. Standards that might be acceptable in other public or private organizations are not necessarily acceptable for the DOT.

It is expected that all DOT employees will comply with this policy as well as the Code of Ethics for Public Officials, and strive to avoid even the appearance of impropriety in their relationships with members of the public, other agencies, private vendors, consultants, and contractors. This policy is, as is permitted by law, in some cases stricter than the Code of Ethics for Public Officials. Where that is true, employees are required to comply with the more stringent DOT policy.

The Code of Ethics for Public Officials is State law and governs the conduct of all State employees and public officials regardless of the agency in which they serve. The entire Code, as well as a summary of its provisions, may be found at the Office of State Ethics' web site: www.ct.gov/ethics/site/default.asp. For formal and informal interpretations of the Code of Ethics, DOT employees should contact the Office of State Ethics or the DOT's Ethics Compliance Officer or her designee.

All State agencies are required by law to have an ethics policy statement. Additionally, all State agencies are required by law to have an Ethics Liaison or Ethics Compliance Officer. The DOT, because of the size and scope of its procurement activities, has an Ethics Compliance Officer who is responsible for the Department's: development of ethics policies; coordination of ethics training programs; and monitoring of programs for agency compliance with its ethics policies and the Code of Ethics for Public Officials. At least annually, the Ethics Compliance Officer shall provide ethics training to agency personnel involved in contractor selection, evaluation, and supervision. A DOT employee who has a question or is unsure about the provisions of this policy, or who would like assistance contacting the Office of State Ethics, should contact the Ethics Compliance Officer or her designee.

The DOT Ethics Compliance Officer is:

Denise Rodosevich, Managing Attorney
Office of Legal Services

**For questions, contact the Ethics
Compliance Officer's Designee:**

Alice M. Sexton, Principal Attorney
Office of Legal Services
2800 Berlin Turnpike
Newington, CT 06131-7546
Tel. (860) 594-3045

To contact the Office of State Ethics:

Office of State Ethics
20 Trinity Street, Suite 205
Hartford, CT 06106
Tel. (860) 566-4472
Facs. (860) 566-3806
Web: www.ethics.state.ct.us

Enforcement

The Department expects that all employees will comply with all laws and policies regarding ethical conduct. Violations of the law may subject an employee to sanctions from agencies or authorities outside the DOT. Whether or not another agency or authority imposes such sanctions, the Department retains the independent right to review and respond to any ethics violation or alleged ethics violation by its employees. Violations of this policy or ethics statutes, as construed by the DOT, may result in disciplinary action up to and including dismissal from State service.

Prohibited Activities

1. **Gifts:** DOT employees (and in some cases their family members) are prohibited by the Code of Ethics and this Policy from accepting a gift from anyone who is: (1) doing business with, or seeking to do business with, the DOT; (2) directly regulated by the DOT; (3) prequalified as a contractor pursuant to Conn. Gen. Stat. §4a-100 by the Commissioner of the Department of Administrative Services (DAS); or (4) known to be a registered lobbyist or a lobbyist's representative. These four categories of people/entities are referred to as "restricted donors." A list of registered lobbyists can be found on the web site of the Office of State Ethics (www.ct.gov/ethics/site/default.asp). A list of prequalified consultants and contractors, *i.e.*, those seeking to do business with the DOT, can be found on the DOT's Internet site under "Consultant Information" and "Doing Business with ConnDOT," respectively.

The term "gift" is defined in the Code of Ethics for Public Officials, Conn. Gen. Stat. §1-79(e), and has numerous exceptions. For example, one exception permits the acceptance of food and/or beverages valued up to \$50 per calendar year from any one donor and consumed on an occasion or occasions while the person paying or his representative is present. Therefore, such food and/or beverage is not a "gift." Another exception permits the acceptance of items having a value up to ten dollars (\$10) provided the aggregate value of all things provided by the donor to the recipient during a calendar year does not exceed fifty dollars (\$50). Therefore, such items are not a "gift." Depending on the circumstances, the "donor" may be an individual if the individual is bearing the expense, or a donor may be the individual's employer/group if the individual is passing the expense back to the employer/group he/she represents.

This policy requires DOT employees to immediately return any gift (as defined in the Code of Ethics) that any person or entity attempts to give to the employee(s). If any such gift or other item of value is received by other than personal delivery from the subject person or entity, the item shall be taken to the Office of Human Resources along with the name and address of the person or entity who gave the item. The Office of Human Resources, along with the recipient of the item of value, will arrange for the donation of the item to a local charity (e.g., Foodshare, local soup kitchens, etc.). The Office of Human Resources will then send a letter to the gift's donor advising the person of the item's donation to charity and requesting that no such gifts be given to DOT employees in the future.

2. **Contracting for Goods or Services for Personal Use With Department Contractors, Consultants, or Vendors:** Executive Order 7C provides that: "Appointed officials and state employees in the Executive Branch are prohibited from contracting for goods and services, for personal use, with any person doing business with or seeking business with his or her agency, unless the goods or services are readily available to the general public for the price which the official or state employee paid or would pay."

3. ***Gift Exchanges Between Subordinates and Supervisors/Senior Staff:*** A recent change in the Code of Ethics prohibits exchanges of gifts valued at \$100 or more between (*i.e.*, to and from) supervisors and employees under their supervision. The Citizen’s Ethics Advisory Board has advised that: (1) the monetary limit imposed by this provision is a per-gift amount; (2) gifts given between supervisors and subordinates (or *vice versa*) in celebration of a “major life event,” as defined in the Code of Ethics, need not comply with the \$100 limit; and (3) the limitations imposed by this provision apply to a direct supervisor and subordinate *and to any individual up or down the chain of command*. The Citizen’s Ethics Advisory Board has also advised that supervisors or subordinates may not pool their money to give a collective or group gift valued at \$100 or more, even though each of the individual contributions is less than \$100.
4. ***Acceptance of Gifts to the State:*** A recent change to the Code of Ethics for Public Officials modified the definition of the term “gift” to limit the application of the so-called “gift to the State” exception. In general, “gifts to the State” are goods or services given to a State agency for use on State property or to support an event and which facilitate State action or functions. Before accepting any benefit as a “gift to the State,” DOT employees should contact the Ethics Compliance Officer.
5. ***Charitable Organizations and Events:*** No DOT employee shall knowingly accept any gift, discount, or other item of monetary value for the benefit of a charitable organization from any person or entity seeking official action from, doing or seeking business with, or conducting activities regulated by, the Department.
6. ***Use of Office/Position for Financial Gain:*** DOT employees shall not use their public office, position, or influence from holding their State office/position, nor any information gained in the course of their State duties, for private financial gain (or the prevention of financial loss) for themselves, any family member, any member of their household, nor any “business with which they are associated.” In general, a business with which one is associated includes any entity of which a DOT employee or his/her immediate family member is a director, owner, limited or general partner, beneficiary of a trust, holder of 5 percent or more stock, or an officer (president, treasurer, or executive or senior vice president).

DOT employees shall not use or distribute State information (except as permitted by the Freedom of Information Act), nor use State time, personnel, equipment, or materials, for other than State business purposes.

7. ***Other Employment:*** DOT employees shall not engage in, nor accept, other employment that will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties.

Any DOT employee who engages in or accepts other employment (including as an independent contractor), or has direct ownership in an outside business or sole proprietorship, shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department’s Human Resources Administrator. Disclosure of other employment to the DOT Human Resources Administrator shall *not* constitute approval of the other employment for purposes of the Code of Ethics for Public Officials.

Inquiries concerning the propriety of a DOT employee’s other employment shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials. Employees anticipating accepting other employment as described above should give ample time (at least one month) to the Office of State Ethics to respond to such outside employment inquiries.

No employee of the DOT shall allow any private obligation of employment or enterprise to take precedence over his/her responsibility to the Department.

8. **Outside Business Interests:** Any DOT employee who holds, directly or indirectly, a financial interest in any business, firm, or enterprise shall complete an Employment/Outside Business Disclosure Form (see attached) and submit it to the Department's Human Resources Administrator. An indirect financial interest includes situations where a DOT employee's spouse has a financial interest in a business, firm, or enterprise. A financial interest means that the employee or his spouse is an owner, member, partner, or shareholder in a non-publicly traded entity. Disclosure of such outside business interests to the DOT Human Resources Administrator shall *not* constitute approval of the outside business interest under this Policy or the Code of Ethics for Public Officials. DOT employees shall not have a financial interest in any business, firm, or enterprise which will either impair their independence of judgment with regard to their State duties or require or induce them to disclose confidential information gained through their State duties. Inquiries concerning the propriety of a DOT employee's outside business interests shall be directed to the Office of State Ethics to assure compliance with the Code of Ethics for Public Officials.
9. **Contracts With the State:** DOT employees, their immediate family members, and/or a business with which a DOT employee is associated, may not enter into a contract with the State, other than pursuant to a court appointment, valued at \$100 or more unless the contract has been awarded through an open and public process.
10. **Sanctioning Another Person's Ethics Violation:** No DOT official or employee shall counsel, authorize, or otherwise sanction action that violates any provision of the Code of Ethics.
11. **Certain Persons Have an Obligation to Report Ethics Violations:** If the DOT Commissioner, Deputy Commissioner, or "person in charge of State agency procurement" and contracting has reasonable cause to believe that a person has violated the Code of Ethics or any law or regulation concerning ethics in State contracting, he/she *must* report such belief to the Office of State Ethics. All DOT employees are encouraged to disclose waste, fraud, abuse, and corruption about which they become aware to the appropriate authority (see also Policy Statement EX.O.-23 dated March 31, 2004), including, but not limited to, their immediate supervisor or a superior of their immediate supervisor, the DOT Office of Management Services, the Ethics Compliance Officer, the Auditors of Public Accounts, the Office of the Attorney General, or the Office of the Chief State's Attorney.
12. **Post-State Employment Restrictions:** In addition to the above-stated policies of the Department, DOT employees are advised that the Code of Ethics for Public Officials bars certain conduct by State employees *after they leave State service. Upon leaving State service:*
 - **Confidential Information:** DOT employees must never disclose or use confidential information gained in State service for the financial benefit of any person.
 - **Prohibited Representation:** DOT employees must *never* represent anyone (other than the State) concerning any "particular matter" in which they participated personally and substantially while in State service and in which the State has a substantial interest.

DOT employees also must not, for one year after leaving State service, represent anyone other than the State for compensation before the DOT concerning a matter in which the State has a substantial interest. In this context, the term "represent" has been very broadly defined. Therefore, any former DOT employee contemplating post-State employment work that might involve interaction with any bureau of DOT (or any Board or Commission administratively under the DOT) within

their first year after leaving State employment should contact the DOT Ethics Compliance Officer and/or the Office of State Ethics.

- **Employment With State Vendors:** DOT employees who participated substantially in, or supervised, the negotiation or award of a State contract valued at \$50,000 or more must not accept employment with a party to the contract (other than the State) for a period of one year after resigning from State service, if the resignation occurs within one year after the contract was signed.

13. **Ethical Considerations Concerning Bidding and State Contracts:** DOT employees also should be aware of various provisions of Part IV of the Code of Ethics that affect any person or firm who: (1) is, or is seeking to be, prequalified by DAS under Conn. Gen. Stat. §4a-100; (2) is a party to a large State construction or procurement contract, or seeking to enter into such a contract, with a State agency; or (3) is a party to a consultant services contract, or seeking to enter into such a contract, with a State agency. These persons or firms shall not:

- With the intent to obtain a competitive advantage over other bidders, solicit any information from an employee or official that the contractor knows is not and will not be available to other bidders for a large State construction or procurement contract that the contractor is seeking;
- Intentionally, willfully, or with reckless disregard for the truth, charge a State agency for work not performed or goods not provided, including submitting meritless change orders in bad faith with the sole intention of increasing the contract price, as well as falsifying invoices or bills or charging unreasonable and unsubstantiated rates for services or goods to a State agency; and
- Intentionally or willfully violate or attempt to circumvent State competitive bidding and ethics laws.

Firms or persons that violate the above provisions may be deemed a nonresponsible bidder by the DOT.

In addition, no person with whom a State agency has contracted to provide consulting services to plan specifications for any contract, and no business with which such person is associated, may serve as a consultant to any person seeking to obtain such contract, serve as a contractor for such contract, or serve as a subcontractor or consultant to the person awarded such contract.

DOT employees who believe that a contractor or consultant may be in violation of any of these provisions should bring it to the attention of their manager.

Training for DOT Employees

A copy of this policy will be posted throughout the Department, and provided to each employee either in hard copy or by e-mail. As set forth above, State law requires that certain employees involved in contractor/consultant/vendor selection, evaluation, or supervision must undergo annual ethics training coordinated or provided by the Ethics Compliance Officer. If you believe your duties meet these criteria, you should notify your Bureau Chief to facilitate compilation of a training schedule. In addition, the DOT Ethics Compliance Officer can arrange for periodic ethics training provided by the Office of State Ethics. Finally, the Department will make available, on its web site or otherwise, a copy of this policy to all vendors, contractors, and other business entities doing business with the Department.

Important Ethics Reference Materials

It is strongly recommended that every DOT employee read and review the following:

- Code of Ethics for Public Officials, Chapter 10, Part 1, Conn. General Statutes Sections 1-79 through 1-89a found at: www.ct.gov/ethics/site/default.asp
- Ethics Regulations Sections 1-81-14 through 1-81-38, found at: www.ct.gov/ethics/site/default.asp
- The Office of State Ethics web site includes summaries and the full text of formal ethics advisory opinions interpreting the Code of Ethics, as well as summaries of previous enforcement actions: www.ct.gov/ethics/site/default.asp. DOT employees are strongly encouraged to contact the Department's Ethics Compliance Officer or her designee, or the Office of State Ethics with any questions or concerns they may have.

(This Policy Statement supersedes Policy Statement No. F&A-10 dated January 6, 2006)

Ralph J. Carpenter
COMMISSIONER

Attachment

List 1 and List 3

(Managers and supervisors are requested to distribute a copy of this Policy Statement to all employees under their supervision.)

cc: Office of the Governor, Department of Administrative Services, Office of State Ethics

Department of Transportation Employment & Outside Business Disclosure Form

In accordance with Department of Transportation (Department) Policy Statement No. F&A-10, Code of Ethics Policy, I am hereby advising the Department that in addition to my current DOT position, I have other employment and/or a direct or indirect financial interest in an outside business as follows:

1. Full name of outside employer, or entity in which I or my spouse have a financial interest (e.g., ownership or member/partner): _____

2. Location of Employer/Entity disclosed above: _____

3. Nature of my/my spouse's relationship to employer/entity disclosed above (check at least one):

- Employee or Independent Contractor (circle one)
- Owner/Member/Partner/etc.
- Family Member of Owner/Member/Partner/etc.

4. State agency(ies) with which above employer/entity is doing business or seeking Business (write "N/A" if not applicable): _____

5. Job Title at Outside Employer: _____

6. Job Responsibilities at Outside Employer: _____

7. Current State Title: _____

8. Current State Job Responsibilities: _____

9. Name/Title of Current State Supervisor: _____

I understand that the filing of this Disclosure with the DOT Human Resources Administrator does not relieve me of any obligations I have to comply with the Code of Ethics for Public Officials, and does not constitute approval of my outside employment and/or financial interests under the Code of Ethics for Public Officials. *Employees engaging in outside employment are strongly urged to seek written approval of their outside employment from the Office of State Ethics, 20 Trinity Street, Hartford, CT 06106.* I also understand that if either my State or outside employment/financial interest changes in location or function I am required to notify the Department immediately.

Signed: _____

Date: _____

Printed Name: _____

D.B.E. SUBCONTRACTORS AND MATERIAL SUPPLIERS OR MANUFACTURERS

January 2013

I. ABBREVIATIONS AND DEFINITIONS AS USED IN THIS SPECIAL PROVISION

A. *CTDOT* means the Connecticut Department of Transportation.

B. *USDOT* means the U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration (“FHWA”), the Federal Transit Administration (“FTA”), and the Federal Aviation Administration (“FAA”).

C. *Broker* means a party acting as an agent for others in negotiating Contracts, Agreements, purchases, sales, etc., in return for a fee or commission.

D. *Contract, Agreement or Subcontract* means a legally binding relationship obligating a seller to furnish supplies or services (including but not limited to, construction and professional services) and the buyer to pay for them. For the purposes of this provision, a lease for equipment or products is also considered to be a Contract.

E. *Contractor* means a consultant, second party or any other entity under Contract to do business with CTDOT or, as the context may require, with another Contractor.

F. *Disadvantaged Business Enterprise (“DBE”)* means a for profit small business concern:

1. That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and
2. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it; and
3. Certified by CTDOT under Title 49 of the Code of Federal Regulations, Part 26, (Title 49 CFR Part 23 of the Code of Federal Regulations for Participation of Disadvantaged Business Enterprise in Airport Concessions)

G. *USDOT-assisted Contract* means any Contract between CTDOT and a Contractor (at any tier) funded in whole or in part with USDOT financial assistance.

H. *Good Faith Efforts (“GFE”)* means all necessary and reasonable steps to achieve a DBE goal or other requirement which by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

I. *Small Business Concern* means, with respect to firms seeking to participate as DBEs in USDOT-assisted Contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration (“SBA”) regulations implementing it

(13 CFR Part 121) that also does not exceed the cap on average annual gross receipts in 49 CFR Part 26, Section 26.65(b).

J. *Socially and Economically Disadvantaged Individual* means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is:

1. Any individual who CTDOT finds, on a case-by-case basis, to be a socially and economically disadvantaged individual.
2. Any individuals in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - “Black Americans”, which includes persons having origins in any of the Black racial groups of Africa;
 - “Hispanic Americans”, which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
 - “Native Americans”, which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians.
 - “Asian-Pacific Americans”, which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, or Federated States of Micronesia;
 - “Subcontinent Asian Americans”, which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
 - Women;
 - Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

K. *Commercially Useful Function (“CUF”)* means the DBE is responsible for the execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved with its own forces and equipment. The DBE must be responsible for procuring, determining quantity, negotiating price, determining quality and paying for all materials (where applicable) associated with their work. The DBE must also perform at least 30% of the total cost of its contract with its own workforce.

II. ADMINISTRATIVE REQUIREMENTS

A. General Requirements

A DBE goal percentage equaling five percent (5%) of the Contract value has been established for this Contract. This DBE goal percentage will be applied to the final Contract value to ultimately determine the required DBE goal. If additional work is required, DBE firms should be provided the appropriate opportunities to achieve the required DBE goal.

In order to receive credit toward the Contract DBE goal, the firms utilized as DBE subcontractors or suppliers must be certified as DBEs in the type of work to be counted for credit by CTDOT's Office of Contract Compliance prior to the date of the execution of the subcontract. Neither CTDOT nor the State of Connecticut's Unified Certification Program (UCP) makes any representation as to any DBE's technical or financial ability to perform the work. Prime contractors are solely responsible for performing due diligence in hiring DBE subcontractors.

All DBEs shall perform a CUF for the work that is assigned to them. The Contractor shall monitor and ensure that the DBE is in compliance with this requirement. The Connecticut DBE UPC Directory of certified firms can be found on the CTDOT website <http://www.ct.gov/dot>. The directory lists certified DBE firms with a description of services that they are certified to perform. Only work identified in this listing may be counted towards the project's DBE goal. A DBE firm may request to have services added at any time by contacting CTDOT's Office of Contract Compliance. No credit shall be counted for any DBE firm found not to be performing a CUF.

Once a Contract is awarded, all DBEs that were listed on the pre-award DBE commitment document must be utilized. The Contractor is obligated to provide the value and items of the work originally established in the pre-award documentation to the DBE firms listed in the pre-award documentation. Any modifications to the pre-award commitment must follow the procedure established in Section II-C.

The Contractor shall designate a liaison officer who will administer the Contractor's DBE program. Upon execution of this Contract, the name of the liaison officer shall be furnished in writing to CTDOT's unit administering the Contract, CTDOT's Office of Contract Compliance and CTDOT's Office of Construction ("OOC"). Contact information for the designated liaison officer shall be furnished no later than the scheduled date for the pre-construction meeting.

The Contractor shall submit a bi-monthly report to the appropriate CTDOT unit administering the Contract. This report shall indicate what work has been performed to date, with the dollars paid and percentage of DBE goal completed.

Verified payments made to DBEs shall be included in this bi-monthly report. A sample form is included on the CTDOT website.

In addition, the report shall include:

1. A projected time frame of when the remaining work is to be completed for each DBE.
2. A statement by the Contractor either confirming that the approved DBEs are on schedule to meet the Contract goal, or that the Contractor is actively pursuing a GFE.
3. If retainage is specified in the Contract specifications, then a statement of certification that the subcontractors' retainage is being released in accordance with 1.08.01 (Revised or supplemented).

Failure by the Contractor to provide the required reports may result in CTDOT withholding an amount equal to one percent (1%) of the monthly estimate until the required documentation is received.

The Contractor shall receive DBE credit when a DBE, or any combination of DBEs, perform work under the Contract in accordance with this specification.

Only work actually performed by and/or services provided by DBEs which are certified for such work and/or services, as verified by CTDOT, can be counted toward the DBE goal. Supplies and equipment a DBE purchases or leases from the Contractor or its affiliate cannot be counted toward the goal.

Monitoring of the CUF will occur by CTDOT throughout the life of the project. If it is unclear that the DBE is performing the work specified in its subcontract with the prime Contractor, further review may be required. If it is determined that the DBE is not performing a CUF, then the work performed by that DBE will not be counted towards the DBE goal percentage.

B. Subcontract Requirements

The Contractor shall submit to CTDOT's OOC all requests for subcontractor approvals on the standard CLA-12 forms provided by CTDOT. The dollar amount and items of work identified on the CLA-12 form must, at minimum, equal the dollar value submitted in the pre-award commitment. CLA-12 forms can be found at <http://www.ct.gov/dot/construction> under the "Subcontractor Approval" section. All DBE subcontractors must be identified on the CLA-12 form, regardless of whether they are being utilized to meet a Contract goal percentage. A copy of the legal Contract between the Contractor and the DBE subcontractor/supplier, a copy of the Title VI Contractor Assurances and a copy of the Required Contract Provision for Federal Aid Construction Contracts (Form FHWA-1273) (Federal Highway Administration projects only) must be submitted along with a request for subcontractor approval. These attachments cannot be substituted by reference.

If retainage is specified in the Contract specifications, then the subcontract agreement must contain a prompt payment mechanism that acts in accordance with Article 1.08.01 (Revised or supplemented).

If the Contract specifications do not contain a retainage clause, the Contractor shall not include a retainage clause in any subcontract agreement, and in this case, if a Contractor does include a retainage clause, it shall be deemed unenforceable.

In addition, the following documents are to be included with the CLA-12, if applicable:

- An explanation indicating who will purchase material.
- A statement explaining any method or arrangement for utilization of the Contractor's equipment.

The subcontract must show items of work to be performed, unit prices and, if a partial item, the work involved by all parties. If the subcontract items of work or unit prices are modified, the procedure established in Section II-C must be followed.

Should a DBE subcontractor further sublet items of work assigned to it, only lower tier subcontractors who are certified as a DBE firm will be counted toward the DBE goal. If the lower tier subcontractor is a non-DBE firm, the value of the work performed by that firm will not be counted as credit toward the DBE goal.

The use of joint checks between a DBE firm and the Contractor is acceptable, provided that written approval is received from the OOC prior to the issuance of any joint check. Should it become necessary to issue a joint check between the DBE firm and the Contractor to purchase materials, the DBE firm must be responsible for negotiating the cost, determining the quality and quantity, ordering the material and installing (where applicable), and administering the payment to the supplier. The Contractor should not make payment directly to suppliers.

Each subcontract the Contractor signs with a subcontractor must contain the following assurance:

"The subcontractor/supplier/manufacturer shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor/subcontractor/supplier/manufacturer to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate."

C. Modification to Pre-Award Commitment

Contractors may not terminate for convenience any DBE subcontractor or supplier that was listed on the pre-award DBE commitment without prior written approval of the OOC. This includes, but is not limited to, instances in which a Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Prior to approval, the Contractor must demonstrate to the satisfaction of the OOC, that it has good cause, as found in 49CFR Part 26.53 (f)(3), for termination of the DBE firm.

Before transmitting its request for approval to terminate pre-award DBE firms to the OOC, the Contractor must give written notice to the DBE subcontractor and include a copy to the OOC of its notice to terminate and/or substitute, and the reason for the notice.

The Contractor must provide five (5) days for the affected DBE firm to respond. This affords the DBE firm the opportunity to advise the OOC and the Contractor of any reasons why it objects to the termination of its subcontract and why the OOC should not approve the Contractor's action.

Once the Contract is awarded, should there be any amendments or modifications of the approved pre-award DBE submission other than termination of a DBE firm, the Contractor shall follow the procedure below that best meets the criteria associated with the reason for modification:

1. If the change is due to a scope of work revision or non-routine quantity revision by CTDOT, the Contractor must notify CTDOT's OOC in writing or via electronic mail that their DBE participation on the project may be impacted as soon as they are aware of the change. In this case, a release of work from the DBE firm may not be required; however the Contractor must concurrently notify the DBE firm in writing, and copy the OOC for inclusion in the project DBE file. This does not relieve the Contractor of its obligation to meet the Contract specified DBE goal, or of any other responsibility found in this specification.
2. If the change is due to a factor other than a CTDOT directive, a request for approval in writing or via electronic mail of the modification from the OOC must be submitted, along with an explanation of the change(s), prior to the commencement of work. The Contractor must also obtain a letter of release from the originally named DBE indicating their concurrence with the change, and the reason(s) for their inability to perform the work. In the event a release cannot be obtained, the Contractor must document all efforts made to obtain it.
3. In the event a DBE firm that was listed in the pre-award documents is **unable** or **unwilling** to perform the work assigned, the Contractor shall:
 - Notify the OOC Division Chief immediately and make efforts to obtain a release of work from the firm.
 - Submit documentation that will provide a basis for the change to the OOC for review and approval prior to the implementation of the change.
 - Use the DBE Directory to identify and contact firms certified to perform the type of work that was assigned to the unable or unwilling DBE firm. The Contractor should also contact CTDOT's Office of Contract Compliance for assistance in locating additional DBE firms to the extent needed to meet the contract goal.

Should a DBE subcontractor be terminated or fail to complete work on the Contract for any reason, the Contractor must make a GFE to find another DBE subcontractor to substitute for the original DBE. The DBE replacement shall be given every opportunity to perform at least the same amount of work under the Contract as the original DBE subcontractor.

If the Contractor is unable to find a DBE replacement:

- The Contractor should identify other contracting opportunities and solicit DBE firms in an effort to meet the Contract DBE goal requirement, if necessary, and provide documentation to support a GFE. (Refer to GFE in Section III.)

- The Contractor must demonstrate that the originally named DBE, who is unable or unwilling to perform the work assigned, is in default of its subcontract, or identify other issues that affected the DBE firm's ability to perform the assigned work. **The Contractor's ability to negotiate a more advantageous agreement with another subcontractor is not a valid basis for change.**

III. GOOD FAITH EFFORTS

The DBE goal is **NOT** reduced or waived for projects where the Contractor receives a Pre-Award GFE determination from the Office of Contract Compliance prior to the award of the Contract. It remains the responsibility of the Contractor to make a continuing GFE to achieve the specified Contract DBE goal. The Contractor shall pursue every available opportunity to obtain additional DBE firms and document all efforts made in such attempts.

At the completion of all Contract work, the Contractor shall submit a final report to CTDOT's unit administering the Contract indicating the work done by and the dollars paid to DBEs. Only verified payments made to DBEs performing a CUF will be counted towards the Contract goal.

Goal attainment is based on the total Contract value, which includes all construction orders created during the Contract. If the Contractor does not achieve the specified Contract goal for DBE participation or has not provided the value of work to the DBE firms originally committed to in the pre-award submission, the Contractor shall submit documentation to CTDOT's unit administering the Contract detailing the GFE made during the performance of the Contract to satisfy the goal.

A GFE should consist of the following, where applicable (CTDOT reserves the right to request additional information):

1. A detailed statement of the efforts made to replace an unable or unwilling DBE firm, and a description of any additional subcontracting opportunities that were identified and offered to DBE firms in order to increase the likelihood of achieving the stated goal.
2. A detailed statement, including documentation of the efforts made to contact and solicit bids from certified DBEs, including the names, addresses, and telephone numbers of each DBE firm contacted; the date of contact and a description of the information provided to each DBE regarding the scope of services and anticipated time schedule of work items proposed to be subcontracted and the response from firms contacted.
3. Provide a detailed explanation for each DBE that submitted a subcontract proposal which the Contractor considered to be unacceptable stating the reason(s) for this conclusion.
4. Provide documentation, if any, to support contacts made with CTDOT requesting assistance in satisfying the specified Contract goal.
5. Provide documentation of all other efforts undertaken by the Contractor to meet the defined goal. Additional documentation of efforts made to obtain DBE firms may include but will not be limited to:

- Negotiations held in good faith with interested DBE firms, not rejecting them without sound reasons.
- Written notice provided to a reasonable number of specific DBE firms in sufficient time to allow effective participation.
- Those portions of work that could be performed by readily available DBE firms.

In instances where the Contractor can adequately document or substantiate its GFE and compliance with other DBE Program requirements, the Contractor will have satisfied the DBE requirement and no administrative remedies will be imposed.

IV. PROJECT COMPLETION

At the completion of all Contract work, the Contractor shall:

1. Submit a final report to CTDOT's unit administering the Contract indicating the work done by, and the dollars paid to DBEs.
2. Submit verified payments made to all DBE subcontractors for the work that was completed.
3. Submit documentation detailing any changes to the DBE pre-award subcontractors that have not met the original DBE pre-award commitment, including copies of the Department's approvals of those changes.
4. Retain all records for a period of three (3) years following acceptance by CTDOT of the Contract and those records shall be available at reasonable times and places for inspection by authorized representatives of CTDOT and Federal agencies. If any litigation, claim, or audit is started before the expiration of the three (3) year period, the records shall be retained until all litigation, claims, or audit findings involving the records are resolved.

If the Contractor does not achieve the specified Contract goal for DBE participation in addition to meeting the dollar value committed to the DBE subcontractors identified in the pre-award commitment, the Contractor shall submit documentation to CTDOT's unit administering the Contract detailing the GFE made during the performance of the Contract to satisfy the goal.

V. SHORTFALLS

A. Failure to meet DBE goals

As specified in (II-A) above, attainment of the Contract DBE goal is based on the final Contract value. The Contractor is expected to achieve the amount of DBE participation originally committed to at the time of award; however, additional efforts must be made to provide opportunities to DBE firms in the event a Contract's original value is increased during the life of the Contract.

The Contractor is expected to utilize the DBE subcontractors originally committed in the DBE pre-award documentation for the work and dollar value that was originally assigned.

If a DBE is terminated or is unable or unwilling to complete its work on a Contract, the Contractor shall make a GFE to replace that DBE with another certified DBE to meet the Contract goal.

The Contractor shall immediately notify the OOC of the DBE's inability or unwillingness to perform, and provide reasonable documentation and make efforts to obtain a release of work from the firm.

If the Contractor is unable to find a DBE replacement, then the Contractor should identify other contracting opportunities and solicit DBE firms in an effort to meet the Contract DBE goal requirement, if necessary, and provide documentation to support a GFE.

When a DBE is unable or unwilling to perform, or is terminated for just cause, the Contractor shall make a GFE to find other DBE opportunities to increase DBE participation to the extent necessary to at least satisfy the Contract goal.

For any DBE pre-award subcontractor that has been released appropriately from the project, no remedy will be assessed, provided that the Contractor has met the criteria described in Section II-C.

B. Administrative Remedies for Non-Compliance:

In cases where the Contractor has failed to meet the Contract specified DBE goal or the DBE pre-award commitment, and where no GFE has been demonstrated, then one or more of the following administrative remedies will be applied:

1. A reduction in Contract payments to the Contractor as determined by CTDOT, not to exceed the shortfall amount of the **DBE goal**. The maximum shortfall will be calculated by multiplying the Contract DBE goal (adjusted by any applicable GFE) by the final Contract value, and subtracting any verified final payments made to DBE firms by the Contractor.

2. A reduction in Contract payments to the Contractor determined by CTDOT, not to exceed the shortfall amount of the **pre-award commitment**. The maximum shortfall will be calculated by subtracting any verified final payments made by the Contractor to each DBE subcontractor from the amount originally committed to that subcontractor in the pre-award commitment.
3. A reduction in Contract payments to the Contractor determined by CTDOT for any pre-award DBE subcontractor who has not obtained the dollar value of work identified in the DBE pre-award commitment and has not followed the requirements of Section II-C or for any DBE firm submitted for DBE credit that has not performed a CUF.
4. The Contractor being required to submit a written DBE Program Corrective Action Plan to CTDOT for review and approval, which is aimed at ensuring compliance on future projects.
5. The Contractor being required to attend a Non-Responsibility Meeting on the next contract where it is the apparent low bidder.
6. The Contractor being suspended from bidding on contracts for a period not to exceed six (6) months.

VI. CLASSIFICATIONS OTHER THAN SUBCONTRACTORS

A. Material Manufacturers

Credit for DBE manufacturers is 100% of the value of the manufactured product. A manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor.

If the Contractor elects to utilize a DBE manufacturer to satisfy a portion of, or the entire specified DBE goal, the Contractor must provide the OOC with:

- Subcontractor Approval Form (CLA-12) indicating the firm designation,
- An executed "Affidavit for the Utilization of Material Suppliers or Manufacturers" (sample attached), and
- Substantiation of payments made to the supplier or manufacturer for materials used on the project.

B. Material Suppliers (Dealers)

Credit for DBE dealers/suppliers is limited to 60% of the value of the material to be supplied, provided such material is obtained from an approved DBE dealer/supplier.

In order for a firm to be considered a regular dealer, the firm must own, operate, or maintain a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. At least one of the following criteria must apply:

- To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
- A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating or maintaining a place of business if the person both owns and operates distribution equipment for the products. Any supplementing of the regular dealers' own distribution equipment shall be by long term lease agreement, and not on an ad hoc or contract to contract basis.
- Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph.

If the Contractor elects to utilize a DBE supplier to satisfy a portion or the entire specified DBE goal, the Contractor must provide the OOC with:

- Subcontractor Approval Form (CLA-12) indicating the firm designation,
- An executed "Affidavit for the Utilization of Material Suppliers or Manufacturers" (sample attached), and
- Substantiation of payments made to the supplier or manufacturer for materials used on the project.

C. Brokering

- Brokering of work for DBE firms who have been listed by the Department as certified brokers is allowed. Credit for those firms shall be applied following the procedures in Section VI-D.
- Brokering of work by DBEs who have been approved to perform subcontract work with their own workforce and equipment is not allowed, and is a Contract violation.
- Firms involved in the brokering of work, whether they are DBEs and/or majority firms who engage in willful falsification, distortion or misrepresentation with respect to any facts related to the project shall be referred to the U.S. DOT, Office of the Inspector General for prosecution under Title 18, U.S. Code, Part I, Chapter 47, Section 1020.

D. Non-Manufacturing or Non-Supplier DBE Credit

Contractors may count towards their DBE goals the following expenditures with DBEs that are not manufacturers or suppliers:

- Reasonable fees or commissions charged for providing a bona fide service such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment materials or supplies necessary for the performance of the Contract, provided that the fee or commission is determined by the OOC to be reasonable and consistent with fees customarily allowed for similar services.
- The fees charged only for delivery of materials and supplies required on a job site when the hauler, trucker, or delivery service is a DBE, and not the manufacturer, or regular dealer of the materials and supplies, and provided that the fees are determined by the OOC to be reasonable and not excessive as compared with fees customarily allowed for similar services.
- The fees or commissions charged for providing bonds or insurance specifically required for the performance of the Contract, provided that the fees or commissions are determined by CTDOT to be reasonable and not excessive as compared with fees customarily allowed for similar services.

E. Trucking

While technically still considered a subcontractor, the rules for counting credit for DBE trucking firms are as follows:

- The DBE must own and operate at least one fully licensed, insured, and operational truck used on the Contract.
- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may lease trucks from a non-DBE firm; however the DBE may only receive credit for any fees or commissions received for arranging transportation services provided by the non-DBE firms. Additionally, the DBE firm must demonstrate that they are in full control of the trucking operation for which they are seeking credit.

VII. Suspected DBE Fraud

In appropriate cases, CTDOT will bring to the attention of the USDOT any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g. referral to the Department of Justice for criminal prosecution, referral to USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49 CFR Part 31.

CONNECTICUT DEPARTMENT OF TRANSPORTATION
(OFFICE OF CONSTRUCTION)
BUREAU OF ENGINEERING AND CONSTRUCTION

This affidavit must be completed by the State Contractor's DBE notarized and attached to the contractor's request to utilize a DBE supplier or manufacturer as a credit towards its DBE contract requirements; failure to do so will result in not receiving credit towards the contract DBE requirement.

State Contract No.

Federal Aid Project No.

Description of Project

I, _____, acting in behalf of _____,
(Name of person signing Affidavit) (DBE person, firm, association or corporation)
of which I am the _____ certify and affirm that _____
(Title of Person) (DBE person, firm, association or corporation)

is a certified Connecticut Department of Transportation DBE. I further certify and affirm that I have read and understand 49 CFR, Sec. 26.55(e)(2), as the same may be revised.

I further certify and affirm that _____ will assume the actual and
(DBE person, firm, association or Corporation)
for the provision of the materials and/or supplies sought by _____.

If a manufacturer, I operate or maintain a factory or establishment that produces, on the premises, the materials, supplies, articles or equipment required under the contract an of the general character described by the specifications.

If a supplier, I perform a commercially useful function in the supply process. As a regular dealer, I, at a minimum, own and operate the distribution equipment for bulk items. Any supplementing of my distribution equipment shall be by long-term lease agreement, and not on an ad hoc or contract-by-contract basis.

I understand that false statements made herein are punishable by Law (Sec. 53a-157), CGS, as revised).

(Name of Corporation or Firm)

(Signature & Title of Official making the Affidavit)

Subscribed and sworn to before me, this ____ day of _____ 20 ____.

Notary Public (Commissioner of the Superior Court)

My Commission Expires _____

CERTIFICATE OF CORPORATION

I, _____, certify that I am the

(Official)

(President)

of the Corporation named in the foregoing instrument; that I have been duly authorized to affix the seal of the Corporation to such papers as require the seal; that _____, who signed said instrument on behalf of the Corporation, was then _____ of said corporation; that said instrument was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporation powers.

(Signature of Person Certifying)

(Date)

ITEM #0100240A – SLATE SHINGLE ROOF

Description:

Work under this item consists of furnishing and installing a new slate roof as shown on the plans, in accordance with this specification and as directed by the Engineer. Work shall also include the installation of roof felt, nails, roof sheathing, mastic, and slate shingles on the existing turrets. The work shall also include the removal of the existing wood shingles, replacement of deteriorated rafters, repairs to the existing wooden fascia trim, and removal and resetting of the existing cupola.

All work shall comply with:

- CT Historic Bridge Inventory Preservation Plan (1991)
<http://environment.transportation.org/pdf/HistoricBridgePreservationPlan.pdf>
- The Secretary of Interior's Standards for Rehabilitation
<https://www.nps.gov/tps/standards/rehabilitation/rehabilitation-guidelines.pdf>

Materials:

1. Roofing Felt: Roofing underlayment shall, at a minimum, comply with ASTM D226 asphalt-saturated rag felt, Type II, No. 30.
2. Nails: Nails shall comply with ASTM F1667 be solid copper, smooth-shank roofing nails, minimum 11 gauge and minimum 1.25" length. Copper nails 2.5" or longer shall be minimum gauge 10.
3. Roof Sheathing: The roof sheathing is recommended to be a minimum of 3/4" thick, solid, glue-free wood. Nailable concrete and gypsum concrete are also suitable roof deck materials.
4. Mastic: Roof mastic shall be non-asbestos fibered asphalt cement complying with ASTM D 4586. Roof mastic shall be designed for trowel application and shall match the color of the slate shingle.
5. Slate Shingles: The slate shingles shall conform to ASTM C 406 and shall be Grade S1 (minimum 575 breaking load, maximum 0.25% absorption, and maximum 0.002 inches depth of softening). Slates shall be free from ribbons.

The Contractor shall submit to the Engineer a Materials Certificate for the roofing felt, nails, roof sheathing, mastic, and slate shingles in accordance with the requirements of Article 1.06.07.

Construction Methods:

The roofer shall be experienced in slate roofing work and shall provide the names and addresses of three successfully completed, similar projects.

The felt shall be installed horizontally with sections overlapped toward eaves or drains by a minimum of two inches and at ends by a minimum of six inches. The felt shall overlap hips and ridges by approximately twelve inches. All felt shall be preserved, unbroken, tight, and whole. The felt shall be secured with minimum 1” electro-galvanized roofing nails along laps, ends, and in the field as necessary to properly hold the felt in place and to protect the interior of the turret from water infiltration until covered with slate. The maximum length of exposure for felts prior to slating shall be one month. When the felt must be left for long periods before the slate shingles can be installed, the exposed nail heads are to be skimmed over with a thin layer of trowel grade roof mastic to prevent leakage around the nail heads.

Nail length is to be approximately twice the thickness of the slate shingles plus 1”. When the underside of the roof decking is exposed, the nails shall be long enough to penetrate the roof decking, but not so long that they may be visibly driven through. Each slate shall be machine punched or drilled for two nails located at the headlap depicted on the contract plans. Exposed nail heads are not permissible. Any exposed nail heads shall be sealed with gaskets or sealant. Nails shall not be overdriven as to produce excessive strain on the slates and shall instead be driven to a depth such that the nail heads lie within the counter-sunk nail hole. Use of pneumatic or electric nail guns to install slate shingles shall not be permitted.

The slate shingles shall be rectangular in shape with exposure and headlap as depicted on contract plans. Slates with broken corners on the exposed ends shall not be installed when either the base or leg of the right triangular piece broken off is greater than 1 1/2 inches or as directed by the Engineer. The curvature of slate shingle shall not exceed 1/8 inch in 12 inches. Curved slates shall be trimmed and holed to permit them to be laid with the convex side facing up. Slates are to be cut from the back side in order to preserve the chamfered edge on the front exposed surface. Not more than 1 percent of broken slate shingles, including those having cracks, materially precluding ringing when sounded, shall be accepted.

Method of Measurement:

The quantity to be paid for under this item shall be the number of square yards of slate shingles installed and accepted.

Basis of Payment:

This item will be paid for at the contract unit price per square yard of “Slate Shingle Roof” complete in place, which price shall include all work called for herein and shown on the plans, including preparation, furnishing, storing, and any necessary repairs, as well as all materials, equipment, tools, labor incidental to this work.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|--------------------|-----------------|
| Slate Shingle Roof | S.Y. |

ITEM #0101099A – SPOIL HANDLING AREAS

Description:

Work under this item consists of furnishing, storing and utilizing a spill control containment system for all on-site fueling operations. The spill control containment system shall be stored at the location designated for the fueling operation and shall be utilized to catch any spills that may occur. The Contractor is herein notified that he shall use the spill control containment system for each and every fueling operation.

Materials:

The spill control containment system shall be manufactured by SENTRY Lite Berms, Collapse-a-tainer Lite, or approved equal. It shall have a minimum capacity of 80 gallons and shall be made of plastic or vinyl which is inert to all fuel types.

Construction Methods:

The spill control containment system shall be used during all fueling operations within the Source Water Area. The spill control containment system is to be stored at the location of the fueling operation. The spill control containment system shall be deployed for all fueling operations at the job site and once in place the equipment shall be fueled. After fueling is complete, the spill control containment system shall be removed and relocated or stored as necessary. The spill control containment system shall be placed under the fuel tank in a manner in which no fuel can drip or leak onto the ground during fueling operations. The Contractor has the option to recover and reuse the fuel that has spilled, or he may elect to dispose of it at his own cost. Any area or ground that is contaminated by the fuel not captured by the spill control containment system, shall be immediately isolated and the spill cleaned up including the contaminated soil at the contractor's expense. The soil shall be immediately removed and cleaned or disposed of in a manner and at a location approved by the Engineer. If soil is removed clean soil shall be brought in to replace it at no additional cost to the state.

Fuel and other hazardous materials shall not be stored within the Source Water Area. Any fuel or hazardous materials that must be kept within the Source Water Area during working hours shall be stored on an impervious surface utilizing secondary containment. A fuel spill remediation kit shall be stored on-site so that any spills may be contained and cleaned up quickly. Servicing of machinery shall be completed outside of the Source Water Area.

Method of Measurement:

This work will be measured for payment by the number of spill control containment systems provided and approved by the Engineer. This price includes the setup, use, and removal of the spill control containment system and all costs associated with the appropriate handling, management and disposal of any contaminated soil that may occur.

Basis of Payment:

This work shall be paid for at the contract price per each for the item, "Spoil Handling Areas," which price shall include furnishing and using the spill control containment system and all materials, tools, equipment, and labor incidental thereto.

Pay Item

Pay Unit

Spoil Handling Areas

Each

ITEM #0202911A – CONDITION SURVEY

ITEM #0973012A – CONSTRUCTION MONITORING-EXISTING BRIDGE

Description:

The Contractor shall provide a condition survey of the existing bridge. The condition survey shall document the existing condition of the bridge including, but not limited to, cracks, settlement, and other deterioration prior to the commencement of work, after the completion of work, and at locations and times during construction as directed by the Engineer.

Work shall also include the development and execution of a vibration monitoring during the installation and partial removal of the temporary earth retaining system, and compaction operations.

Materials:

None required

Construction Methods:

The Contractor shall engage a professional engineer, licensed in the State of Connecticut, with a minimum of (5) years of experience, to prepare the condition survey.

The Condition Survey shall determine the condition of the existing bridge, document any cracks, settlement, or other deterioration and prepare a written report including color photographs, sketches, plans and any other pertinent information. The report shall be signed and sealed by the preparer.

The Vibration and Movement Monitoring Plan shall be submitted and approved prior to the commencement of construction activities and shall include the following:

1. Establish monitoring points for horizontal and vertical controls.
2. Install vibration monitoring sensors

Monitoring readings shall be taken before, during, and after anticipated vibration or movement producing activities including but not limited to: installation and partial removal of the temporary earth retaining system, and compaction operations

Vibration shall be limited to Peak Particle Velocity (PPV) of 0.5” per second. If PPV exceeds the maximum allowable limit, the work shall stop immediately and the Contractor shall make necessary adjustments to lower PPV below the maximum allow limit before recommencing. The results shall be submitted to the Engineer on a daily basis during the installation and partial removal of the temporary earth retaining system, and compaction operations.

Method of Measurement:

This work, being paid on a lump sum basis, will not be measured for payment.

Basis of Payment:

The Work will be paid for at the Contract lump sum prices for the “Condition Survey” and “Construction Monitoring – Existing Bridge”, complete in place and accepted, which prices shall include all equipment, tools, labor, accessories, transportation, field inspections, documentation, photographs, video, sketches and final report for each structure identified, and inclusive of all items of work required to successfully complete the work.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---|-----------------|
| Condition Survey | LS |
| Construction Monitoring – Existing Bridge | LS |

ITEM #0406275A - FINE MILLING OF BITUMINOUS CONCRETE (0 TO 4 INCHES)

Description:

This work shall consist of the milling, removal, and disposal of existing bituminous concrete pavement.

Construction Methods:

The Contractor shall remove the bituminous concrete 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 as directed by the Engineer.

The bituminous concrete material shall be disposed of offsite by the Contractor at an approved disposal facility unless otherwise stated in the Contract.

Any milled surface, or portion thereof, that is exposed to traffic shall be paved within five (5) calendar days unless otherwise stated in the plans or Contract.

The equipment for milling the pavement surface shall be designed and built for milling bituminous concrete 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 bituminous concrete 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 use carbide or diamond tipped tools spaced not more than $\frac{5}{16}$ inch 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 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.

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 (5) 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 ¼ inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed ¼ 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 measurements every 250 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.

Where a surface delamination between bituminous concrete layers or a surface delamination of bituminous concrete 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 +/- ½ inch to eliminate the condition.

When removing bituminous concrete pavement entirely from an underlying Portland cement concrete pavement, all of the bituminous concrete 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.

No vertical faces, transverse or longitudinal, shall be left exposed to traffic unless the requirements below are met. This shall include roadway structures (catch basins, manholes, utility valve boxes, etc.). If any vertical face is formed in an area exposed to traffic, a temporary paved transition shall be established according to the requirements shown on the plans. If the

milling machine is used to form a temporary transition, the length of the temporary transition shall conform to Special Provision Section 4.06 –Bituminous Concrete, “Transitions for Roadway Surface,” the requirements shown on the plans, or as directed by the Engineer. At all permanent limits of removal, a clean vertical face shall be established by saw cutting prior to paving.

Roadway structures shall not have a vertical face of greater than one (1) inch exposed to traffic as a result of milling. All structures within the roadway that are exposed to traffic and greater than one (1) inch above the milled surface shall receive a transition meeting the following requirements:

For roadways with a posted speed limit of 35 mph or less*:

1. Round structures with a vertical face of greater than 1 inch to 2.5 inches shall be transitioned with a hard rubber tapered protection ring of the appropriate inside diameter designed specifically to protect roadway structures.
2. Round structures with a vertical face greater than 2.5 inches shall receive a transition of bituminous concrete formed at a minimum 24 to 1 (24:1) taper in all directions.
3. All rectangular structures with a vertical face greater than 1 inch shall receive a transition of bituminous concrete formed at a minimum 24 to 1 (24:1) taper in all directions.

*Bituminous concrete tapers at a minimum 24 to 1 (24:1) taper in all directions may be substituted for the protection rings if approved by the Engineer.

For roadways with a posted speed limit of 40, 45 or 50 mph:

1. All structures shall receive a transition of bituminous concrete formed at a minimum 36 to 1 (36:1) taper in the direction of travel. Direction of travel includes both the leading and trailing side of a structure. The minimum taper shall be 24 to 1 (24:1) in all other directions.

For roadways with a posted speed limit of greater than 50 mph:

1. All structures shall receive a transition of bituminous concrete formed at a minimum 60 to 1 (60:1) taper in the direction of travel. Direction of travel includes both the leading and trailing side of a structure. The minimum taper shall be 24 to 1 (24:1) in all other directions.

All roadway structure edges and bituminous concrete tapers shall be clearly marked with fluorescent paint. The paint shall be maintained throughout the exposure to traffic.

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 truck. The sweeper truck shall be equipped with a water tank and be capable of removing the millings and loose debris from the surface. The sweeper truck shall operate at a forward speed that allows for the maximum pickup of millings from the roadway surface. Other

sweeping equipment may be provided in lieu of the sweeper truck where acceptable by the Engineer.

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 “Fine Milling of Bituminous Concrete (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 Contractors negligence; providing protection to underground utilities from the vibration of the milling operation; removal of any temporary milled or paved transition; removal and disposal of millings; furnishing a sweeper truck and sweeping after milling. The costs for these items shall be included in the Contract unit price.

Pay Item

Pay Unit

Fine Milling of Bituminous Concrete (0 to 4 Inches) S.Y.

ITEM #0406303A - SAWING AND SEALING JOINTS

Description:

Work under this section shall consist of making a straight-line saw cut transversely across the final lift of HMA pavement directly over the ends of the new precast deck panels slab, as shown on the plans. The sawing and sealing of joints shall be completed for HMA pavements with a total depth of 3 inches or greater. The saw cut shall be immediately cleaned and sealed with a pourable joint seal material. The sawing and sealing shall commence within one week of the completion of the final lift of pavement and be a continuous operation until all joints have been completed.

Materials:

Joint sealer conforming to the requirements of AASHTO M324 Type II. Material that is heated or cooled beyond the manufacturer's recommended temperature range shall be discarded.

1. Equipment: All equipment necessary for the work shall meet the following requirements:

- a) Kettle: The unit shall be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with oil or other material not having a flash point of less than 600°F. The kettle shall include a temperature control indicator and mechanical agitator. The kettle shall be capable of maintaining the material at a temperature within 15°F of the manufacturer's recommended temperature.
- b) Compressor: The compressor shall have a sufficient capacity and length of hose to enable a continuous sealing operation.
- c) Saw: The saw shall be capable of providing a straight-cut of uniform depth and width.

Construction Methods:

Prior to the paving operation, the Contractor shall establish sufficient controls to locate the ends of the deck. This work shall include setting markers at each end of deck to reference its location and alignment, and having each of these markers tied and referenced. A written procedure for this work shall be submitted to the Engineer for review prior to commencement of such work.

The saw cut will be made by using diamond saw blades with a gang blade arrangement in order to achieve the joint detail as shown on the plans. The saw cut will be in a straight line across the pavement directly over the ends of the deck and directly over the ends of the approach slab. The sawed joints shall be cleaned with compressed air to the satisfaction of the Engineer.

Immediately following the cleaning, the joint seal material shall be installed. When colled, the top of the sealant material shall be recessed a minimum of 1/16-inch but not greater than 1/8-inch below the adjacent pavement surface. The roadway shall not be opened to traffic until the

material has become tack free. Any depression in the sealer greater than 1/8-inch shall be brought up to the specified limit by further addition of joint seal material. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.

Any reflective cracking attributable to improper joint referencing or construction shall be repaired at the expense of the Contractor, in a manner approved by the Engineer for a period of one year from the date of completion of any sawed and sealed portion of final pavement.

2. Acceptance of Work: 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.

Method of Measurement:

This work shall be measured by the total number of linear feet of sawing and sealing joints in bituminous concrete as indicated in the Contract plans and documents and as measured, verified, and accepted by the Engineer.

Basis of Payment:

The accepted quantity of sawing and sealing joints in bituminous concrete shall be paid for at the contract unit price per linear foot for "Sawing and Sealing Joints." The price shall include all materials, equipment, tools, and labor incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---------------------------|-----------------|
| Sawing and Sealing Joints | l.f. |

ITEM #0506015A – RESETTING STONE MASONRY

Work under this item shall conform to the applicable requirements of Section 5.06 of Form 817, amended as follows:

Article 05.06.01 – Description: Delete both paragraphs and replace with the following:

Work under “Resetting Stone Masonry” includes dismantling and rebuilding existing cemented stone masonry parapets/barriers above the roadway level, constructed to the lines, grades and dimensions indicated and or shown on the plans, and as directed by the Engineer. The work shall also include the resetting of the existing stone bench on stone masonry knee wall, as shown on the plans. The parapets and benches shall be dismantled in a manor chosen by the Contractor that will not damage the existing stone pieces. The existing stone shall be cleaned of any remaining joint material to the natural stone facing before resetting in the wall. Face stones in the existing wall shall be used as face stones in the replacement wall to eliminate any disparity in weathering, texture, and, discoloration between the rebuilt section of wall and the remaining wall. Stone damaged by the Contractor’s actions, and deemed unusable by the Engineer shall be replaced at the Contractor’s expense. Work shall also include the installation of new mortar joints in areas of reset stone masonry, see “Repoint Mortar Joints” for requirements.

All work shall comply with:

- CT Historic Bridge Inventory Preservation Plan (1991)
<http://environment.transportation.org/pdf/HistoricBridgePreservationPlan.pdf>
- The Secretary of Interior’s Standards for Rehabilitation
<https://www.nps.gov/tps/standards/rehabilitation/rehabilitation-guidelines.pdf>
- National Park Service Preservation Brief #2 “Repointing Mortar Joints in Historic Masonry Buildings”
<https://www.nps.gov/tps/how-to-preserve/briefs/2-repoint-mortar-joints.htm>

Article 05.06.02 – Materials: Delete both paragraph and replace with the following:

The materials for this work shall consist of existing stones and shall conform to the requirements of Article M.11.02 for rubble stone masonry. Mortar for masonry joints shall conform to the requirements of “Repoint Mortar Joints” and article M.11.04.

Article 05.06.03 – Construction Methods: The following will be added to this section:

The Contractor shall employ a mason with experience in reconstructing historic walls to perform this item of work. The mason shall provide the names and addresses of three successfully complete, similar projects. The Contractor shall note the manner in which the parapets are constructed in order to replicate the installation when resetting, including the capstone, end treatments, and columns. The reset parapets shall match the existing top of parapet and existing width of parapet.

5 – Resetting of Existing Stones:

Existing stone to be used in rebuilding the wall shall be removed and stored on site. Care shall be taken not to damage any of the stones to be reset. Any stones that are damaged during removal storage or rebuilding shall be replaced at the Contractor’s expense to the satisfaction of the Engineer.

All surplus stone not necessary for rebuilding shall remain the property of the Municipality. The contractor shall deliver surplus material to a site determined by the Municipality.

All materials and workmanship shall comply with the applicable section(s) of these specifications for materials and workmanship.

Article 05.06.04 – Method of Measurement: Delete the entire section and replace with the following:

The quantity of “Resetting Stone Masonry” will be the actual volume in cubic feet of reset stone masonry completed and accepted within the neat lines shown on the plans or as ordered by the Engineer. Additional volume of stone masonry reconstructed adjacent to the locations specified on the plans (for the purposes of tying the construction in) shall not be measured for payment. This work shall be included in the general cost of the item.

Article 05.06.05 – Basis of Payment: Delete the entire section and replace with the following:

The work will be paid for at the contract price per actual number of cubic feet of reset stone masonry, when the parapets and benches are rebuilt and in final condition, and accepted by the Engineer. Price shall include materials, equipment, tools, labor, replacement of stone if required, and labor incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|-------------------------|-----------------|
| Resetting Stone Masonry | C.F. |

ITEM #0601107A – HIGH EARLY STRENGTH CONCRETE

Work under this item shall conform to Section 6.01 Concrete for Structures as supplemented and amended herein to provide for High Early Strength Concrete.

6.01.01 – Description: Add the following

High early strength concrete shall be used to accelerate the construction of the bridge. The goal of this work is:

- Meet the required minimum compressive strength in an accelerated manner.
- Reduce the cure time for the concrete
- Provide durable (low permeability) concrete
- Provide low shrinkage properties to reduce cracking in the field

The Contractor shall develop a high early strength concrete mix design for use in closure pours as shown in the plans.

6.01.02 – Materials: Add the following:

The high early strength concrete shall conform to the requirements of M.03.01 and the following criteria:

1. Portland cement shall be Type II, IIA or III conforming to AASHTO M85 or M240, as appropriate.
2. All cement used in the manufacture of the members shall be the same brand, type and color, unless otherwise permitted.
3. Use Portland cement conforming to AASHTO M85 with compatible admixtures and air entraining agent.
4. Water-cementitious material ratio shall not exceed 0.4 by weight, including water in the admixture solution and based on saturated surface dry condition of aggregates.
5. Use a maximum size coarse aggregate of $\frac{3}{4}$ ".
6. The amount of entrained air shall be 6.0 +/- 1.5%.
7. High early strength concrete shall achieve the early minimum compressive strength indicated on the plans, by the time that the bridge is opened to traffic.
8. The early strength characteristics of the concrete shall be commensurate with the intended construction procedure that is developed by the Contractor in the PBU and Approach Slab Assembly Plans.
9. The minimum final design (28 day) compressive strength shall not be less than 4400 psi.
10. A shrinkage reducing admixture shall be added to the concrete mix according to the manufacturer's recommendation such that there will be no cracks at 14 days in the sample tested in AASHTO T334 (see below). A shrinkage reducing admixture shall be tested by an

approved testing lab and meet the requirements of ASTM C494-10 Type S, except that in Table 1 length change shall be measured as: Length Change (percent of control) shall be a minimum of 35% less than that of the control. Table 1 Length Change (increase over control) shall not apply. Shrinkage reducing admixtures shall not contain expansive metallic materials.

11. The maximum allowable total chloride content in concrete shall not exceed 0.1% by weight of cement.

Mix Design Requirements

Concrete shall be controlled, mixed, and handled as specified in the pertinent portions of Section 6.01 Concrete for Structures, Supplemental Specifications and as indicated below:

The Contractor shall design and submit for approval the proportions and test results for a concrete mix which shall attain the minimum final design compressive strength and the early compressive strength as defined by the approved Assembly Plan and consistent with the approved Quality Control Plan.

The concrete mix design shall have a rapid chloride ion permeability of 2000 Coulombs at not more than 28 days using AASHTO T 277 and the air entrainment shall be targeted at a value of 6.5 percent +/-1.5 percent. Contractor may opt to take multiple tests prior to 28 days which will be considered accepted once the target value of 2,000 coulombs is reached. Testing shall be in accordance with AASHTO T 119 and T 152. Multiple samples should be tested using the intended curing methods in order to establish the required cure times for the mix.

Should a change in sources of material be made, a new mix design shall be established and approved prior to incorporating the new material. When unsatisfactory results or other conditions make it necessary, the Engineer will require a new mix design.

The concrete mix design shall be submitted to the Engineer for review and approval. The Engineer shall be notified at least 48 hours prior to the test batching and shall be present to witness the testing.

All tests necessary to demonstrate the adequacy of the concrete mix shall be performed by the Contractor, witnessed by the Engineer, including, but not limited to: slump, air content, temperature, initial set and final set (AASHTO T197). Compressive strength tests shall be determined on field cured cylinders (6" X 12" cylinders) at intervals as needed to show that the concrete has reached the required strength to open the bridge to traffic. Standard cured cylinders shall also be tested at 7 days and 28 days. Additionally, a confined shrinkage test as outlined in the AASHTO T334 - Practice for Estimating the Crack Tendency of Concrete shall be performed by an AASHTO accredited laboratory. The results of these tests (documenting zero cracks at 14 days) shall be submitted to the Engineer.

Field Trial Placement

In addition, a trial placement shall be done a minimum of (90) ninety days before the intended date of the initial closure pour placement. The Contractor will be required to demonstrate proper

mix design, batching, placement, finishing and curing of the high early strength concrete. The trial placement shall simulate the actual job conditions in all respects including plant conditions, transit equipment, travel conditions, admixtures, forming, the use of bonding compounds, restraint of adjacent concrete, placement equipment, and personnel.

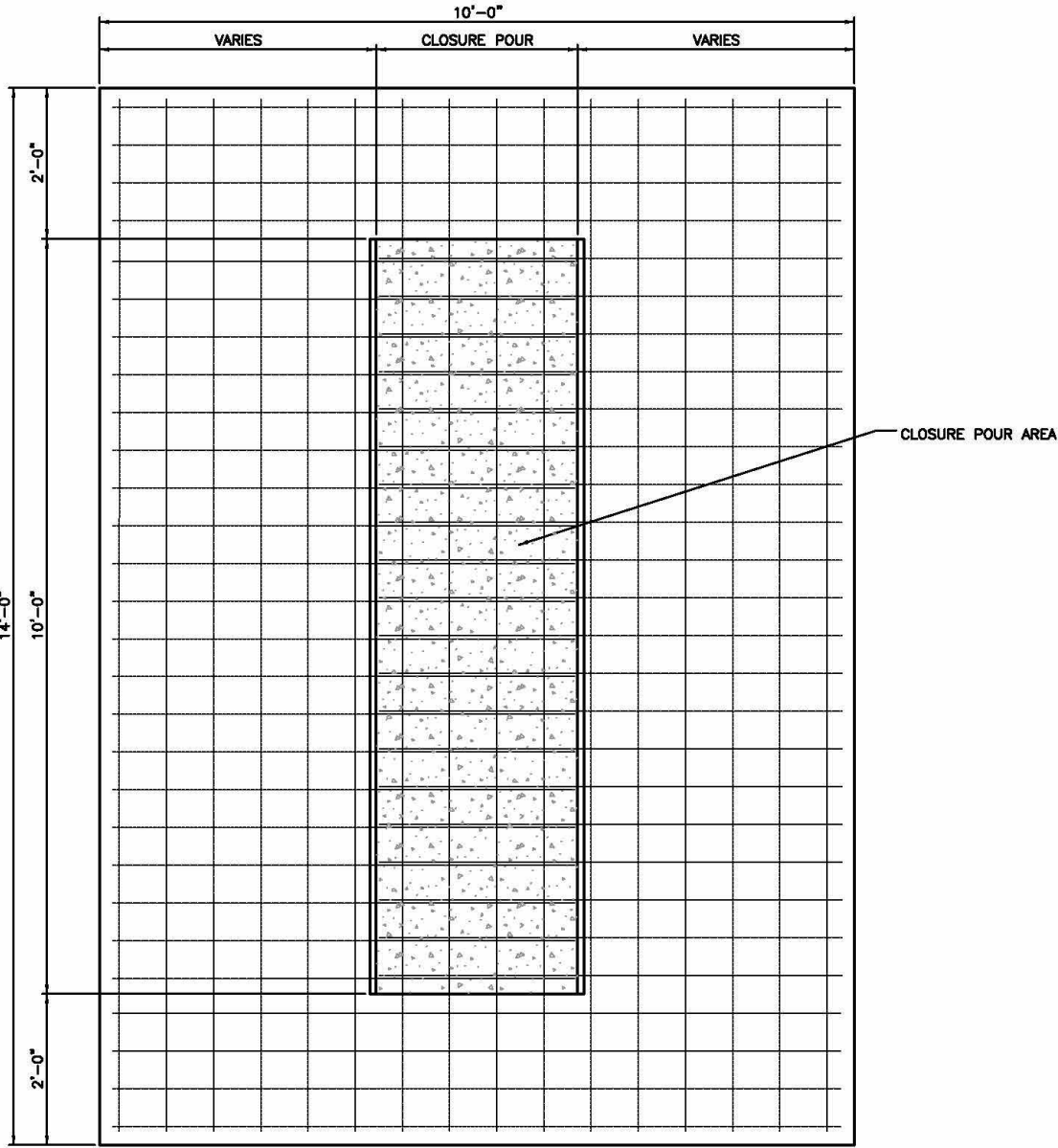
The trial shall also demonstrate the ability of the concrete to accept the installation of the membrane waterproofing system that is to be used. A representative portion of the trial concrete shall be coated with the membrane waterproofing in accordance with the specifications for the waterproofing. The timing of the installation of the waterproofing on the trial concrete shall be commensurate with the intended construction procedure and schedule that is developed by the Contractor. The Contractor shall demonstrate that the waterproofing meets all the requirements of the specifications.

The details for the trial placement configuration are shown in Figure 1. Acceptance criteria for the trial placement shall be as follows:

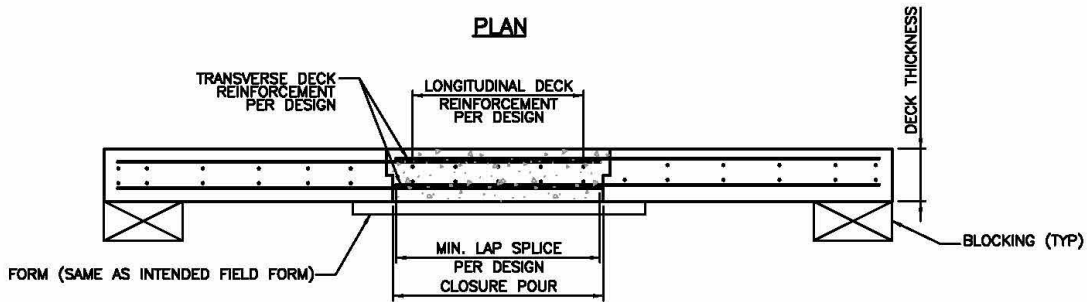
- The trial placement concrete shall not exhibit cracking or separation from the test panel in excess of 0.016 inches wide
- There shall be no more than one transverse crack in excess of 0.010 inches wide in the 10 foot long pour.
- The evaluation of the trial placement shall take place 14 days after placement.

If the trial placement fails these criteria, the Contractor will be required to submit a corrective action plan on how repairs of these crack sizes will be performed. The Engineer may require the Contractor to conduct more trial batches and trial placements. The costs of trial batches, trial placements and the removal of trial placement concrete from the job site is incidental to the work and will not be measured for payment. The requirement for multiple test placements shall not be cause for a time extension.

The final accepted trial placement testing shall be used to establish the final acceptance testing protocol for the field placements.



PLAN



TYPICAL SECTION

FIGURE 1 - TRIAL PLACEMENT TEST SET-UP

6.01.03 Construction Methods: Add the following:

The Contractor shall engage an AASHTO accredited laboratory to provide testing facilities which are qualified laboratories under the NETTCP program to perform all Quality Control field testing. All personnel performing tests shall be qualified NETTCP Concrete Technicians and certified ACI Laboratory and Concrete Strength Technicians. Anytime the Contractor moves the laboratory, all associated equipment shall be recalibrated. This requirement is intended to minimize the movement of test cylinders.

The Contractor is required to perform initial set and final set tests (AASHTO T197) in addition to slump, air content and temperature on concrete from each concrete truck used in the placing of this High Early Strength Concrete. Field cured cylinders (6" X 12" cylinders) will be made from the first and last concrete trucks. A set of three (3) field- cured cylinders shall be made for each informational test associated with early structural loading. The Contractor is advised to fabricate adequate sets of cylinders to allow multiple tests to verify field concrete strength. The Engineer shall be allowed to witness the test and comment on all the tests performed by the Contractor. The Contractor shall not open the roadway to traffic until the minimum compressive strength has been met and when the Engineer has directed that the roadway can be opened to traffic. If the Contractor is required to demobilize due to an emergency, and the minimum compressive strength has not been obtained, a temporary deck plate, payable under "Temporary Deck Plate" can be utilized to span the closure pour.

All testing and equipment shall conform to AASHTO T-22, and the making and curing of concrete cylinders shall conform to AASHTO T23. All costs associated with the on-site mobile testing facilities, personnel and field testing, equipment calibration and verification to demonstrate the field concrete strength shall be incidental to the work.

Acceptance tests will be performed by the Engineer on standard cured cylinders at 7 days and 28 days. Cylinder breaks at 7 days must be at least 10% above the approved trial batch results. The Contractor will be notified of any verification tests that do not meet these requirements and will be required to develop a contingency corrective action plan incase final strength is not achieved. Concrete will be accepted based on meeting the 28-day strength requirement of 4400 psi.

Curing Methods

The concrete curing methods shall be developed by the Contractor as part of the Quality Control Plan. The curing method shall allow for the application of traffic on the concrete prior to full curing without compromising the desired final properties and the durability of the finished product. The curing methods used in the production placements shall be the same as the curing methods used for the trial placement.

High Early Strength Concrete Crack Inspection

The Contractor shall inspect the finished high early strength concrete surface for cracks. Inspection of the deck for cracking shall be completed prior to the preparation of the deck for placement of the membrane waterproofing system.

The Contractor shall document the location and frequency of cracks on the closure pours (number of cracks per square foot). Cracks greater than 0.016 inches in width shall be repaired as required by the membrane waterproofing manufacturer

Basis of Payment:

Add the following

The work completed under this Item will be paid for at the contract price per actual number of cubic yards of high early strength concrete that is measured complete in place. Payment under this Item includes full compensation for all testing and approval of the mix design.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|------------------------------|-----------------|
| High Early Strength Concrete | C.Y. |

ITEM #0601248A – PRECAST CONCRETE SLAB

Description:

Work under this item shall include the fabrication, delivery and installation of precast concrete slab, including all necessary materials and equipment to complete the work, as shown on the plans. The substitution of cast-in-place concrete will not be allowed.

Due to the accelerated nature of this project, all precast concrete slab panels shall be manufactured and approved prior to the initiation of the full roadway closure at the site.

Materials:

The materials for precast concrete slabs shall conform to the following requirements:

Concrete shall meet the requirements of Article M.03.01 of Form 817, for Class “F” Concrete and shall have a minimum 28-day compressive strength of 4,400 psi. All cement shall meet the requirements of ASTM C 10 Type I. Air content shall be between 5% and 7%. The use of calcium chloride or an admixture containing calcium chloride will not be permitted.

Reinforcing steel shall be epoxy coated and conform to the requirements of Article M.06.01 of Form 817.

All fixtures and hardware cast into precast concrete slabs shall have a corrosion-resistant coating or be fabricated from a non-corrosive material suitable for the intended use. The coating shall be galvanized and applied by the hot-dip process. All hardware shall be as specified on the Assembly Plan.

Materials for leveling devices or non-metallic shims for setting the precast concrete slab panels to proper grade during installation shall comply with the applicable sections of Form 817, for the specific materials used.

Controlled density fill, if required for precast concrete slab installation, shall be a self-compacting, flowable mixture of aggregate and cementitious material containing sufficient Portland cement to develop a 6 hour compressive strength of 100 psi. The contractor shall be responsible for producing a flowable mixture using these guidelines and adjusting the mixture design as called for by the circumstances or as directed by the Engineer. A mix design shall be submitted for this material, stating the percentage of each component to be utilized. The maximum aggregate size shall be 3/8”. The amount of material passing a No. 200 sieve shall not exceed 12 percent. No plastic fines shall be present. The total calculated air content shall not exceed 30 percent. Substantive data that demonstrates the ability of the material to meet the specification requirements for controlled density fill shall be submitted with the proposed mix design at least two weeks prior to its use.

Construction Methods:

A Department Certified Precast Concrete Plant or a pre-qualified on-site pre-caster shall be used for the precast concrete slabs.

1. **Shop Drawings:** The Contractor shall submit shop drawings in accordance with the requirements of Article 1.05.02 of Form 817. Approval of the shop drawings will be required prior to the ordering of the materials and the fabrication of the slabs. The length width of each precast concrete slab shall be fabricated in accordance with the contract plans.

At a minimum, the Shop Drawings shall include the following information:

- a. The stamp of the registered Professional Engineer licensed in the State of Connecticut who has reviewed and certified the shop drawings.
 - b. All lifting inserts, hardware, or devices and locations for Engineer's approval.
 - c. Locations and details of the lifting devices, including supporting calculations, type, and amount of any additional reinforcing required for lifting. All lifting devices will be designed based on the no cracking criteria in Chapter 8 of the PCI Design Handbook (seventh edition).
 - d. Dimensions from working points or working lines to prevent the accumulation of dimensional tolerances. The width of each individual slab along with the width of the closure pour shall be determined such that, when pieces are laid together, the slab sections shall satisfy the required slab total width and cross slopes shown on the plans.
 - e. The minimum compressive strength attained prior to handling the slab.
 - f. Details of leveling devices or vertical adjusting hardware.
 - g. Reinforcement details in accordance with Subarticle 6.02.03-1 of Form 817.
 - h. Locations/spacings of openings for flowable fill installation
2. **Assembly Plan:** The Assembly Plan is a document prepared by the Contractor and a qualified Engineer with specific knowledge of the Contractor's equipment and "means and methods" for constructing the precast concrete slab required to complete the work on the project. The development of the Assembly Plan is closely linked to the schedule of operations and the interim material strengths necessary for the work to progress. The Contractor needs to be involved with any required modifications to the shop drawings so that he can incorporate these into the development of the Assembly Plan.

The Assembly Plan will be reviewed by both the Engineer of Record and the District Construction personnel similar to a Working Drawing. The approved Assembly Plan will serve as the governing specification with respect to progressing with construction prior to

components achieving the final required material strengths as stated in Form 817. Approval of the Assembly Plan will be required prior to the start of the closure of the roadway.

Under no circumstances shall the fabrication of the precast concrete slab commence prior to the approval of the Shop Drawings and the Assembly Plan, unless written permission is given by the Engineer. The Engineer shall reject any components fabricated before receiving written approval or components that deviate from the approved drawings.

Any expenses incidental to the revision of materials furnished, in accordance with the Shop Drawings and order lists, to make them comply with the plans and specifications, including costs incurred due to faulty detailing or fabrication, shall be borne by the Contractor.

At a minimum, the Assembly Plan shall include the following information:

- a. Details and/or cut sheets of all equipment that will be employed for the assembly of the precast concrete slab.
- b. Details of all equipment to be used to lift approach slabs including cranes, excavators, lifting slings, sling hooks, and jacks. Crane locations, operating radii, and lifting calculations. The factors of safety for the lifting of slabs will be achieved by using 125% of the weight of the slab being lifted in the calculations.
- c. A procedure for handling and erection including bracing requirements based on Chapter 8 of the PCI Design Handbook (seventh edition). Calculations shall be prepared for the lifting and handling in accordance with the no discernible cracking criteria and shall be submitted as part of the Assembly Plan. Lifting hook locations and hardware should be coordinated with the Fabricator.
- d. A statement of compliance with all requirements of applicable environmental permits.
- e. A work area plan, depicting all affected utilities, drainage, and protective measures that will be employed throughout the construction activities.
- f. Full size 22"x34" sheets depicting the assembly procedures for the precast concrete slabs.
- g. A detailed schedule with a timeline for all operations. In development of the schedule the Contractor shall account for setting and cure time for concrete closure pours.
- h. Methods of providing temporary support of the slabs. Include methods of adjusting and securing the slab after placement.

- i. Procedures for controlling erection tolerances for both the horizontal and vertical direction.
 - j. Methods of forming closure pours.
 - k. Procedures for placement of granular fill below precast concrete slab.
 - l. The Assembly Plan shall be bound into one complete document and shall be prepared and stamped by a registered Professional Engineer licensed in the State of Connecticut.
3. **Forms:** Forms shall be mortar tight and strong enough to prevent misalignment of precast concrete slab edges. They shall be constructed to allow their removal without damage to the concrete. A positive means of supporting reinforcing cages in place during forming shall be required.

The forms shall not be removed until the concrete is strong enough to avoid possible injury from such removal. A minimum compressive strength of 500 psi shall be obtained prior to stripping the form. Forms shall not be removed without approval being granted by the Engineer. All forming materials used for casting cylindrical openings for lifting holes shall be removed. Do not place concrete in the forms until the Engineer has inspected the forms and approved all the materials in the precast concrete slabs.

4. **Placing Concrete:** Provide to the Engineer a tentative casting schedule at least two weeks in advance to make inspection and testing arrangements. Concrete shall not be deposited in the forms until the Engineer has inspected the placing of the reinforcing steel, and other cast-in-place components, and has given his approval thereof.

The mix shall be proportioned and mixed in a batch mixer to produce homogeneous concrete. At no time will truck-mixed or transit-mixed concrete be allowed. The concrete temperature shall be 60° F to 90° F at the time of placement.

Concrete shall not be deposited into the forms when the ambient temperature is below 40° F or above 100° F, unless adequate heating or cooling procedures have been previously approved by the Engineer. Production during the winter season, from November 15 to March 15 inclusive, will be permitted only on beds located in a completely enclosed structure of suitable size and dimension that provides a controlled atmosphere for the protection of the casting operation and the product. Outside concreting operations will not be permitted during rainfall unless the operation is completely under cover.

Void forms shall be held in place against uplift or lateral displacement during the pouring and vibrating of the concrete by substantial wire ties or other satisfactory means as approved by the Engineer. The concrete shall be vibrated internally, or externally, or both, as ordered by the Engineer. The vibrating shall be done with care in such a manner as to avoid displacement of reinforcing steel, voids, forms, or other components. There shall be no interruption in the pouring of any of the sections. Concrete shall be carefully placed in the forms and vibrated sufficiently to produce a surface free from imperfections such as

honeycombing, segregation, cracking, or checking. Any deficiencies noted in the sections may be cause for rejection.

5. **Finishing:** Finish the precast concrete slabs in accordance with Subarticle 6.01.03-9 of Form 817. Trowel-finish the top surface of all precast concrete slabs. Formed surfaces shall not be finished in any specific manner except as noted below. All fins, runs, or mortar shall be removed from surfaces which will remain exposed. Form marks on exposed surfaces shall be smoothed by grinding.
6. **Test Cylinders:** During the casting of the sections, the Contractor shall make test cylinders under the supervision of the Engineer. A minimum of 4 cylinders shall be taken during each production run or as ordered by the Engineer. The dimensions and type of cylinder mold shall be as specified by the Engineer. Cylinders shall be cured under the requirements of ASTM C31 and shall be used to determine the 28 day compressive strength requirements ($f'c$). Failure of any of the 28 day tests cylinders to meet 90% of the minimum compressive strength requirement may be cause for rejection. The Engineer also reserves the right to request and test core specimens from the sections to determine their adequacy.
7. **Curing:** The precast concrete slab panels will be continuously wet cured for 7-days, commencing immediately after final finishing with all exposed surfaces covered. The precast concrete slabs will have minimum cure of 14 days prior to placement. Test data such as slump, air content, or unit weight for fresh concrete and compressive strengths for the hardened concrete after 7, 14, and 28 days, shall be submitted to the Engineer.
8. **Patching:** The Engineer shall evaluate the acceptability and the cause of the defects and the service condition of the precast concrete slab section. No repairs shall be done by the Contractor unless permission has been granted by the Engineer. The Contractor shall submit to the Engineer for review, the proposed methods and materials to be used in the repair operation. All repairs shall be sound and properly finished and cured before the precast slab is delivered to the job site. The Contractor shall bear the costs of all repair work.
9. **Installation:** The installation of the precast concrete slab shall proceed as required by the approved Assembly Plan and in accordance with the special provisions "Prosecution and Progress" and "Maintenance and Protection of Traffic". The slab sections shall be placed in a manner to best accommodate and facilitate the accelerated construction sequence. The slab panel sections shall be set to the grade indicated on the plans or as directed by the Engineer. The following is the general procedure for installing the precast concrete slab:
 - a. Review the approved Assembly Plan. If changes are warranted due to varying site conditions, resubmit the plan for review and approval.
 - b. Establish working points, working lines, and benchmark elevations prior to placement of all elements.

- c. Lift slab segments using lifting devices as shown on the shop drawings.
- d. Set slab in the proper horizontal location in the sequence and according to the methods outlined in the Assembly Plan.
- e. Check for proper alignment and grade within specified tolerances. Survey the top elevation of the slab. Adjust vertical leveling devices prior to full release of the slab from the crane. This will reduce the amount of torque required to turn the bolts in the leveling devices. Check for proper grade within specified tolerances.
- f. Pour or pump controlled density fill under the slab panel as shown on the plans. Start from the center of the slab panel and proceed toward the outside edges.
- g. All fixtures or holes cast into the sections for lifting, anchoring, or seating shall be neatly filled with non-shrink grout. The finished surface shall be flush and smooth with the adjacent concrete.

10. Quality Control: At a minimum, the following requirements shall be met:

- a. All precast concrete slab panels shall be fabricated by a PCI certified fabricator that is approved by the Department with a minimum certification of “B1”.
- b. Cracking or damage of precast concrete slab will be prevented during handling and storage.
- c. Defects and breakage of precast concrete slab will be repaired or the slab segment will be replaced, as follows:
 - i. Members that sustain damage or surface defects during fabrication, handling, storage, hauling, or erection are subject to review or rejection.
 - ii. Approval shall be obtained before performing repairs.
 - iii. Repair work must re-establish the slab’s structural integrity, durability, and aesthetics to the satisfaction of the Engineer.
 - iv. The cause will be determined when damage occurs and corrective action will be taken.
 - v. Failure to take corrective action, leading to similar repetitive damage, can be cause for rejection of the damaged slab.
 - vi. Cracks that extend to the nearest reinforcement plane and fine surface cracks that do not extend to the nearest reinforcement plane but are numerous or extensive are subject to review and rejection.

- vii. Full depth cracking and breakage greater than one foot are cause for rejection.
- d. Precast concrete slab will be constructed to tolerances shown on the plans. Where tolerances are not shown, follow tolerance limits in the PCI MNL116-99, "Manual for Quality Control for Plants and Production of Structural Precast Concrete Products, 4th Edition".
- e. The plant will document all test results. The quality control file will contain at least the following information:
 - i. Element identification.
 - ii. Date and time of cast. Concrete cylinder test results.
 - iii. Quantity of concrete used and the batch printout.
 - iv. Form-stripping date and repairs if applicable.
 - v. Location/number of block-outs and lifting inserts.
 - vi. Temperature and moisture of curing period.
 - vii. Document lifting device details, requirements, and inserts.
- f. The Contractor will be required to perform strength testing of materials prior to proceeding to the next stage of construction. The strength achieved at the time of testing will be required to meet the value in the approved Assembly Plan. The Contractor should not rely solely on cylinder breaks by the Engineer as the schedules for testing by the Engineer will not be changed. The Contractor will provide this testing at his/her own expense and shall take the required number of cylinders or cubes in the event that the material does not gain strength as anticipated.

11. Marking: Permanently mark each precast concrete slab with the date of casting and supplier identification. Stamp markings in fresh concrete.

12. Handling and Storage: Care shall be taken during storage, transporting, hoisting and handling of all precast concrete slabs to prevent damage. Sections damaged by improper storing, transporting or handling shall be repaired or replaced by the Contractor, as directed by the Engineer and at no cost to the Municipality. All storage and handling operations shall be as directed by the Engineer.

The precast concrete slab sections shall not be removed from their casting beds until the concrete has attained the minimum compressive strength determined by the Contractor and approved by the Engineer. Precast concrete slabs shall not be shipped to the job site until the 28

day strength (f'c) has been attained. Provide to the Engineer a delivery schedule at least two weeks in advance of the shipment of precast concrete slabs to the job site.

Method of Measurement:

This work will be measured for payment as the actual volume of precast concrete slab fabricated, cured and accepted.

Basis of Payment:

This work will be paid for at the contract unit price per cubic yard for “Precast Concrete Slab”, complete and in place, which price shall include all materials, reinforcing, equipment, tools, labor and work incidental to the fabrication, transport and installation. There shall be no separate payment for: projecting reinforcing steel in closure pours, forms, polyethylene sheets, leveling devices, shims, roofing felt, controlled density fill or any other component or material used for the work, as they are to be included in the contract unit price. Concrete for the closure pours shall be paid for under the item “High Early Strength Concrete” and Reinforcing for the closure pours shall be paid for under them item “Deformed Steel Bars – Epoxy Coated”

Pay Item

Pay Unit

Precast Concrete Slab

c.y.

ITEM #0602911A – DRILLING HOLES AND GROUTING ANCHOR BOLTS

Description:

Work under this item shall consist of drilling holes in concrete and grouting anchor bolts at the locations shown on the plans, in accordance with the plans, the manufacturer's recommendations, and as directed by the Engineer.

Materials:

The adhesive bonding material shall be a resin compound specially formulated to anchor stainless steel anchor bolts in holes drilled into concrete. The adhesive bonding materials shall be selected from the Connecticut Department of Transportation Approved Product List.

Materials Certificate and a Certificate of Compliance shall be required for the adhesive bonding material in accordance with Article 1.06.07, certifying the conformance of this material to the requirements stated herein.

Construction Methods:

The Contractor shall drill holes into the concrete to the depth and at the locations shown on the plans.

The Contractor shall submit the following to the Engineer for approval: type of drill, diameter of bit, method of cleaning holes and methods of replacement of the adhesive bonding material. Specifications and recommendations for the aforementioned may be obtained from the manufacturer of the adhesive bonding material. The mass of the drill shall not exceed 20 lbs.

If the existing reinforcing steel is encountered during drilling, the holes may be relocated only if approved by the Engineer.

Drillings methods shall not cause spalling, cracking, or other damage to the concrete. Those areas damaged by the Contractor shall be repaired by the Contractor in a manner suitable to the Engineer and at no expense to the Municipality.

The Contractor shall take necessary precautions to prevent any materials from falling onto areas below.

For the adhesive bonding material, a Certificate of Compliance and a Materials Certificate will be required in accordance with Article 1.06.07, confirming the conformance of the adhesive bonding material to the requirements set forth in these specifications.

Method of Measurement:

This work will be measured for payment by the completed number of holes drilled and anchor bolts grouted, and accepted.

Basis of Payment:

This work will be paid for at the contract unit price per anchor bolt for “Drilling Holes and Grouting Anchor Bolts”, which price shall include drilling holes, preparing holes, applying adhesive bonding material, and installation of the anchor bolts. It shall also include all material, including anchor bolts, and all equipment, tools and labor incidental thereto.

ITEM #0603512A - TEMPORARY DECK PLATE

Description:

Work under this item covers the temporary bridging of the roadway or sidewalk to temporarily accommodate vehicular and pedestrian traffic during construction. Steel plates are to be used in areas where portions of the existing roadway fill and/or sidewalk are being removed, to facilitate rehabilitation of the existing bridge, while being able to maintain continued movement of traffic.

Any traffic control costs incurred solely for the temporary plate including survey, installation, maintenance, inspection and removal etc. are included under the general cost of this item.

Materials:

The steel for plate(s) shall be either ASTM A 36 Grade 36 (Yield Strength of 36,000 psi) or ASTM A 572 Grade 50 (Yield Strength of 50,000 psi).

All plating used shall be without deformations (warping, cracking, etc.) and shall be subject to straightedge testing. Plate removal will be required if plate is permanently deformed. Steel plate deformation may occur during loading, but if a steel plate is deformed without loading to at least 0.5 inch per 10 feet in length the plate shall be removed and replaced.

Steel grates may not be substituted for the use of steel plating.

Material for temporary transition/wedge pavement leading to the plate and final course (if reqd.) after removal of the temporary bridging plate shall be in accordance with Section M.04 of the special provisions and as shown on the plans.

Construction Methods:

Design:

The minimum width of an individual section of plate transverse to traffic shall be 4 feet. The minimum thickness of plate shall be 1".

Plates shall be placed perpendicular or parallel to the direction of travel and shall be fabricated to accommodate any skews. In all situations, the longitudinal edges of the steel plates shall not be in the wheel path.

All plate(s) shall be visibly identified with the contractor's name and 24 hour notification telephone number. All plates must be installed such that there will not be any rocking, noise, hammering or shaking.

The details of the plates should include traction rods to maintain a non-skid surface on the plate. Alternative Skid resistant treatments may be approved at the discretion of the engineer. Plate(s) without the required skid-resistant surfacing will require removal. Surfacing requirements are not required in areas not exposed to traffic or pedestrian movements. Epoxy-coated plates are not approved for use. The contractor shall be responsible for periodically monitoring skid resistance, reporting results to the Engineer, and removing deficient plates from service. If imprinted waffle-shaped patterns or right-angle undulations to achieve skid resistance on the steel plate is used. The maximum vertical deviation within the pattern shall be no more than 0.25 inch.

Installation:

Traffic control devices shall be in place before and during plating period in accordance with the requirements of the Maintenance and Protection of Traffic and Prosecution and Progress and contract plans.

Each plate must be fully supported around the perimeter to prevent wobbling or rocking with non-asphaltic shims and installed to operate with minimum noise.

Plates shall not be overlapped or stacked on top of another plate. The gap between the edge of the plate(s) and the adjacent pavement (not being reconstructed) shall be filled with a temporary bituminous overlay wedge.

Plates shall be secured and ramped on all sides using temporary pavement in accordance with these specifications to ensure a smooth transition from the road surface to the top of the plate surface and back to the road surface.

Ramping transition slope shall be as noted in Section 4.06 – Bituminous Concrete.

A “Bump Ahead” warning traffic sign shall be installed, as directed by the Engineer, ahead of each location where a Temporary Deck Plate is being used.

Method of Measurement:

The work for this item will be measured for payment by the linear feet, measured along the length of the bridge, for which temporary deck plates are being used to facilitate construction, as approved and directed by the engineer.

Basis of Payment:

This work will be paid for at the Contract unit price per linear feet at each location for which "Temporary Deck Plate" is approved and used to facilitate rehabilitation of the existing bridge, which price shall include the design, all materials, installation of plate to protect buried utilities,

temporary pavement wedge transitions, milling to install temporary wedge transition, removing and restoring wedge transitions, traffic signs warning of “bump ahead” and any equipment, material or labor incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|----------------------|-----------------|
| Temporary Deck Plate | L.F. |

ITEM #0605003A –MASONRY FACING

Description:

Work under this item shall consist of coursed natural rubble stone masonry veneer set in cement mortar and anchored to the retaining wall and bridge parapets at locations indicated on the Contract Drawings, in accordance with these specifications and as directed by the engineer. The appearance of the finished surfaces shall match the existing. Work shall also include the installation of new mortar joints in areas of new stone masonry facing, see “Repoint Mortar Joints” for requirements.

All work shall comply with:

- CT Historic Bridge Inventory Preservation Plan (1991)
- <http://environment.transportation.org/pdf/HistoricBridgePreservationPlan.pdf>
- The Secretary of Interior’s Standards for Rehabilitation
- <https://www.nps.gov/tps/standards/rehabilitation/rehabilitation-guidelines.pdf>
- National Park Service Preservation Brief #2 “Repointing Mortar Joints in Historic Masonry Buildings”
- <https://www.nps.gov/tps/how-to-preserve/briefs/2-repoint-mortar-joints.htm>

Materials:

The stone masonry veneer shall be cut from the existing retaining wall stone, removed under “Removal of Existing Masonry” to ensure a proper match between the new veneer and the adjacent retaining wall to remain.

The veneer stone thickness shall be approximately of 3” – 4”, anchored to the concrete wall behind. The facing area of each stone shall be consistent with the existing. Veneer stones shall be oriented such that weathered faces are exposed in the completed construction.

Mortar for masonry joints shall conform to the requirements of “Repoint Mortar Joints” and Article M.11.04. Use a 1” average thickness of mortar bed behind the stones and ½” of average thickness of mortar around the stones.

Provide a Slots and Dove Tail Anchor system with maximum horizontal spacing of 2’-0” on-center and maximum vertical spacing of 1’-0” on-center and as detailed on the contract plans. All hardware to the anchorage system shall be galvanized in conformance with Article M.06.03.

Care shall be taken to avoid the need for additional stone, as utilizing existing veneer cut from existing stone is preferential, however if additional stone is required, stones shall come from a stone quarries company specializing in manufacturing stone veneer with a minimum of five years documented experience. Alternative suppliers shall be acceptable upon approval of the

Engineer. Supplemental stone shall match the existing and shall be subject to the approval of the Engineer prior to use on the project.

Stone masonry shall be installed by a company specializing in performing the Work described under this heading shall have a minimum of five years documented experience in this type of work.

Construction Method:

Construction methods shall conform to the requirements of Article 6.05.03 and the following:

Clean and moisten bed where each stone is to be set. Stones must be water saturated, surface-dry when placed. Set all stones in fresh mortar and settle in place with a wooden maul before the mortar sets. Handle stone with care and do not drop, slide, hammer or roll stones. Set stones without jarring stones already on place. Properly point the joints before the mortar sets. Provide joints of uniform size throughout. Place and compact grout backing so that all spaces around the stones are filled and grout is in full contact with all the stone surfaces. Completely fill slots of anchors with grout as each course of stone is set. If a stone is moved, or a joint is broken, remove the stone. Thoroughly clean the joint and reset the stone in fresh mortar. Do not place stone in freezing weather except when permitted by the engineer and then only with adequate protection. Do not place stone that contains frost. Mortar shall be thoroughly compacted into finished tooled joints.

The sealant shall be in accordance with “National Park Service Preservation Brief #2 “Repointing Mortar Joints in Historic Masonry Buildings”

Submittals: The following submittals are required and subject to the approval of the Engineer:

1. Data sheets on mortar mix and any required supplemental stone to be used, including:
 - a. Preparation instructions and recommendations
 - b. Storage and handling requirements and recommendations
 - c. Installation methods
 - d. Cleaning Methods
2. Selection Samples: Prior to construction, build and provide to the Engineer a mockup of the stone masonry veneer cut from existing stone for the parapets and retaining wall of the proposed bridge, approximately 18” long by 18” high by full thickness face width of stone masonry with 8” thick concrete backup, for approval. Include metal dovetail anchors and anchor slots in mockup. Approval of mockup is for tooling of joints and aesthetic qualities of workmanship.
3. Documented experiences as specified for the veneer manufacturer (as needed) and the installer.

Method of Measurement:

The quantity shall be the actual number of square feet of facing veneer completed and accepted. Pay limits shall be the installed limits as indicated on the plans.

Basis of Payment:

This work will be paid for at the contract unit price per square foot for “Stone Masonry Facing”, complete in place, which price shall include all equipment, tools and labor incidental thereto and all materials including Slots and Dove Tail Anchors, Mock-up Panel, Pointing and Masonry Sealer.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|-----------------|-----------------|
| Masonry Facing | S.F. |

ITEM #0609030A - REPOINT MORTAR JOINTS

Description: Work under this item shall consist of preparing existing joints and installing new mortar in selected areas of historic bridges as directed by the Engineer. Work will include removal of existing mortar, preparing the joints, installing new mortar and finishing with the proper profile.

All work shall comply with:

- CT Historic Bridge Inventory Preservation Plan (1991)
<http://environment.transportation.org/pdf/HistoricBridgePreservationPlan.pdf>
- The Secretary of Interior's Standards for Rehabilitation
<https://www.nps.gov/tps/standards/rehabilitation/rehabilitation-guidelines.pdf>
- National Park Service Preservation Brief #2 "Repointing Mortar Joints in Historic Masonry Buildings"
<https://www.nps.gov/tps/how-to-preserve/briefs/2-repoint-mortar-joints.htm>

The Contractor to perform this work shall demonstrate a minimum of five (5) years of successful repointing experience in masonry restoration projects for historic structures. The Contractor shall provide names, dates, and locations of a minimum of three (3) similar projects.

Testing: Prior to commencing repointing, Contractor will sample the existing mortar for testing and analysis by a qualified petrographer or architectural conservator per ASTM C 1324 "Standard Test Method for Examination and Analysis of Hardened Masonry Mortar". Examination will provide a sample of the sands and aggregates that are a component of the sampled mortar. The information gathered by this test will inform the replication design mix for the replacement mortar.

Materials:

Replacement mortar to be selected based on above mentioned tests. Proposed Mortar samples are to be submitted to the Engineer for review and approval before proceeding to full-scale repair work.

Construction Methods:

Prior to removal or repointing activities, erect temporary protection to contain dust, mortar and debris from persons and motor vehicles from harm. Repoint mortar joints and repair masonry when air temperature is between 40 and 90 degrees F and is predicted to remain so for at least 7 days after the completion of work.

Demonstration Test Area: Prior to commencing the repointing operations, the Contractor shall install a trial application of the proposed repointing methods on a portion of the wingwall or abutment face, as directed by the Engineer. The surface area of the cleaning demonstration test shall be approximately four (4) by four (4) feet (1.22m x 1.22m) in area. The demonstration

test area shall be cleaned using methods, materials and means previously submitted and approved.

The production work of repointing the bridge masonry shall not begin without approval from the Engineer of the methods, materials, and equipment used. The evaluation by the Engineer of the acceptability of the Contractor's proposed repointing will include a seven (7) day observation period after completion of the repointing to allow the mortar to cure.

Preparation:

1. Remove deteriorated and unsound mortar in areas directed by Engineer to a depth that is 1-1/2 times the width of the mortar joint, but not less than 3/4-inch in depth or not less than is required to expose sound, unweathered mortar. Measure depth of removal from the surface of the existing sound mortar profile. When removing mortar, exercise caution not to damage the adjacent masonry.
2. Blow loose mortar and dust out of prepared joints with oil-free compressed air.
3. Rinse mortar joints with potable water to remove dust and residual mortar particles. While the masonry is still damp, but free of pooled water, install first lift of new mortar. Install mortar in lifts that are 3/8-inch thick, allowing each lift to cure to "thumbprint" hardness before installing the successive lift.
4. Tool final lift to the profile directed by the Engineer. If the existing masonry has worn or rounded edges, slightly recess the finished mortar joint from the face of the masonry to avoid creating a joint that is wider than the original. Do not allow mortar to spread over the edges of the exposed masonry.
5. Cure mortar by maintaining in a thoroughly damp condition for at least 72 hours. Mortar drippings on the wall shall be immediately cleaned and the entire wall face left in a clean and presentable condition.

Method of Measurement:

This work will be measured for payment by the number of linear feet of repointed mortar joints measured in place.

Basis of Payment:

This work will be paid for at the contract unit per linear feet for "Repoint Mortar Joints", which price shall include the removal of deteriorated mortar, preparation and installation of new mortar and all material, equipment, tools and labor incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|-----------------------|-----------------|
| Repoint Mortar Joints | L.F. |

ITEM #0703022A – RESET EXISTING RIPRAP

Description:

Work under this item shall consist of the removal, temporary on-site storage, and resetting of existing riprap at the locations shown on the plans or as directed by the Engineer. The work shall also include reusing the existing bedding material as necessary to accommodate resetting the existing riprap.

Materials:

Materials shall conform to the following:

Bedding: The existing bedding material shall be re-used.

Construction Methods:

The riprap to be reset shall be removed with care to avoid damage.

The area to be protected by riprap shall be accurately shaped prior to resetting. The riprap shall be placed to its full course thickness in one operation in such a manner as to produce a reasonably well-graded mass of rock without causing displacement of the underlying material. The finished surface shall be free from pockets of small stones and clusters of larger stones. Placing this material by methods likely to cause segregation of the various sizes of stone will not be permitted. Rearranging of individual stones by mechanical or hand methods will be required to the extent necessary to obtain a reasonably well-graded distribution of the specified stone sizes. The completed course shall be of the specified thickness and to the lines and grades as shown on the plans or as ordered by the Engineer. The contractor shall reuse the existing bedding material to reset the existing riprap. The topside of the reset riprap shall match the existing grade.

Method of Measurement:

The quantity of reset riprap measured for payment shall be the number of cubic yards whose length and width is measured in place as accepted.

Basis of Payment:

This work will be paid for at the contract unit price per cubic yard for “Reset Existing Riprap”, complete in place, which shall include removal of the existing riprap, temporary on-site storage, and resetting. It shall also include all materials, equipment, tools and labor incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|-----------------------|-----------------|
| Reset Existing Riprap | c.y. |

ITEM #0707009A - MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)

Description:

Work under this item consists of furnishing and installing a seamless elastomeric waterproofing membrane system applied to a concrete or steel surface as shown on the plans, in accordance with this specification and as directed by the Engineer. Work shall also include conditioning of the surface to be coated and all quality-control testing noted herein.

The completed membrane system shall be comprised of a primer coat followed by the membrane coating which is applied in one or two layers for a minimum total thickness of 80 mil, an additional 40 mil membrane layer with aggregate broadcast into the material while still wet, and a bond coat of bitumen-based adhesive material.

Materials:

The Contractor shall select a waterproofing membrane system from the Department's current Qualified Product List (QPL) for Spray-Applied Membrane Waterproofing System. All materials incorporated in the works shall meet the Manufacturer's specification for the chosen system. The Engineer will reject any system that is not on the QPL.

Materials Certificate: The Contractor shall submit to the Engineer a Materials Certificate for the primer and membrane and bond coat material in accordance with the requirements of Article 1.06.07.

Construction Methods:

At least ten days prior to installation of the membrane system, the Contractor shall submit to the Engineer, the manufacturer's recommended procedure for preparing the deck surface, pre-treatment or preparing at cracks and gaps, treatment at curbs, vertical surfaces or discontinuities, applying the primer and membrane, and placing of aggregated coat. Procedures shall also include recommended repairs of system non-compliant issues identified during application. The system shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.

A technical representative, in the direct employ of the manufacturer, shall be present on-site immediately prior to and during application of the membrane. The representative shall inspect and approve the surface prior to priming, and provide guidance on the handling, mixing and addition of components and observe application of the primer and membrane. The representative shall perform all required quality-control testing and remain on the Project site until the membrane has fully cured.

All quality-control testing, including verbal direction or observations on the day of the installation, shall be recorded and submitted to the Engineer for inclusion in the Project's records. A submittal of the quality-control testing data shall be received by project personnel prior to any paving over the finished membrane or within 24 hours following completion of any staged portion of the work.

1. **Applicator Approval:** The Contractor's membrane Applicator shall be fully trained and licensed by the membrane manufacturer and shall have successfully completed at least three spray membrane projects in the past five years. The Contractor shall furnish references from those projects, including names of contact persons and the names, addresses and phone numbers of persons who supervised the projects. This information shall be submitted to the Engineer prior to the start of construction. The Engineer shall have sole authority to determine the adequacy and compliance of the submitted information. Inadequate proof of ability to perform the work will be grounds to reject proposed applicators.
2. **Job Conditions:**

- (a) **Environmental Requirements:** Air and substrate temperatures shall be between 32°F and 104°F providing the substrate is above the dew point. Outside of this range, the Manufacturer shall be consulted.

The Applicator shall be provided with adequate disposal facilities for non hazardous waste generated during installation of the membrane system. The applicator shall follow safety instructions regarding respirators and safety equipment.

- (b) **Safety Requirements:** All open flames and spark producing equipment shall be removed from the work area prior to commencement of application.

"No Smoking" signs shall be visibly posted at the job site during application of the membrane waterproofing.

Personnel not involved in membrane application shall be kept out of the work area.

3. **Delivery, Storage and Handling:**

- (a) **Packaging and Shipping:** All components of the membrane system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the products type and batch number.
 - (b) **Storage and Protection:** The Applicator shall be provided with a storage area for all components. The area shall be cool, dry and out of direct sunlight and shall be in accordance with the Manufacturer's recommendations and relevant health and safety regulations.

Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.

- (c) Shelf Life - Membrane Components: Packaging of all membrane components shall include a shelf life date sealed by the Manufacturer. No membrane components whose shelf life has expired shall be used.

4. Surface Preparation:

- (a) Protection: The Applicator shall be responsible for the protection of equipment and adjacent areas from over spray or other contamination. Parapets and bridge joints shall be masked prior to application of the materials.
- (b) Surface Preparation: Sharp peaks and discontinuities shall be ground smooth. The surface profile of the prepared substrate is not to exceed 1/4 inch (peak to valley) and areas of minor surface deterioration of 1/2 inch and greater in depth shall also be repaired. The extent and location of the surface patches require the approval of the Engineer before the membrane system is applied.

Surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae, growth, laitance, friable matter, dirt, bituminous products, and previous waterproofing materials. If required, degreasing shall be done by detergent washing in accordance with ASTM D4258.

The surface shall be abrasively cleaned, in accordance with ASTM D4259, to provide a sound substrate free from laitance.

Voids, honeycombed areas, and blow holes on vertical surfaces shall be repaired in the same manner.

All steel components to receive membrane waterproofing shall be blast cleaned in accordance with SSPC SP6 and coated with the membrane waterproofing system within the same work shift.

5. Inspection and Testing: Prior to priming of the surface, the Engineer, Applicator and Manufacturer's technical representative shall inspect and approve the prepared substrate.

- (a) Random tests for deck moisture content shall be conducted on the substrate by the Applicator at the job site using a "Sovereign Portable Electronic Moisture Master Meter," a "Tramex CMEXpertII Concrete Moisture Meter" or approved equal. The minimum frequency shall be one test per 1000 s.f. but not less than three tests per day per bridge. Additional tests may be required if atmospheric conditions change and retest of the substrate moisture content is warranted.

The membrane system shall not be installed on substrate with a moisture content greater than that recommended by the system's manufacturer, but shall not be greater than 6%, whichever is less.

- (b) Random tests for adequate tensile bond strength shall be conducted on the substrate using an adhesion tester in accordance with the requirements of ASTM D4541. The minimum frequency shall be one test per 5,000 s.f. but not less than three adhesion tests per bridge.

Adequate surface preparation will be indicated by tensile bond strengths of primer to the substrate greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

If the tensile bond strength is lower than the minimum specified, the Engineer may request additional substrate preparation. Any primer not adequately applied shall be removed and a new primer applied at the Contractor's expense, as directed by Engineer.

- (c) Cracks and grouted joints shall be treated in accordance with the Manufacturer's recommendations, as approved or directed by the Engineer.

6. Application:

- (a) The System shall be applied in four distinct steps as follows:
 - 1) Substrate preparation and gap/joint bridging preparation
 - 2) Priming
 - 3) Membrane application
 - 4) Membrane with aggregate
- (b) Immediately prior to the application of any components of the System, the surface shall be dry (see Section 5a of this specification) and any remaining dust or loose particles shall be removed using clean, dry oil-free compressed air or industrial vacuum.
- (c) Where the area to be treated is bound by a vertical surface (e.g. curb or wall), the membrane system may be continued up the vertical, as shown on the plans or as directed by the Engineer.
- (d) The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results, in accordance with the Manufacturer's recommendations or as approved or directed by the Engineer.
- (e) A neat finish with well defined boundaries and straight edges shall be provided by the Applicator.

- (f) Primer: The primer shall consist of one coat with an overall coverage rate of 125 to 175 s.f./gal unless otherwise recommended in the manufacturer's written instructions.

All components shall be measured and mixed in accordance with the Manufacturer's recommendations.

The primer shall be spray applied using a single component spray system approved for use by the Manufacturer. If required by site conditions and allowed by the manufacturer, brush or roller application will be allowed.

The primer shall be allowed to cure tack-free for a minimum of 30 minutes or as required by the Manufacturer's instructions, whichever time is greater, prior to application of the first lift of waterproofing membrane.

Porous concrete (brick) may require a second coat of primer should the first coat be absorbed.

- (g) Membrane: The waterproofing membrane shall consist of one or two coats for a total dry film thickness of 80 mils. If applied in two coats, the second coat shall be of a contrasting color to aid in quality assurance and inspection.

The membrane shall be comprised of Components A and B and a hardener powder which is to be added to Component B in accordance with the Manufacturer's recommendations.

The substrate shall be coated in a methodical manner.

Thickness checks: For each layer, checks for wet film thickness using a gauge pin or standard comb-type thickness gauge shall be carried out typically once every 100 s.f. Where rapid set time of the membrane does not allow for wet film thickness checks, ultrasonic testing (steel surfaces only), calibrated point-penetrating (destructive) testing, in-situ sampling (cutout of small sections for measuring thicknesses), or other methods approved by the Engineer shall be employed for determination of dry film thickness. The measured thickness of each and every individual test of the membrane shall be greater than or equal to the required thickness.

Bond Strength: Random tests for adequate tensile bond strength shall be conducted on the membrane in accordance with the requirements of ASTM D4541. The minimum test frequency shall be one test per 5,000 s.f. but no less than three adhesion tests per bridge. Adequate adhesion will be indicated by tensile bond strengths of the membrane to the substrate of greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

Spark Testing: Following application of the membrane, test for pin holes in the cured membrane system over the entire application area in accordance with ASTM D4787-

“Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates.” Conduct the test at voltages recommended by the manufacturer to prevent damage to the membrane.

Repair the membrane system following destructive testing and correct any deficiencies in the membrane system or substrate noted during quality-control testing in accordance with the manufacturer’s recommendations to the satisfaction of the Engineer at no additional cost to the State.

- (h) Repairs: If an area is left untreated or the membrane becomes damaged, a patch repair shall be carried out to restore the integrity of the system. The damaged areas shall be cut back to sound materials and wiped with solvent (e.g. acetone) up to a width of at least four inches on the periphery, removing any contaminants unless otherwise recommended by the manufacturer. The substrate shall be primed as necessary, followed by the membrane. A continuous layer shall be obtained over the substrate with a four inches overlap onto existing membrane.

Where the membrane is to be joined to existing cured material, the new application shall overlap the existing by at least four inches. Cleaning and surface preparation on areas to be lapped shall be as recommended in the manufacturer’s written instructions.

- (i) Aggregated Finish:

- 1) Apply an additional 40 mil thick layer of the membrane material immediately followed by an aggregate coating, before the membrane cures, at a rate to fully cover the exposed area. The membrane and aggregate shall be fully integrated after the aggregate has been applied and the membrane cured.
- 2) Localized areas not fully coated shall be touched-up with additional membrane and aggregate as needed.
- 3) Remove loose and excess aggregate from the surface to the satisfaction of the Engineer and dispose of properly after application prior to allowing traffic onto finished surface or application of tack coat.

- (j) Bond Coat:

Prior to application of a bituminous concrete overlay, the aggregated finish shall be coated with a bonding material. The bonding material shall be per the membrane waterproofing manufacturer’s recommendations.

- 7. Final Review: The Engineer and the Applicator shall jointly review the area(s) over which the completed System has been installed. Any irregularities or other items that do not meet the requirements of the Engineer shall be addressed at this time.

Method of Measurement:

The quantity to be paid for under this item shall be the number of square yards of waterproofed surface completed and accepted.

Basis of Payment:

This item will be paid for at the contract unit price per square yard of “Membrane Waterproofing (Cold Liquid Elastomeric),” complete in place, which price shall include all surface preparation, furnishing, storing and applying the system, technical representative and quality control tests, and any necessary repairs and remediation work as well as all materials, equipment, tools, labor incidental to this work.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|--|-----------------|
| Membrane Waterproofing (Cold Liquid Elastomeric) | s.y. |

ITEM #0716000A - TEMPORARY EARTH RETAINING SYSTEM
ITEM #0717000A – EARTH RETAINING SYSTEM LEFT IN PLACE

Work under this item shall conform to the requirements of Section 7.16, supplemented and amended as follows:

7.16.01 - Description: Add the following:

The Contractor's design shall consider loads including but not limited to: dead load, earth loads, construction loads, adjacent vehicular travel, and vehicular impact.

7.16.03 - Construction Methods: Add the following:

Temporary earth retaining system shall be designed for vehicular impact loads and adjacent roadway live loads during construction due to their close proximity to temporary precast concrete barrier curbs as a result of staged construction. Interior dimensions shall be such as to give sufficient clearance for construction activities and temporary or permanent utility locations.

The temporary earth retaining system shall be designed to minimize potential vibration, movement, and settlement of the existing stone masonry structure and adjacent utilities, see Item #0202911A - "Condition Survey" for additional details.

ITEM #0728030A – NO. 3 CRUSHED STONE

ITEM #0728032A – NO. 6 CRUSHED STONE

Description:

Work under this item shall consist of furnishing and installing crushed stone, at the locations and to the dimensions shown on the contract drawings or as directed by the Engineer in the field.

Materials:

The materials for this work shall consist of crushed stone, conforming to the requirements of a No. 3 / No. 6 gradation as indicated in the Form 817, Section M.01.02 Gradation Table.

Construction Methods:

The area or trench bottom on which the crushed stone is to be placed shall be shaped to a reasonably true surface prior to placing the crushed stone. As indicated on the plans, or as may be directed in the field, geotextile fabric shall be placed prior to placing the crushed stone. The stone shall be spread, by hand or machine as conditions allow and which will not crush the stone, and then shaped to a smooth uniform finished grade to the depth and dimensions as indicated on the plans or as directed in the field. The stone shall be compacted with a roller or a plate compactor (if conditions prohibit roller use) as required to fully seat and bind the stone and to ensure that settlement will not occur.

Method of Measurement:

The quantity of crushed stone measured for payment shall be the number of cubic feet or cubic yards, whose length, width and thickness shall be as accepted and measured in place after compaction.

Basis of Payment:

This work shall be paid for at the contract unit price per cubic foot or cubic yard for “No. 3 Crushed Stone” and for “No. 6 Crushed Stone”, complete in place, which price shall include preparation and compaction of the area or trench bottom on which the crushed stone is to be placed, as well as all work, materials, labor and equipment incidental thereto.

Associated excavation or geotextile fabric, as may be required, shall be measured and paid separately under their respective pay items. Payment for crushed stone shall be made under:

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---------------------|-----------------|
| No. 3 Crushed Stone | C.F. |
| No. 6 Crushed Stone | C.Y. |

ITEM #0910090A – STEEL-BACKED TIMBER GUIDERAIL – TYPE A
ITEM #0910091A – STEEL-BACKED TIMBER GUIDERAIL – TERMINAL SECTION
ITEM #0910092A – STEEL-BACKED TIMBER GUIDERAIL – BRIDGE ATTACHMENT

Description:

Work under this item shall consist of a single steel-backed timber rail element fastened to wood posts and the appropriate treatment at fixed objects, bridge parapets and terminal ends as shown on the plans. It shall be erected in the locations sited and fabricated in conformity with the designations, dimensions and details shown on the plans or as ordered by the Engineer.

Materials:

1. **Steel:** All back rails and splice plates shall conform to Subarticle M.06.02-1(b), and be manufactured from ASTM A 242 steel. The dimensions of each component shall conform to the plans and ASTM A6.
2. **Timber:** Furnish timber conforming to AASHTO M 168. Fabricate the timber rail, blockouts, and posts from dry, well seasoned, and dressed rough sawn Douglas fir, southern pine, or other species having a stress grade of at least 1,500 pounds per square inch. Treat the timber rail, blockout elements, and posts according to AASHTO M 133. For fastener hardware, conform to ASTM A 242. Timber Posts shall conform to AASHTO-AGC-ARTBA A Guide to Standardized Highway Barrier Hardware. Do not use a wood guiderail post that has a through check, shake, or end slit in the same plane as, or a plane parallel to the bolt hole and extending from the top of the post to within 3 inches or the bolt hole.
 - a) All timber components shall be pressure treated with CCA or ACZA depending on species supplied conforming to AWPA Standard P5 to a minimum net retention of 0.60lb/cubic foot in the assay zone in accordance with AWPA Standard C14.
 - b) All timber components shall be fabricated (including but not necessarily limited to incising, cutting, drilling, dapping and chamfering) prior to treatment.
 - c) All timber components shall be free of excess preservative and solvent at the conclusion of the treating process. Post treatment cleaning shall be by expansion bath or steaming in accordance with AWPA Standard C2;
 - d) Kiln or air dried to a maximum moisture content of 25% after treatment (KDAT - 25).
 - e) Treat the wood and mark each piece of treated timber according to AASHTO M 133.
 - f) Treat timber members according to Best Management Practices for the Use of Treated Wood in Aquatic Environments as published by the Western Wood Preservers Association.
 - g) All treated timber members must have a quality mark approved by the American Lumber Standards Committee for individual pieces or sealed pallets assuring that treatment conforms to the appropriate AWPA standards.

- h) Provide a production certification for each lot of treated wood. Indicate the preservative used, penetration in inches, retention in pounds per cubic foot (assay method), and the “Best Management Practices” used in treating timber members.

3. Fasteners: Round head bolts shall be manufactured in accordance with the sizes designated on the plans, the geometric specifications included in ANSI B18.5.1.2.2 and the material specifications for ASTM A588 steel. All round head bolts shall be marked with the manufactures symbol and A588. Hex Lag Screws shall be manufactured in accordance with ASTM A307 Grade A specifications. All Hex Lag Screws shall be hot-dipped galvanized in accordance with ASTM A153 Class C.

4. Concrete: All concrete shall be Class “A” Concrete.

Construction Methods:

Treat field cuts for wood posts with two coats of preservative applied with a brush or sprayer. Do not place field cuts in contact with the ground. Where the pavement surface is within 3 feet of the guiderail face, install posts before placing the pavement surface. Punch or drill pilot holes no more than 1/2 inch larger than the post dimensions. Drive the posts into the pilot holes and set the posts plumb. Backfill and compact around the posts with acceptable material. Where it is not possible to maintain a 24-inch minimum distance between the back of the guiderail post and the top of a 1V:2H or steeper slope, increase the standard post length by 12 inches. Where an impenetrable object is encountered, use a short post with a concrete anchor, decrease the post spacing, or nest two rail elements as approved by the Engineer. Do not change the post lengths and spacings in terminal sections. Where rock or boulders are encountered in driving the posts, the material shall be removed so as to make a hole of sufficient size to permit the setting of the post. The hole shall then be backfilled and thoroughly compacted before the driving of the posts. The Contractor is cautioned that within the limits of any project, buried cables for illumination or utilities, which may be energized, may be present.

Install the rail elements after the pavement adjacent to the guiderail is complete. Do not modify specified hole diameters or slot dimensions.

- a) Steel-backed timber rail: Equally space bolts along the front face of the timber rail to match the holes in the steel backing. Align timber guiderail along the top and front of the timber rail. Field cut timber rails to produce a close fit at joints. Treat field cuts with 2 coats of chromated copper arsenate. When required, field drill holes in the steel backing on curved sections to correspond to the field cut wood rails at the joints. Do not use a torch to cut holes.
- b) Terminal Sections: Construct terminal sections at the locations shown. Terminal sections consist of posts, railing, hardware, and anchorage assembly necessary to construct the type of terminal section specified. Where concrete anchors are installed, construct either cast-in-place or precast units. Do not connect the guiderail to cast-in-place anchors until the concrete has cured 7 days. When flared or tangent terminals are required, submit drawings from the manufacturer for the terminals.

c) Connection to Structure. Construct connection to structure according to the plans.

Whenever rail or rail treatments are being constructed adjacent to roadways open to traffic, the Contractor shall complete the installation to and including the designated terminal treatment at the close of each day's work.

On long runs or other locations where it is not practical to complete the installation to and including the designed terminal treatment by the end of each day's work, the Contractor shall use temporary methods for terminating the beam rail so as to minimize any hazard caused by leaving the end of the beam rail exposed to traffic. Temporary methods for terminating the beam rail shall include lowering the rail end to the ground and providing adequate anchorage of the rail end by bolting, securing, burying, etc.

The Contractor shall submit to the Engineer for approval details of his proposed methods for temporary terminating the end section. No work shall be performed adjacent to the areas open to traffic until approval is given.

The Contractor shall be required to furnish extra length posts at transition areas or where field conditions warrant. These posts shall be of such length that the minimum depth in the ground, as shown on the plans, is maintained.

Method of Measurement:

The length of "Steel-Backed Timber Guiderail – Type A" measured for payment will be the number of linear feet of accepted rail installed, measured along the top of the rail between centers of end posts in each continuous section.

"Steel-Backed Timber Guiderail – Terminal Section" and "Steel-Backed Timber Guiderail – Bridge Attachment" shall be measured for payment by the actual number of each attachment installed in accordance with the pay limits as designated on the plans.

Basis of Payment:

"Steel-Backed Timber Guiderail – Type A" will be paid for at the contract unit price per linear foot for the type or designation indicated on the plan or ordered by the Engineer, complete in place. The price shall include all materials, fittings, back-up rail, posts, equipment, and tools and labor incidental to the installation of the rail.

"Steel-Backed Timber Guiderail – Terminal Section" will be paid for at the contract unit price each as shown on the plans or as ordered by the Engineer, complete and in place. The price shall include all materials, fittings, back-up rails, posts, anchor bolts, attachment brackets, drilling and grouting, chemical anchoring material, equipment, removal and disposal of surplus material, tools and labor incidental to the installation of the rail.

“Steel-Backed Timber Guiderail – Bridge Attachment” to parapets or barriers will be paid for at the contract unit price each as shown on the plans or as ordered by the Engineer, complete and in place. The price shall include all materials, fittings, back-up rails, posts, anchor bolts, attachment brackets, drilling and grouting, chemical anchoring material, equipment, removal and disposal of surplus material, tools and labor incidental to the installation of the rail.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---|-----------------|
| Steel-Backed Timber Guiderail – Type A | L.F. |
| Steel-Backed Timber Guiderail – Terminal Section | Ea. |
| Steel-Backed Timber Guiderail – Bridge Attachment | Ea. |

ITEM #0913835A REMOVE AND RESET CHAIN LINK FENCE

Description:

This item shall include removal and resetting existing chain link fence. This item will also include the storage of chain link fence and associated materials between the time of its removal and resetting. It shall be erected to match its pre-construction configuration or as ordered by the Engineer. Any existing fence damaged by the contractor shall be repaired at his expense.

Work under this item shall conform to the applicable sections of Section 9.13 – Chain Link Fence

Materials:

New materials required shall conform to the requirements of Article M.10.05

Construction Methods:

The construction methods shall comply with the applicable sections of Section 9.13.03

The Contractor shall take necessary precautions to prevent any damage to portions of fence to be maintained.

Method of Measurement:

The length of "Remove and Reset Chain Link Fence" measured for payment will be the number of linear feet of accepted fence removed and installed, measured between the last undisturbed post to the last reset post.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for "Remove and Reset Chain Link Fence", complete in place, which price shall include all materials, tools, equipment and labor incidental thereto, also all excavation, backfilling and disposal of surplus material. Parts of fence damaged by the Contractor's operations shall be replaced at his own expense.

Pay Item

Pay Unit

Remove and Reset Chain Link Fence

L.F.

ITEM #0921001A – CONCRETE SIDEWALK

Section 9.21 *is supplemented as follows:*

Article 9.21.01 - Description: *Add the following:*

Work under this item also includes construction of sidewalks using integral concrete pavement color, pattern, textural surface, dry-shake color hardener, test slabs, and application of a sealant solution. Work under this item also includes furnishing and installing joints in accordance with the plans and this specification.

Article 9.21.02 – Materials: *Add the following:*

Patterns: Use the following patterns or approved equals:

For the sidewalks:

LITHOTEX ® Pavecrafters ® Limestone – Random Interlocking Pattern No. 300C. Viewed on the following website:
http://www.scofield.com/stampedconcrete_patterns17.html

Matcrete: Random Cobble stone
View on the following website:
<http://www.matcrete.com/Random-Cobblestone.asp>

Calico Products: Old Cobble Stone Concrete Stamp
<https://calicoproducts.com/product/01-concrete-stamps/cobble-stone/herringbone-old-cobble-stone-thin-joint/>

Preformed expansion joint filler: Shall conform with Article M.03.01 Part 5.(b).(1).

Joint Sealant: The joint sealant shall be prepared and placed in accordance with the manufacturer's direction and with the equipment prescribed by the manufacturer.

Backer Rod: An open-cell type rod with an impervious skin that will not outgas when ruptured. Use the backer rod together with the joint sealant. Select one of the following or an Engineer approved equal:

SOF ROD, manufactured by Nomaco Inc.
CERA-ROD, manufactured by W.R.Meadows, Inc.
Sandells Open-Cell Backer Rod, manufactured by Sandell Mfg. Co., Inc.

Submit a Materials Certificate for the above joint sealant conforming to Article 1.06.07.

Article 9.01.03 – Construction Methods: *Add the following:*

The contractor shall have at least 5 years of experience performing the installation of patterned and colored concrete on various state and/or municipal contracts. The prime Contractor submits a minimum of 5 references proving the satisfactory completion of such work performed by the concrete contractor within 7 calendar days of the award of the contract for Engineer approval. The submittal shall include the names, addresses, and phone numbers of the personnel responsible for the administering the contracts, and the location of the prior work. If the Engineer determines that the contractor proposed has insufficient experience, or has performed unsatisfactory work on other contracts, the prime Contractor will be required to resubmit documentation for an alternate contractor for the approval of the Engineer.

TEST SLABS: Cast a stamped and colored concrete test slab to show the pattern, texture relief, surface finish, color, and standard of workmanship. Minimum size is 5' x 5'. Construct the test slab the same methods as outlined in the above Construction Methods and using the same Materials. The test slab shall be patterned. Include a repaired area of at least 1.5' x 1.5' to demonstrate the Contractors ability to match the color and texture to simulate damage during construction requiring repair. Produce, as Engineer directed, 1.5' x 1.5' test slabs in order to confirm a color before building the stamped 5' X 5' textured slab.

Build test slabs in locations directed by the Engineer. The construction of the stamped concrete begins after the Engineer approves the test slab. Maintain the test slabs during construction, undisturbed, as a standard for judging the completed work. All test slabs shall be removed and disposed of when directed by the Engineer.

The stamped concrete shall have a uniform and consistent color and pattern matching that of the approved test slab. Stamp patterns with respect to the joints to insure the stones in the pattern line up with the joint locations. Special procedures or stamping equipment is required to construct the pattern on the circular truck apron or irregular shaped islands. Follow all manufacturers' recommendations unless otherwise directed by the Engineer.

Schedule the concrete placement to avoid exposure to excessive wind and heat before applying curing materials. In the event of forecasted rain, snow, or frost within a 24 hour period of time, protect concrete from moisture, freezing, or thawing.

A Pre-Placement meeting shall be held one week prior to concrete placement to discuss the project and application methods. It is strongly suggested that the Engineer, General Contractor, Subcontractor, concrete representative, and a manufacturer's representative are all present at the meeting.

Article 9.01.05 – Basis of Payment: *Add the following:*

Payment for the construction of a concrete sidewalk shall also include the fabrication and removal of test slabs at locations directed by the engineer.

ITEM #0969062A - CONSTRUCTION FIELD OFFICE, MEDIUM

Description:

Under the item included in the bid document, adequate weatherproof office quarters with related furnishings, materials, equipment and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of Municipal forces and others who may be engaged to augment Municipal forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

Furnishings/Materials/Supplies/Equipment: All furnishings, materials, equipment and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

Office Requirements: The Contractor shall furnish the office quarters and equipment as described below:

| Description \ Office Size | Small | Med. | Large | |
|---|-------|------|-------|--|
| Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft. | 400 | 400 | 1000 | |
| Minimum number of exterior entrances. | 2 | 2 | 2 | |
| Minimum number of parking spaces. | 7 | 7 | 10 | |

Office Layout: The office shall have a minimum square footage as indicated in the table above, and shall be partitioned as shown on the building floor plan as provided by the Engineer.

Tie-downs and Skirting: Modular offices shall be tied-down and fully skirted to ground level.

Lavatory Facilities: For field offices sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by Municipal personnel and such assistants as they may engage; and for field office size Large the Contractor shall furnish two (2) separate lavatories with toilet (men and women), in separately enclosed rooms that are properly ventilated and comply with applicable sanitary codes. Each lavatory shall have hot and cold running water and flush-type toilets. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

Windows and Entrances: The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with locking devices, blinds and screens. The entrances shall be secure, screened, and fitted with a

lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the Municipality and will be kept in their possession while Municipal personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including: lighting, general outlets, computer outlets, calculators etc., and meet the following minimum specifications:

- A. 120/240 volt, 1 phase, 3 wire
- B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
- C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
- D. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
- E. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.
- F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
- G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120 volt, straight blade.
- H. After work is complete and prior to energizing, the Municipalities electrical inspector, must be contacted.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient heating, air conditioning and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small, Medium and Large field office this shall consist of the installation of two (2) telephone lines: one (1) line for phone/voice service and one (1) line dedicated for the facsimile machine. The Contractor shall pay all charges.

Data Communications Facility Wiring:

The Contractor shall supply cables to connect the Computer(s), Wi-Fi printer and Multi-Function Laser Printer/Copier/Scanner/Fax to the Contractor supplied internet router and to workstations/devices as needed.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field Office at least the following to the satisfaction of the Engineer:

| Furnishing Description | Office Size | | | |
|---|-------------|------|-------|--|
| | Small | Med. | Large | |
| | Quantity | | | |
| Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair that have pneumatic seat height adjustment and dual wheel casters on the base. | 1 | 3 | 5 | |
| Personal computer tables (4 ft. x 2.5 ft.). | 2 | 3 | 5 | |
| Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafters stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base. | 1 | 1 | 1 | |
| Conference table, 3 ft. x 12 ft. | - | - | - | |
| Table – 3 ft. x 6 ft. | - | - | - | |
| Office Chairs. | 2 | 4 | 8 | |
| Mail slot bin – legal size. | - | - | 1 | |
| Non-fire resistant cabinet. | - | - | 2 | |
| Fire resistant cabinet (legal size/4 drawer), locking. | 1 | 1 | 2 | |
| Storage racks to hold 3 ft. x 5 ft. display charts. | - | - | 1 | |
| Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack. | 1 | 1 | 2 | |
| Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft. | - | - | 1 | |
| Case of cardboard banker boxes (Min 10 boxes/case) | 1 | 1 | 2 | |
| Open bookcase – 3 shelves – 3 ft. long. | - | - | 2 | |
| White Dry-Erase Board, 36” x 48”min. with markers and eraser. | 1 | 1 | 1 | |
| Interior partitions – 6 ft. x 6 ft., soundproof type, portable and freestanding. | - | - | 6 | |
| Wastebaskets - 30 gal., including plastic waste bags. | 1 | 1 | 1 | |
| Wastebaskets - 5 gal., including plastic waste bags. | 1 | 3 | 6 | |

| | | | | |
|--|---|---|---|--|
| Telephone. | 1 | 1 | 1 | |
| Full size stapler 20 (sheet capacity, with staples) | 1 | 2 | 5 | |
| Desktop tape dispensers (with Tape) | 1 | 2 | 5 | |
| 8 Outlet Power Strip with Surge Protection | 3 | 4 | 6 | |
| Rain Gauge | 1 | 1 | 1 | |
| Mini refrigerator - 3.2 c.f. min. | 1 | 1 | 1 | |
| Hot and cold water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project. | 1 | 1 | 1 | |
| Microwave, 1.2 c.f. , 1000W min. | 1 | 1 | 1 | |
| Fire extinguishers - provide and install type and *number to meet applicable State and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire. | * | * | * | |
| Electric pencil sharpeners. | 1 | 2 | 2 | |
| Electronic office type printing calculators capable of addition, subtraction, multiplication and division with memory and a supply of printing paper. | 1 | 2 | 2 | |
| Small Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> . | 1 | 1 | | |
| Large Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> . | | | 1 | |
| Field Office Wi-Fi Connection as specified below under <u>Computer Related Hardware and Software</u> | 1 | 1 | 1 | |
| Wi-Fi Printer as specified below under <u>Computer Related Hardware and Software</u> . | 1 | 1 | 1 | |
| Digital Camera as specified below under <u>Computer Related Hardware and Software</u> . | 1 | 1 | 3 | |
| Desktop and/or Laptop Computer w/software as specified below under <u>Computer Related Hardware and Software</u> | 1 | 1 | 2 | |
| Infrared Thermometer, including annual third party certified calibration, case, and cleaning wipes. | 1 | 1 | 1 | |
| Concrete Curing Box as specified below under Concrete Testing Equipment. | 1 | 1 | 1 | |
| Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis. | 1 | 1 | 1 | |
| Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment. | 1 | 1 | 1 | |
| First Aid Kit | 1 | 1 | 1 | |

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment or furnishings shall be provided by the Contractor for the duration of the project.

Computer Related Hardware and Software: The Contractor will supply by its own means the actual Personal Computer(s) for the Municipal representatives. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s) and Multifunction Laser Printer/Copier/Scanner/Fax as well as associated hardware and software, must meet the requirements of this specification as well as the latest minimum specifications posted, as of the project advertising date, at CTDOTs web site <http://www.ct.gov/dot/cwp/view.asp?a=1410&q=563904>

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Computers, Wi-Fi Printer, the Multifunction Laser Printer/Copier/Scanner/Fax), Field Office Wi-Fi and Digital Camera(s) as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Municipality or their Representative for review and approval. The Computers, Wi-Fi Printer, Multifunction Laser Printer/Copier/Scanner/Fax, Wi-Fi Router and digital cameras will be reviewed by Municipal personnel or their Representative. The Contractor shall not purchase the hardware, software, or services until the Municipality or their Representative informs them that the proposed equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation and setup of the field office Wi-Fi, Wi-Fi printer, Computer(s) and the configuration of the wireless router as directed by the Municipality. Installation will be coordinated with Municipal and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the Municipality, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi Connection, Computer(s), Wi-Fi Printer, Digital Camera(s), and Multifunction Laser Printer/Copier/Scanner/Fax, as well as associated hardware, software, supplies, and support documentation.

The Contractor shall provide all supplies, paper, maintenance, service and repairs (including labor and parts) for the Computer(s), Wi-Fi printers, copiers, field office Wi-Fi, fax machines and other equipment and facilities required by this specification for the duration of the Contract. All repairs must be performed with-in 48 hours. If the repairs require more than a 48 hours then an equal or better replacement must be provided.

Once the Contract has been completed, the hardware and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply install and maintain a rain gauge for the duration of the project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rain water from the top of the post into the rain gauge. The Location of the rain gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

- A) Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
- B) Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
- C) Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T119, Standard Test Method for Slump of Hydraulic-Cement Concrete.

All testing equipment will remain the property of the Contractor at the completion of the project.

Maintenance: During the occupancy by the Municipality, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of weekly professional cleaning to include, but not limited to, washing & waxing floors, cleaning restrooms, removal of trash, etc. Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance ways areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and sanding are not completed by the specified time, the Municipality will provide the service and all costs incurred will be deducted from the next payment estimate.

Method of Measurement:

The furnishing and maintenance of the construction field office will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer related hardware and software requirements.

Basis of Payment:

The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for “Construction Field Office, Medium,” which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements of this specified this specification.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|-----------------------------------|-----------------|
| Construction Field Office, Medium | Month |

ITEM #0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description is supplemented by the following:

The Contractor shall maintain and protect traffic as described by the following and as limited in the Special Provision "Prosecution and Progress":

Sunnyside Street

The Contractor shall maintain and protect a minimum of one lane of traffic in each direction approaching the bridge, with each lane on a paved travel path not less than 10 feet in width.

The Contractor will be allowed to close Sunnyside Street to through traffic as dictated by the Special Provision for Section 1.08 – Prosecution and Progress, and as shown on the Roadway Closure Signage Plan contained in the contract plans.

All other Roadways

Traffic on all other roadways shall be maintained. Temporary impacts are allowed to install advance signage.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the project limits, except during planned bridge closures. The Contractor will be allowed to close said driveways to perform the required work during those periods when the businesses are closed, unless permission is granted from the business owner to close the driveway during business hours. If a temporary closure of a residential driveway is necessary, the Contractor shall coordinate with the owner to determine the time period of the closure.

Article 9.71.03 - Construction Method is supplemented as follows:

General

Unpaved travel paths will only be permitted for areas requiring full depth and full width reconstruction, in which case, the Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 10 calendar days. The unpaved section shall be the full width of the road and perpendicular to the travel lanes. Opposing traffic lane dividers shall be used as a centerline.

The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific contract plans and provisions to temporarily lower these structures prior to the completion of work.

The Contractor shall schedule operations so that pavement removal and roadway resurfacing shall be completed full width across a roadway (bridge) section by the end of a workday (work night), or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement is completed for the entire roadway, the Contractor shall install the final course of bituminous concrete pavement.

If applicable, when an existing sign is removed, it shall be either relocated or replaced by a new sign during the same working day.

The Contractor shall not store any material on-site which would present a safety hazard to motorists or pedestrians (e.g. fixed object or obstruct sight lines).

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

Existing Signing

The Contractor shall maintain all existing side-mounted signs throughout the project limits during the duration of the project. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and install temporary sign supports if necessary and as directed by the Engineer.

Requirements for Winter

The Contractor shall schedule a meeting with representatives from the Department including the offices of Maintenance and Traffic, and the Town/City to determine what interim traffic control measures the Contractor shall accomplish for the winter to provide safety to the motorists and permit adequate snow removal procedures. This meeting shall be held prior to October 31 of each year and will include, but not be limited to, discussion of the status and schedule of the following items: lane and shoulder widths, pavement restoration, traffic signal work, pavement markings, and signing.

Signing Patterns

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances between advance warning signs and proper taper lengths are mandatory.

Pavement Markings -Non-Limited Access Multilane Roadways

Secondary and Local Roadways

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the project.

Interim Pavement Markings

The Contractor shall install painted pavement markings, which shall include centerlines, edge lines, lane lines (broken lines), lane-use arrows, and stop bars, on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work day/night. If the next course of bituminous concrete pavement will be placed within seven days, edge lines are not required. The painted pavement markings will be paid under the appropriate items.

If the Contractor will install another course of bituminous concrete pavement within 24 hours, the Contractor may install Temporary Plastic Pavement Marking Tape in place of the painted pavement markings by the end of the work day/night. These temporary pavement markings shall include centerlines, lane lines (broken lines) and stop bars; edge lines are not required. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 to 6 inches apart, at 40-foot intervals. No passing zones should be posted with signs in those areas where the final centerlines have not been established on two-way roadways. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side. The Contractor shall remove and dispose of the Temporary Plastic Pavement Marking Tape when another course of bituminous concrete pavement is installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

If an intermediate course of bituminous concrete pavement will be exposed throughout the winter, then Epoxy Resin Pavement Markings should be installed unless directed otherwise by the Engineer.

Final Pavement Markings

The Contractor should install painted pavement markings on the final course of bituminous concrete pavement by the end of the work day/night. If the painted pavement markings are not installed by the end of the work day/night, then Temporary Plastic Pavement Marking Tape shall be installed as described above and the painted pavement markings shall be installed by the end of the work day/night on Friday of that week.

If Temporary Plastic Pavement Marking Tape is installed, the Contractor shall remove and dispose of these markings when the painted pavement markings are installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

The Contractor shall install permanent Epoxy Resin Pavement Markings in accordance with Section 12.10 entitled "Epoxy Resin Pavement Markings" after such time as determined by the Engineer.

TRAFFIC CONTROL DURING CONSTRUCTION OPERATIONS

The following guidelines shall assist field personnel in determining when and what type of traffic control patterns to use for various situations. These guidelines shall provide for the safe and efficient movement of traffic through work zones and enhance the safety of work forces in the work area.

TRAFFIC CONTROL PATTERNS

Traffic control patterns shall be used when a work operation requires that all or part of any vehicle or work area protrudes onto any part of a travel lane or shoulder. For each situation, the installation of traffic control devices shall be based on the following:

Speed and volume of traffic
Duration of operation
Exposure to hazards

Traffic control patterns shall be uniform, neat and orderly so as to command respect from the motorist.

In the case of a horizontal or vertical sight restriction in advance of the work area, the traffic control pattern shall be extended to provide adequate sight distance for approaching traffic.

If a lane reduction taper is required to shift traffic, the entire length of the taper should be installed on a tangent section of roadway so that the entire taper area can be seen by the motorist.

Any existing signs that are in conflict with the traffic control patterns shall be removed, covered, or turned so that they are not readable by oncoming traffic.

When installing a traffic control pattern, a Buffer Area should be provided and this area shall be free of equipment, workers, materials and parked vehicles.

Typical traffic control plans 19 through 25 may be used for moving operations such as line striping, pot hole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns will not be required when vehicles are on an emergency patrol type activity or when a short duration stop is made and the equipment can be contained within the shoulder. Flashing lights and appropriate trafficperson shall be used when required.

Although each situation must be dealt with individually, conformity with the typical traffic control plans contained herein is required. In a situation not adequately covered by the typical traffic control plans, the Contractor must contact the Engineer for assistance prior to setting up a traffic control pattern.

PLACEMENT OF SIGNS

Signs must be placed in such a position to allow motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On multi-lane divided highways, advance warning signs shall be installed on both sides of the

highway. On directional roadways (on-ramps, off-ramps, one-way roads), where the sight distance to signs is restricted, these signs should be installed on both sides of the roadway.

ALLOWABLE ADJUSTMENT OF SIGNS AND DEVICES SHOWN ON THE TRAFFIC CONTROL PLANS

The traffic control plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans whenever possible.

The proper application of the traffic control plans and installation of traffic control devices depends on actual field conditions.

Adjustments to the traffic control plans shall be made only at the direction of the Engineer to improve the visibility of the signs and devices and to better control traffic operations. Adjustments to the traffic control plans shall be based on safety of work forces and motorists, abutting property requirements, driveways, side roads, and the vertical and horizontal curvature of the roadway.

The Engineer may require that the traffic control pattern be located significantly in advance of the work area to provide better sight line to the signing and safer traffic operations through the work zone.

Table I indicates the minimum taper length required for a lane closure based on the posted speed limit of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the traffic control plans cannot be achieved.

TABLE I – MINIMUM TAPER LENGTHS

| POSTED SPEED LIMIT MILES PER HOUR | MINIMUM TAPER LENGTH IN FEET FOR A SINGLE LANE CLOSURE |
|--------------------------------------|---|
| 30 OR LESS | 180 |
| 35 | 250 |
| 40 | 320 |
| 45 | 540 |
| 50 | 600 |
| 55 | 660 |
| 65 | 780 |

SECTION 1. WORK ZONE SAFETY MEETINGS

- 1.a) Prior to the commencement of work, a work zone safety meeting will be conducted with representatives of DOT Construction, Connecticut State Police (Local Barracks), Municipal Police, the Contractor (Project Superintendent) and the Traffic Control Subcontractor (if different than the prime Contractor) to review the traffic operations, lines of responsibility, and operating guidelines which will be used on the project. Other work zone safety meetings during the course of the project should be scheduled as needed.
- 1.b) A Work Zone Safety Meeting Agenda shall be developed and used at the meeting to outline the anticipated traffic control issues during the construction of this project. Any issues that can't be resolved at these meetings will be brought to the attention of the District Engineer and the Office of Construction. The agenda should include:
- Review Project scope of work and time
 - Review Section 1.08, Prosecution and Progress
 - Review Section 9.70, Trafficpersons
 - Review Section 9.71, Maintenance and Protection of Traffic
 - Review Contractor's schedule and method of operations.
 - Review areas of special concern: ramps, turning roadways, medians, lane drops, etc.
 - Open discussion of work zone questions and issues
 - Discussion of review and approval process for changes in contract requirements as they relate to work zone areas

SECTION 2. GENERAL

- 2.a) If the required minimum number of signs and equipment (i.e. one High Mounted Internally Illuminated Flashing Arrow for each lane closed, two TMAs, Changeable Message Sign, etc.) are not available; the traffic control pattern shall not be installed.**
- 2.b) The Contractor shall have back-up equipment (TMAs, High Mounted Internally Illuminated Flashing Arrow, Changeable Message Sign, construction signs, cones/drums, etc.) available at all times in case of mechanical failures, etc. The only exception to this is in the case of sudden equipment breakdowns in which the pattern may be installed but the Contractor must provide replacement equipment within 24 hours.
- 2.c) Failure of the Contractor to have the required minimum number of signs, personnel and equipment, which results in the pattern not being installed, shall not be a reason for a time extension or claim for loss time.
- 2.d) In cases of legitimate differences of opinion between the Contractor and the Inspection staff, the Inspection staff shall err on the side of safety. The matter shall be brought to the District Office for resolution immediately or, in the case of work after regular business hours, on the next business day.

SECTION 3. INSTALLING AND REMOVING TRAFFIC CONTROL PATTERNS

3.a) Lane Closures shall be installed beginning with the advance warning signs and proceeding forward toward the work area.

3.b) Lane Closures shall be removed in the reverse order, beginning at the work area, or end of the traffic control pattern, and proceeding back toward the advance warning signs.

3.c) Stopping traffic may be allowed:

- As per the contract for such activities as blasting, steel erection, etc.
- During paving, milling operations, etc. where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway and traffic should not travel across the longitudinal joint or difference in roadway elevation.
- To move slow moving equipment across live traffic lanes into the work area.

3.d) Under certain situations when the safety of the traveling public and/or that of the workers may be compromised due to conditions such as traffic volume, speed, roadside obstructions, or sight line deficiencies, as determined by the Engineer and/or State Police, traffic may be briefly impeded while installing and/or removing the advance warning signs and the first ten traffic cones/drums only. Appropriate measures shall be taken to safely slow traffic. If required, traffic slowing techniques may be used and shall include the use of Truck Mounted Impact Attenuators (TMAs) as appropriate, for a minimum of one mile in advance of the pattern starting point. Once the advance warning signs and the first ten traffic cones/drums are installed/removed, the TMAs and sign crew shall continue to install/remove the pattern as described in Section 5 and traffic shall be allowed to resume their normal travel.

3.e) The Contractor must adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.

3.f) Additional devices are required on entrance ramps, exit ramps, and intersecting roads to warn and/or move traffic into the proper travel path prior to merging/exiting with/from the main line traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.

3.g) Prior to installing a pattern, any conflicting existing signs shall be covered with an opaque material. Once the pattern is removed, the existing signs shall be uncovered.

3.h) On limited access roadways, workers are prohibited from crossing the travel lanes to install and remove signs or other devices on the opposite side of the roadway. Any signs or devices on the opposite side of the roadway shall be installed and removed separately.

SECTION 4. USE OF HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

4.a) On limited access roadways, one Flashing Arrow shall be used for each lane that is closed. The Flashing Arrow shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the traffic control plan. For multiple lane closures, one Flashing Arrow is required for each lane closed. If conditions warrant, additional Flashing Arrows should be employed (i.e.: curves, major ramps, etc.).

4.b) On non-limited access roadways, the use of a Flashing Arrow for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the Flashing Arrow.

4.c) The Flashing Arrow shall not be used on two lane, two-way roadways for temporary alternating one-way traffic operations.

4.d) The Flashing Arrow board display shall be in the “arrow” mode for lane closure tapers and in the “caution” mode (four corners) for shoulder work, blocking the shoulder, or roadside work near the shoulder. The Flashing Arrow shall be in the “caution” mode when it is positioned in the closed lane.

4.e) The Flashing Arrow shall not be used on a multi-lane roadway to laterally shift all lanes of traffic, because unnecessary lane changing may result.

SECTION 5. USE OF TRUCK MOUNTED IMPACT ATTENUATOR VEHICLES (TMAs)

5.a) For lane closures on limited access roadways, a minimum of two TMAs shall be used to install and remove traffic control patterns. If two TMAs are not available, the pattern shall not be installed.

5.b) On non-limited access roadways, the use of TMAs to install and remove patterns closing a lane(s) is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to utilize the TMAs.

5.c) Generally, to establish the advance and transition signing, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane. The flashing arrow board mounted on the TMA should be in the “flashing arrow” mode when taking the lane. The sign truck and workers should be immediately ahead of the second TMA. In no case shall the TMA be used as the sign truck or a work truck. Once the transition is in place, the TMAs shall travel in the closed lane until all Changeable Message Signs, signs, Flashing Arrows, and cones/drums are installed. The flashing arrow board mounted on the TMA should be in the “caution” mode when traveling in the closed lane.

5.d) A TMA shall be placed prior to the first work area in the pattern. If there are multiple work areas within the same pattern, then additional TMAs shall be positioned at each additional work area as needed. The flashing arrow board mounted on the TMA should be in the “caution” mode when in the closed lane.

5.e) TMAs shall be positioned a sufficient distance prior to the workers or equipment being protected to allow for appropriate vehicle roll-ahead in the event that the TMA is hit, but not so far that an errant vehicle could travel around the TMA and into the work area. For additional placement and use details, refer to the specification entitled “Type ‘D’ Portable Impact Attenuation System”. Some operations, such as paving and concrete repairs, do not allow for placement of the TMA(s) within the specified distances. In these situations, the TMA(s) should be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.

5.f) TMAs should be paid in accordance with how the unit is utilized. When it is used as a TMA and is in the proper location as specified, and then it should be paid at the specified hourly rate for “Type ‘D’ Portable Impact Attenuation System”. When the TMA is used as a Flashing Arrow, it should be paid at the daily rate for “High Mounted Internally Illuminated Flashing Arrow”. If a TMA is used to install and remove a pattern and then is used as a Flashing Arrow, the unit should be paid as a “Type ‘D’ Portable Impact Attenuation System” for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove), and is also paid for the day as a “High Mounted Internally Illuminated Flashing Arrow”.

SECTION 6. USE OF TRAFFIC DRUMS AND TRAFFIC CONES

6.a) Traffic drums shall be used for taper channelization on limited-access roadways, ramps, and turning roadways and to delineate raised catch basins and other hazards.

6.b) Traffic drums shall be used in place of traffic cones in traffic control patterns that are in effect for more than a 36-hour duration.

6.c) Traffic Cones less than 42 inches in height shall not be used on limited-access roadways or on non-limited access roadways with a posted speed limit of 45 mph and above.

6.d) Typical spacing of traffic drums and/or cones shown on the Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

SECTION 7. USE OF (REMOTE CONTROLLED) CHANGEABLE MESSAGE SIGNS (CMS)

7.a) For lane closures on limited access roadways, one CMS shall be used in advance of the traffic control pattern. Prior to installing the pattern, the CMS shall be installed and in operation, displaying the appropriate lane closure information (i.e.: Left Lane Closed - Merge Right). The

CMS shall be positioned ½ - 1 mile ahead of the lane closure taper. If the nearest Exit ramp is greater than the specified ½ - 1 mile distance, than an additional CMS shall be positioned a sufficient distance ahead of the Exit ramp to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 7.b) CMS should not be installed within 1000 feet of an existing CMS.
- 7.c) On non-limited access roadways, the use of CMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the CMS.
- 7.d) The advance CMS is typically placed off the right shoulder, 5 feet from the edge of pavement. In areas where the CMS cannot be placed beyond the edge of pavement, it may be placed on the paved shoulder with a minimum of five (5) traffic drums placed in a taper in front of it to delineate its position. The advance CMS shall be adequately protected if it is used for a continuous duration of 36 hours or more.
- 7.e) When the CMS are no longer required, they should be removed from the clear zone and have the display screen cleared and turned 90° away from the roadway.
- 7.f) The CMS generally should not be used for generic messages (ex: Road Work Ahead, Bump Ahead, Gravel Road, etc.).
- 7.g) The CMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs (Examples include: Exit 34 Closed Sat/Sun - Use Exit 35, All Lanes Closed - Use Shoulder, Workers on Road - Slow Down).
- 7.h) Messages that need to be displayed for long periods of time, such as during stage construction, should be displayed with construction signs. For special signs, please coordinate with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 7.i) The messages that are allowed on the CMS are as follows:

| <u>Message No.</u> | <u>Frame 1</u> | <u>Frame 2</u> | <u>Message No.</u> | <u>Frame 1</u> | <u>Frame 2</u> |
|--------------------|----------------------------|-----------------|--------------------|-----------------------------|------------------|
| 1 | LEFT LANE CLOSED | MERGE RIGHT | 9 | LANES CLOSED AHEAD | REDUCE SPEED |
| 2 | 2 LEFT LANES CLOSED | MERGE RIGHT | 10 | LANES CLOSED AHEAD | USE CAUTION |
| 3 | LEFT LANE CLOSED | REDUCE SPEED | 11 | WORKERS ON ROAD | REDUCE SPEED |
| 4 | 2 LEFT LANES CLOSED | REDUCE SPEED | 12 | WORKERS ON ROAD | SLOW DOWN |
| 5 | RIGHT LANE CLOSED | MERGE LEFT | 13 | EXIT XX CLOSED | USE EXIT YY |
| 6 | 2 RIGHT LANES CLOSED | MERGE LEFT | 14 | EXIT XX CLOSED USE YY | FOLLOW DETOUR |
| 7 | RIGHT LANE CLOSED | REDUCE SPEED | 15 | 2 LANES SHIFT AHEAD | USE CAUTION |
| 8 | 2 RIGHT LANES CLOSED | REDUCE SPEED | 16 | 3 LANES SHIFT AHEAD | USE CAUTION |

For any other message(s), approval must be received from the Office of Construction prior to their use. No more than two (2) displays shall be used within any message cycle.

SECTION 8. USE OF STATE POLICE OFFICERS

- 8.a) State Police may be utilized only on limited access highways and secondary roadways under their primary jurisdiction. One Officer may be used per critical sign pattern. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Likewise in areas with moderate traffic and wide, unobstructed medians, left lane closures can be implemented without State Police presence. Under some situations it may be desirable to have State Police presence, when one is available. Examples of this include: nighttime lane closures; left lane closures with minimal width for setting up advance signs and staging; lane and shoulder closures on turning roadways/ramps or mainline where sight distance is minimal; and closures where extensive turning movements or traffic congestion regularly occur, however they are not required.
- 8.b) Once the pattern is in place, the State Police Officer should be positioned in a non-hazardous location in advance of the pattern. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall be repositioned prior to the backup to give warning to the oncoming motorists. The State Police Officer and TMA should not be in proximity to each other.
- 8.c) Other functions of the State Police Officer(s) may include:
- Assisting entering/exiting construction vehicles within the work area.
 - Enforcement of speed and other motor vehicle laws within the work area, if specifically requested by the project.
- 8.d) State Police Officers assigned to a work site are to only take direction from the Engineer.

NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN (A), THEN AN ADDITIONAL SIGN (A) SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS (AA), (A), AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN TRAFFIC DRUMS SHALL BE USED IN PLACE OF TRAFFIC CONES.
5. ANY LEGAL SPEED LIMIT SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA SHALL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT, AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS RE-OPENED TO ALL LANES OF TRAFFIC.
6. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN ANY EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED, AND TEMPORARY PAVEMENT MARKINGS THAT DELINEATE THE PROPER TRAVELPATHS SHALL BE INSTALLED.
7. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 100' ON LOW-SPEED URBAN ROADS (SPEED LIMIT < 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION DURING THE HOURS OF DARKNESS, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
10. SIGN (P) SHALL BE MOUNTED A MINIMUM OF 7 FEET FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN.

TABLE 1 - MINIMUM TAPER LENGTHS

| POSTED SPEED LIMIT (MILES PER HOUR) | MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE |
|--|---|
| 30 OR LESS | 180' (55m) |
| 35 | 250' (75m) |
| 40 | 320' (100m) |
| 45 | 540' (165m) |
| 50 | 600' (180m) |
| 55 | 660' (200m) |
| 65 | 780' (240m) |

METRIC CONVERSION CHART (1" = 25mm)

| ENGLISH | METRIC | ENGLISH | METRIC | ENGLISH | METRIC |
|---------|--------|---------|--------|---------|--------|
| 12" | 300mm | 42" | 1050mm | 72" | 1800mm |
| 18" | 450mm | 48" | 1200mm | 78" | 1950mm |
| 24" | 600mm | 54" | 1350mm | 84" | 2100mm |
| 30" | 750mm | 60" | 1500mm | 90" | 2250mm |
| 36" | 900mm | 66" | 1650mm | 96" | 2400mm |



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN NOTES

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

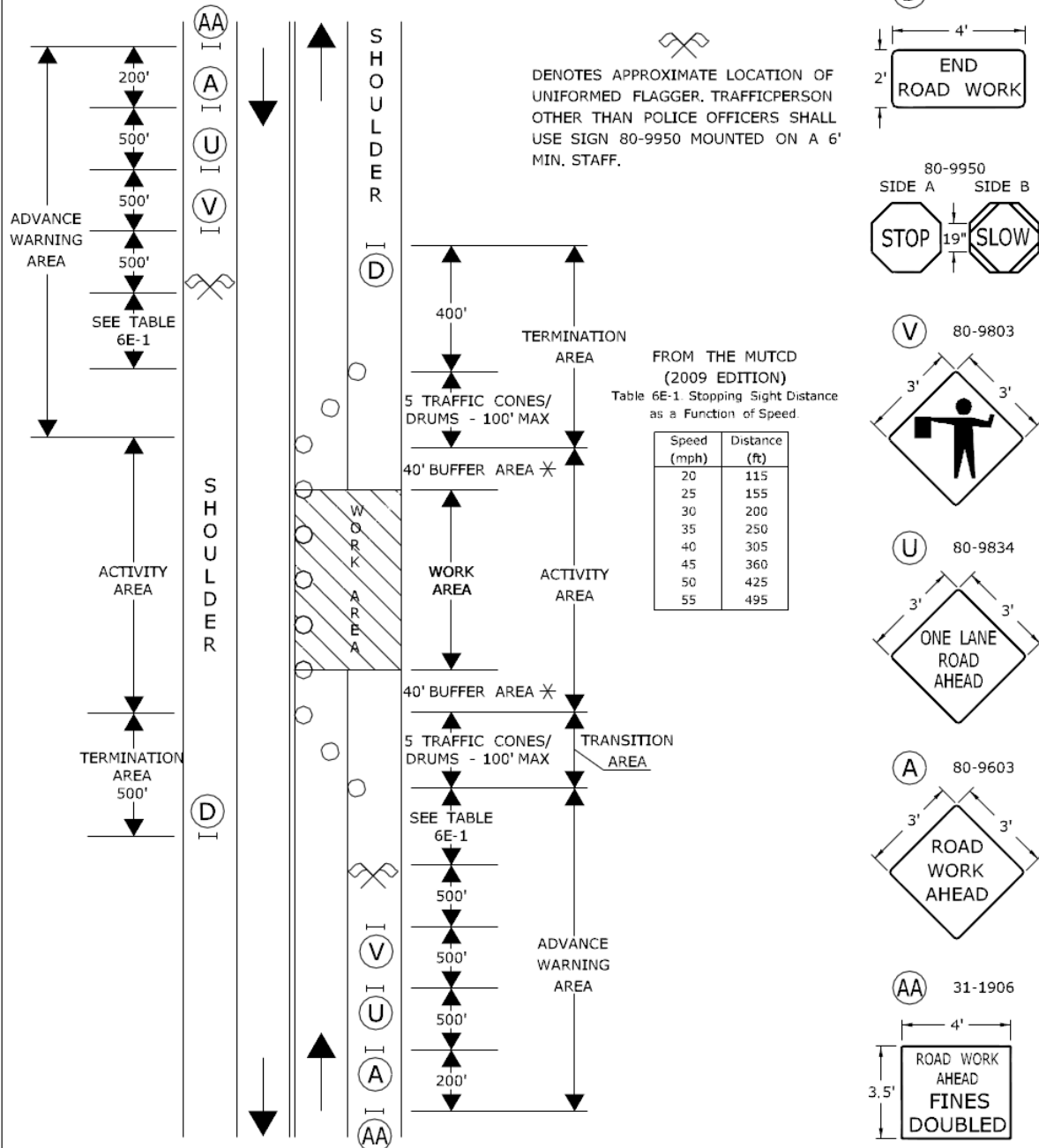
APPROVED

Charles S. Harlow
PRINCIPAL ENGINEER

Charles S. Harlow
2012.06.05 15:50:35-0400

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT. (MIN.)



- 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

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
PRINCIPAL ENGINEER

Charles S. Harlow
2012.06.05 15:55:23-04'00"

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. 80-9950) 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

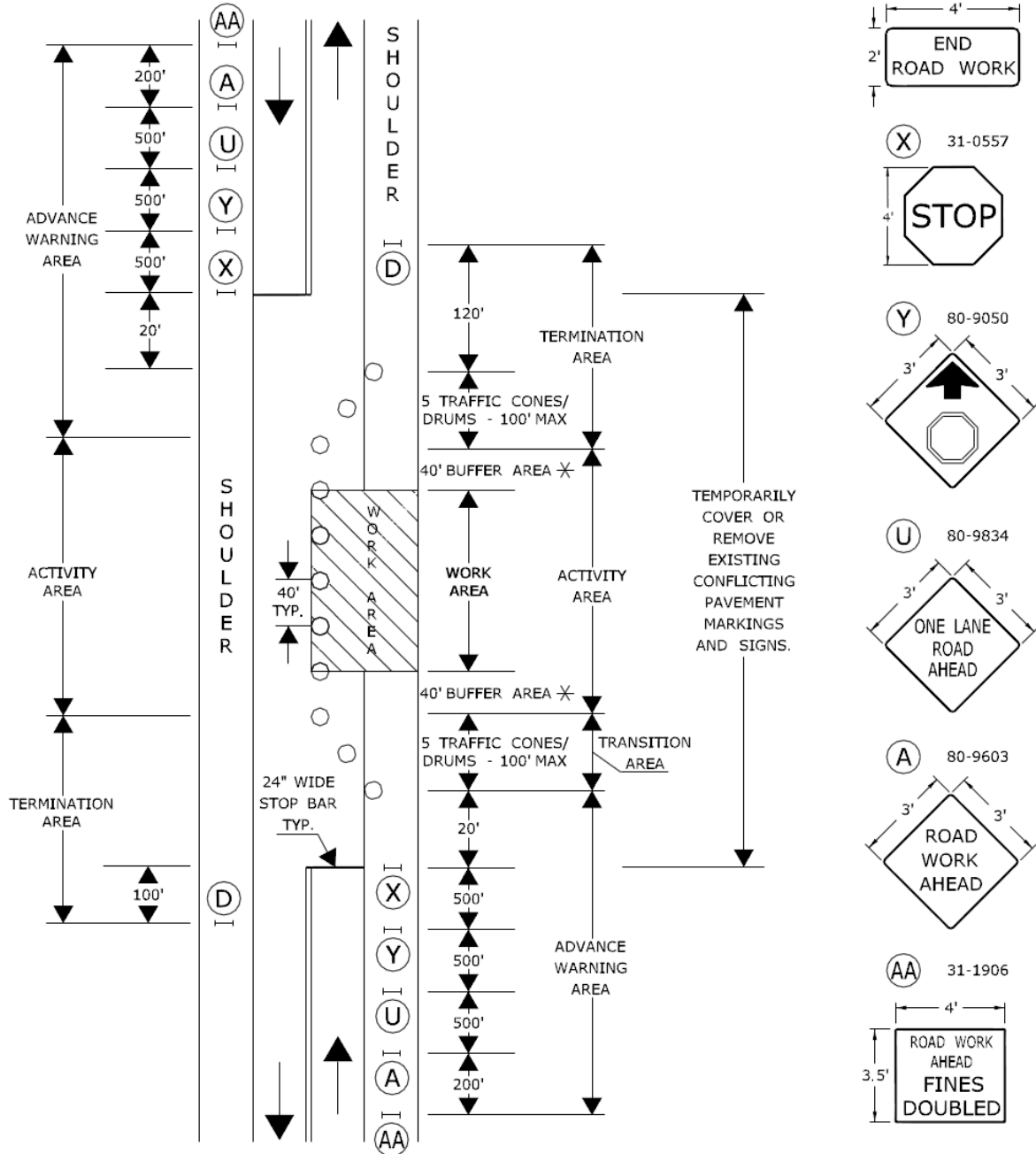
CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
PRINCIPAL ENGINEER
Charles S. Harlow
2012.06.05 15:55:45-04'00"

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS STOP SIGN CONTROL

SIGN FACE
125 SQ. FT. (MIN.)



- TRAFFIC CONE **OR** TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN

PLAN 18

SEE NOTES 1, 2, 4, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* Charles S. Harlow
2012.06.05 15:57:37-0400
PRINCIPAL ENGINEER

Article 9.71.05 – Basis of Payment is supplemented by the following:

The temporary relocation of signs and supports, and the furnishing, installation and removal of any temporary supports shall be paid for under the item “Maintenance and Protection of Traffic”. Temporary overhead sign supports and foundations shall be paid for under the appropriate item(s), if applicable.

The cost of furnishing, installing, and removing the material for the 4H:1V traversable slope shall be paid for under the item “Maintenance and Protection of Traffic.”

ITEM #0974106A – TIMBER SUPPORT MAT

Description:

Work under this item shall consist of furnishing, installing, maintaining and removing a temporary timber mat to provide a temporary access roadway for construction equipment across delineated wetlands as shown on the plans, in accordance with these specifications, and as directed by the Engineer.

Materials:

The materials used shall be of satisfactory quality, and capable of safely carrying the anticipated loads. All materials shall be approved by the Engineer before use.

All materials shall be free of biological invasive species.

Mats shall be constructed of materials that do not introduce or leave behind components (chemical or biological) that are disruptive to the local ecology.

Construction Methods:

The contractor shall minimize any grading and excavation to install the mats.

Installation and removal of timber mats shall be performed in such a manner to minimize impacts to the wetlands

Method of Measurement:

This work will not be measured/be paid at the contract lump sum price.

Basis of Payment:

This work shall be paid for at the contract lump sum price for “Timber Support Mat”, complete and accepted, which price shall include all materials, tools; equipment, and labor incidental thereto necessary to install and remove the “Timber Support Mat”.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|--------------------|-----------------|
| Timber Support Mat | l.s. |

ITEM #1002110A - DECORATIVE LIGHT POLE FOUNDATION

The work under this item shall conform to the requirements of Section 10.02 amended as follows:

10.02.01 - Description: Add the Following

The work under this item shall consist of the designing, furnishing, and installing precast concrete foundations, grounding rods, and electrical sweeps for decorative light poles at locations shown on the plans, and/or as directed by the Engineer, and in conformance with these specifications.

The Contractor shall provide drawings and details of the concrete foundations for use with proposed poles and luminaires, based on local field conditions, stamped by a Professional Engineer, registered in the State of Connecticut.

10.2.03 - Construction Methods: Add the Following

The work under this item shall conform to Article 10.02 of the Standard Specifications.

10.2.04 - Method of Measurement: Add the Following

The foundations of the type specified shall be measured for payment by the number of units installed and accepted.

10.2.04 – Basis of Payment: Add the Following

The work under this item shall be paid for at the Contract unit price each for the “Decorative Light Pole Foundation”, which price shall include the design, detailing, specifications, all materials, equipment, forms, excavation, disposal of surplus materials, concrete, ground rod sleeve, ground rod and installation, and electrical sweeps .

| <u>Pay Item</u> | <u>Pay Unit</u> |
|----------------------------------|-----------------|
| Decorative Light Pole Foundation | E.A. |

ITEM #1003585A – DECORATIVE LIGHT POLE WITH SINGLE LUMINAIRE

Description:

The item shall consist of designing, furnishing, and installing a decorative light pole and accessories with a single decorative LED luminaire at locations shown on the plans, and/or as directed by the Engineer, and in conformance with these specifications.

The Contractor shall provide drawings, details, and specifications of the decorative light pole for use with proposed poles and luminaires, based on local field conditions, stamped by a Professional Engineer, registered in the State of Connecticut.

Materials:

The decorative light pole, luminaire and accessories shall be manufactured by one of the following manufactures or approved equivalent.

Luminaire:

Luminaire Model L12 Acorn

StoneBridge Lighting

555 Lawrence Avenue

Roselle, Illinois 60172

Phone: (877)-773-8977

http://stonebridgelighting.com/index.php?option=com_content&view=article&id=1&Itemid=10

Luminaire Model Granville Premiere Acorn

Holophone

Granville Business Park

Building A, 3825 Columbus Road

Granville, Ohio 43023

Phone: (866)-759-1577

<http://www.holophane.com/products/family.asp?brand=hlp&family=GranVille%20Premier&producttype=Outdoor&category=Decorative&subcategory=Historical>

Luminaire Model AR20 Acorn

Amerlux

178 Bauer Drive

Oakland, NJ 07436

Phone: (973)-882-5010

<http://www.amerlux.com/products/AR20>

For LED luminaires, the Contractor shall submit a sample fixture, catalog cut, IES photometrics on disk, and a complete point by point footcandle analysis of the roadways using the submitted luminaire. A catalog cut will be required for all submitted luminaires. The City of Norwich reserves the right to disapprove any alternate luminaire based solely on photometric performance, lumen maintenance, and construction.

The housing of the luminaire shall be heavy-duty cast aluminum with a maximum effective projected area (EPA) of less than 1.38 square feet. The LED luminaire shall weigh approximately 64 lbs. and shall be CSA listed for wet locations and shall be IP rated. The diecast aluminum housing shall feature integral hinges for tool-less entry. The housing shall feature green powder coat paint. The fixture shall be designed to mount on a 3" tenon and shall have a stainless steel set screw. The finish color shall be green.

The LED luminaire shall carry a limited 5 year warranty on the LEDs and the Driver.

Pole:

Pole Model P21TF12

StoneBridge Lighting

555 Lawrence Avenue

Roselle, Illinois 60172

Phone: (877)-773-8977

http://stonebridgelighting.com/index.php?option=com_content&view=article&id=6&Itemid=15

Cast Aluminum Historical Style Posts

Holophone

Granville Business Park

Building A, 3825 Columbus Road

Granville, Ohio 43023

Phone: (866)-759-1577

<http://www.acuitybrandslighting.com/library/HLP/Documents/otherdocuments/HistoricalStylePosts.pdf>

Abilene 17" Series

Amerlux

178 Bauer Drive

Oakland, NJ 07436

Phone: (973)-882-5010

<http://www.amerlux.com/products/AP1300-XX>

The pole shall meet the following minimum criteria, it shall 12' tall, 6063 aluminum, .125" wall thickness, heat treated to a T6 condition after welding. The anchor base shall be A356 cast aluminum alloy, heat treated to a T6 condition after welding. The base plate shall be 17" round, shall telescope the shaft, and shall be circumferentially welded at the top and bottom. The finish color shall be green.

A catalog cut will be required for all submitted poles. The City of Norwich reserves the right to disapprove any alternate pole.

Construction Methods:

The decorative light pole shall be installed on the foundation at the locations as indicated on the plans. The pole shall be securely bolted to the anchor bolts of the foundation with all required hardware as supplied by the pole manufacturer. The completely assembled light pole shall be erected plumb with the aid of aluminum shims, if necessary. The light standard shall be grounded in conformance with NEC requirements.

The decorative luminaire shall be installed on the tenon mount of the pole and shall be leveled, securely fastened, properly oriented, connected to power supply conductors, cleaned, and ready for operation.

Method of Measurement:

This work will be measured for payment by the number of decorative light poles with single luminaire installed, complete and accepted.

10.2.04 – Basis of Payment: Add the Following

This work will be paid for at the contract unit price each for "Decorative Light Pole With Single Luminaire" of the type and size specified, complete and accepted in place, which price shall include all materials including pole, luminaire, electronic driver, LED light bars, surge suppression, intergral clamshell base, weatherproof receptacle, conductors, fuses, connections, grounding, and all labor, tools, equipment and work incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|---|-----------------|
| Decorative Light Pole with Single Luminaire | E.A. |

ITEM #1017030A - SERVICE

Description:

Furnish and install an electric service for the three decorative light pole with single luminaires at the location shown on the plans or as directed by the Engineer. This item shall include the furnishing and installing conduit and cable in the size, number, and type required by the design completed by a registered Professional Engineer under item “Decorative Light Pole with Single Luminaire”.

Materials:

The materials for this work shall meet the requirements of M.15.12.

Construction Methods:

Comply with the National Electric Code (NEC), Public Utility Regulatory Authority (PURA), and the serving power company requirements. Install a meter socket with associated equipment on the outside of the controller cabinet, as directed by the Engineer. Mount the enclosure approximately 54 inches (1.37 meters) above the ground. Install an expansion fitting in the RMC between the ground and the enclosure. Attach a direct-buried bond clamp to the service RMC below ground level, adjacent to the foundation. Bond the service conduit to the controller cabinet ground rod. Install a continuous nylon pull rope of at least 200 lbs (90 Kg) breaking strength in the conduit between the meter socket and the service source. Ensure all circuit breakers are off when service is connected by the utility company. The work must be inspected and approved by the Engineer or his designated representative prior to scheduling a service connection. Record the meter number and the date service is connected for billing purposes.

All electrical work associated with the decorative lighting and receptacles must be inspected and approved by the Town Electrical Inspector. Contact Electrical Inspector prior to doing work and coordinate when he needs to make his inspections.

The conduits shall be installed at locations noted on the contract plans. The power source for the decorative lights will be supplied by Norwich Public Utilities and will feed from the new utility poles installed at the southwest and southeast corners of the bridge. The Contractor will be required to connect the decorative lights to the power source.

Method of Measurement:

The installation of the Service will be measured for payment by the number of electric services completed, with service connected, and accepted in place.

Basis of Payment:

This work will be paid for at the contract unit price each for "Service" complete and accepted in place. The price shall include all material above ground such as the conduit, expansion fitting, coupling, conduits, and wires below the ground between light poles. The price shall also all material, equipment, tools, labor and incidentals necessary to provide service to the decorative light poles.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|-----------------|-----------------|
| Service | Ea. |

**ITEM #1208931A - SIGN FACE - SHEET ALUMINUM (TYPE IX
RETROREFLECTIVE SHEETING)**

**ITEM #1208932A - SIGN FACE - SHEET ALUMINUM (TYPE IV
RETROREFLECTIVE SHEETING)**

Section 12.08 is supplemented and amended as follows:

12.08.01—Description:

Add the following:

This item shall also include field testing of metal sign base posts as directed by the Engineer.

12.08.03—Construction Methods:

Delete the last sentence and add the following:

Metal sign base posts shall be whole and uncut. Sign base post embedment and reveal lengths shall be as shown on the plans. The Contractor shall drive the metal sign base posts by hand tools, by mechanical means or by auguring holes. If an obstruction is encountered while driving or placing the metal sign base post, the Contractor shall notify the Engineer who will determine whether the obstruction shall be removed, the sign base post or posts relocated, or the base post installation in ledge detail shall apply. Backfill shall be thoroughly tamped after the posts have been set level and plumb.

Field Testing of Metal Sign Posts: When the sign installations are complete, the Contractor shall notify the Engineer the Project is ready for field testing. Based on the number of posts in the Project, the Engineer will select random sign base posts which shall be removed by the Contractor for inspection and measurement by the Engineer. After such inspection is completed at each base post location, the Contractor shall restore or replace such portions of the work to the condition required by the Contract. Refer to the table in 12.08.05 for the number of posts to be field tested.

12.08.04—Method of Measurement:

Add the following:

The work required to expose and measure sign base post length and embedment depth using field testing methods, and restoration of such work, will not be measured for payment and shall be included in the general cost of the work.

12.08.05—Basis of Payment:

Replace the entire Article with the following:

This work will be paid for at the Contract unit price per square foot for “Sign Face - Sheet Aluminum” of the type specified complete in place, adjusted by multiplying by the applicable Pay Factor listed in the table below. The price for this work shall include the completed sign, metal sign post(s), span-mounted sign brackets and mast arm-mounted brackets, mounting hardware, including reinforcing plates, field testing, restoration and replacement of defective base post(s), and all materials, equipment, and work incidental thereto.

Pay Factor Scale: Work shall be considered defective whenever the base post length or base post embedment depth is less than the specified length by more than 2 inches. If the number of defects results in rejection, the Contractor shall remove and replace all metal sign base posts on the Project, at no cost to the Department.

Number of Posts to be Tested and Pay Factors (Based on Number of Defects)

| Number of Posts in Project => | 51-100 | 101-250 | 251-1000 | >1000 |
|---|----------------|-----------------|-----------------|-----------------|
| Sample Size=> | 5 Posts | 10 Posts | 40 Posts | 60 Posts |
| 0 Defects | 1.0 | 1.0 | 1.025 | 1.025 |
| 1 Defect | 0.9 | 0.95 | 0.975 | 0.983 |
| 2 Defects | Rejection | 0.9 | 0.95 | 0.967 |
| 3 Defects | Rejection | Rejection | 0.925 | 0.95 |
| 4 Defects | Rejection | Rejection | 0.9 | 0.933 |
| 5 Defects | Rejection | Rejection | Rejection | 0.917 |
| 6 Defects | Rejection | Rejection | Rejection | 0.9 |
| 7 or more Defects | Rejection | Rejection | Rejection | Rejection |

Note: Projects with 50 or fewer posts will not include field testing.

ITEM #1507000A – PROTECTION AND SUPPORT OF EXISTING UTILITIES

Description:

Work under this item shall consist of designing, furnishing, placing and subsequently removing all supports which will be necessary to support, protect and/or stabilize the existing City of Norwich Water Main, City of Norwich Sewer Line, and City of Norwich Utility Pole during construction of the retaining wall.

The work pertaining to the temporary support of utility pipes/facilities (including utility poles) primarily involves the support and prevention of damages which are possible during the excavation and construction of the proposed facilities as shown on the plans.

The Contractor is advised that no service interruption resulting from his operations will be allowed, except as otherwise provided for in the Special Provision "Prosecution and Progress". Extreme caution shall be exercised during all stages of construction in order to preserve the existing utilities. A City of Norwich representative shall be present at the installation of the temporary supports. Further attention shall be paid to "Section 1.07 - Legal Relations and Responsibilities," and the Notice to Contractor for "Protection of Existing Utilities".

The Contractor shall notify the Engineer prior to the start of his work and shall be responsible for all coordination with the Utilities. The Contractor shall allow the Engineer complete access to the work.

Contractors are cautioned that it is their responsibility to verify locations, conditions and field dimensions of all existing features, as actual conditions may differ from information indicated on the plans or contained elsewhere in these specifications.

Materials:

The materials for this work shall be of satisfactory quality for the purpose intended and shall be approved by the Engineer. Any material intended for use in structures shall be sound and capable of safely carrying the specified loads.

Construction Methods:

The Contractor shall prepare Working Drawings and computations showing his proposed method of support and protection for each utility to be supported and protected. Preparation of Working Drawings and computations shall conform to the requirements of Subarticle 1.05.02. The support shall safely carry all utility loads and any imposed loadings under all possible construction conditions.

The Working Drawings shall be submitted to the Engineer and the Utilities for review and approval. No work will be allowed in the vicinity of any utility until the Contractor receives approval of his support method from the utility representative and the Engineer.

The Contractor shall use every effort to protect all utilities from damage of any nature that might result from carelessness or negligence in his operations. He shall be held solely and strictly responsible for any damage resulting from such carelessness and negligence.

A periodic inspection of the temporary utility support and protection shall be performed by the Contractor, as directed by the Engineer.

When the temporary utility support and protection systems are no longer required, they shall be removed from the site by the Contractor.

Method of Measurement:

This work, being paid for on a lump sum basis, will not be measured for payment.

Basis for Payment:

The work will be paid for at the contract lump sum price for "Protection and Support of Existing Utilities", when the utility pole adjacent to the retaining wall near STA 2+10 has been removed, and when fill below the water main and sewer main has been replaced and accepted by the Engineer and Utility Owner. The price shall include designing and detailing temporary supports, furnishing and installing said supports, adjusting or moving said supports with the utility lines during construction, and the removal of said supports, including all materials, equipment, tools and labor incidental thereto.

| <u>Pay Item</u> | <u>Pay Unit</u> |
|--|-----------------|
| Protection and Support of Existing Utilities | L.S. |

PERMITS AND REQUIRED PROVISIONS

The following Permits and/or Supplemental to Form 817 and Required Provisions follow this page and are hereby made part of this Contract.

- **PERMITS AND/OR PERMIT APPLICATIONS**

| Permit | Permit No. | Approval Date |
|--|-------------------|----------------------|
| City of Norwich Inland Wetlands and Watercourses Conservation Commission | IWWCDC18-05 | July 5, 2018 |
| Flood Management General Certification | | September 4, 2018 |

- **Construction Contracts - Required Contract Provisions (FHWA Funded Contracts)**



CITY OF NORWICH

Planning & Neighborhood Services
Inland Wetlands and Watercourses Conservation Commission
23 Union St.
Norwich, CT 06360
(860) 823-3766

July 16, 2018

Patrick McLaughlin, City Engineer
City of Norwich
Department of Public Works
50 Clinton Avenue
Norwich, CT 06360

Re: IWWCC18-05: Sunnyside Street/Yantic Road

Dear Mr. McLaughlin,

On July 5, 2018, the Norwich Inland Wetlands, Watercourses & Conservation Commission approved Application #18-05 with the following conditions:

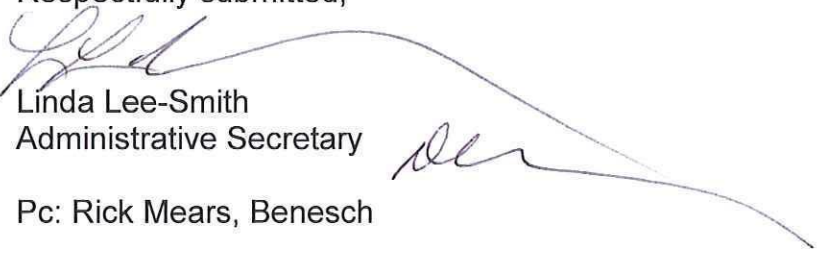
1. That the approval is valid for FIVE YEARS and will expire on 07/05/2023.
2. That a bond, in an amount to be determined by the City Engineer, be submitted for Erosion and Sediment Control and Site Restoration.
3. That all site activities shall be conducted in accordance with the plans, specifications and documents of record. Any deviation from the approved plans or construction sequence shall be cause for enforcement action by the Inland Wetlands, Watercourses and Conservation Commission.
4. That the permittee shall notify the Inland Wetlands Agent prior to the commencement of work and upon its completion.
5. That all work and all regulated activities conducted pursuant to this authorization shall be consistent with the terms and conditions of this approval. Any structures, excavation, fill, obstructions, encroachments or regulated activities not specifically identified and authorized herein shall constitute a violation of this approval and may result in its modification, suspension, or revocation. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this approval.
6. That no equipment or materials including without limitation fill, construction materials, or debris, shall be deposited, placed, or stored in any wetland or watercourse on or off site unless specifically authorized by this approval.

7. That the General Provisions stated in Section 11.9 of the Inland Wetlands and Watercourse Regulations are applicable to this permit.
8. That the permit shall not be assigned or transferred to another entity without the written permission of the Commission.
9. That all erosion and sediment control measures shall be in accordance with the Connecticut Guidelines for Erosion and Sediment Control. Erosion and sediment control measures shall be installed and inspected prior to site disturbance. It is the permittee's responsibility to schedule the inspection with the Norwich Planning Department. Additional erosion and sediment control measures shall be installed if determined to be necessary by the Designated Agent. The permittee shall take such necessary steps consistent with the terms and conditions of the approval, to control stormwater discharges and to prevent erosion and sedimentation and to otherwise prevent pollution of wetlands and watercourses.
10. That this permit will be strictly enforced. The Commission may suspend or revoke this permit, may direct the Commission's Agent to issue a cease and desist order or may require the applicant to modify, extend, or revise the site work or restore the area to its original condition if it finds that the applicant has not complied with the conditions set forth in this approval or if the applicant exceeds the scope of this approval as set forth herein or if the intended use or actual use of the general site is not as represented by the application or the or the plan of record.

A legal notice of decision was advertised on July 11, 2018.

If you have any questions please don't hesitate to contact Deanna Rhodes, City Planner at (860) 823-3767.

Respectfully submitted,


Linda Lee-Smith
Administrative Secretary

Pc: Rick Mears, Benesch

Project No.: 103-261

Description: Rehabilitation of Bridge No. 04746
Sunnyside Street over Yantic River

Town: City of Norwich

Date: August 15, 2018

m e m o r a n d u m

to: Mr. Michael E. Masayda
Trans. Principal Engineer
Hydraulics and Drainage
Bureau of Engineering and Construction

from: Priti S. Bhardwaj
Transportation Supervising Engineer
Bridge CLE Design
Bureau of Engineering and Construction

Please review this request for Flood Management General Certification and indicate your concurrence below.

Certification (to be completed by designer)

I have read the Flood Management General Certification and the descriptions for the approved DOT minor activities. This project qualifies for the Flood Management General Certification under:


- Minor Safety Improvements and Streetscape Projects
- Roadway Repaving, Maintenance & Underground Utilities
- Minor Stormwater Drainage Improvements
- Removal of Sediment or Debris from a Floodplain
- Wetland Restoration Creation or Enhancement
- Scour Repairs at Structures; (*Must acquire DEEP Fisheries Concurrence to be eligible*)
- Guide Rail Installation
- Deck and Superstructure Replacements
- Minor Bridge Repairs and Access
- Fisheries Enhancements
- Surveying and Testing
- Bicycle / Pedestrian, Multi Use Trails and Enhancement Projects

The following required documentation is attached in support of this certification:

- Project description
- Location plan
- Description of Floodplain involvement and how project qualifies for general certification
- 8-1/2" by 11" excerpt copy of the FEMA Flood Insurance Rate Map (FIRM) and Floodway Boundary Map (if applicable)
- Design plans, (dated 5/29/2018) with FEMA floodplain and floodway boundaries plotted, cross sections and profiles, as necessary, that clearly depict the floodplain involvement
- FEMA 100-year flood elevation plotted on elevation view (for structures)

Print Name Ricky D. Mears

Title Project Manager

Signature 

Date 7/24/2018

Concurrence (to be completed by Hydraulics and Drainage)

Based on the documentation submitted, I hereby concur that the project qualifies for Flood Management General Certification.

If there are any changes to the proposed activities within the floodplain or floodway, the project must be re-submitted for review and approval.

Signature

Date 9-4-18

**Construction Contracts - Required Contract Provisions
(FHWA Funded Contracts)**

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3. Contractor Work Force Utilization (Federal Executive Order 11246) / Specific Equal Employment Opportunity
4. Requirements of Title 49, CFR , Part 26, Participation by DBEs
5. Contract Wage Rates
6. Americans with Disabilities Act of 1990, as Amended
7. Connecticut Statutory Labor Requirements
 - a. Construction, Alteration or Repair of Public Works Projects; Wage Rates
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20. Tangible Personal Property
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Index of Exhibits

- EXHIBIT A – FHWA Form 1273 (Begins on page 14)
- EXHIBIT B – Title VI Contractor Assurances (page 35)
- EXHIBIT C – Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity (page 36)
- EXHIBIT D – Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 43)
- EXHIBIT E - Campaign Contribution Restriction (page 51)
- EXHIBIT F – Federal Wage Rates (Attached at the end)
- EXHIBIT G - State Wage Rates (Attached at the end)

1. Federal Highway Administration (FHWA) Form 1273

The Contractor shall comply with the Federal Highway Administration (FHWA), Form 1273 attached at Exhibit A, as revised, which is hereby made part of this contract. The Contractor shall also require its subcontractors to comply with the FHWA – Form 1273 and include the FHWA – Form 1273 as an attachment to all subcontracts and purchase orders.

2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements

The Contractor shall comply with Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000 et seq.), all requirements imposed by the regulations of the United States Department of Transportation (49 CFR Part 21) issued in implementation thereof, and the Title VI Contractor Assurances attached hereto at Exhibit B, all of which are hereby made a part of this Contract.

3. Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity

- (a) The Contractor shall comply with the Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity requirements attached at Exhibit C and hereby made part of this Contract, whenever a contractor or subcontractor at any tier performs construction work in excess of \$10,000. These goals shall be included in each contract and subcontract. Goal achievement is calculated for each trade using the hours worked under each trade.
- (b) Companies with contracts, agreements or purchase orders valued at \$10,000 or more will develop and implement an Affirmative Action Plan utilizing the ConnDOT Affirmative Action Plan Guideline. This Plan shall be designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex or national origin, and to promote the full realization of equal employment opportunity through a positive continuation program. Plans shall be updated as required by ConnDOT.

4. Requirements of Title 49, Code of Federal Regulations (CFR), Part 26, Participation by DBEs

Pursuant to 49 CFR 26.13, the following paragraph is part of this Contract and shall be included in each subcontract the Contractor enters into with a subcontractor:

“The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26, Participation by DBEs, in the award and administration of U.S. DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this contract or such other remedy as ConnDOT (recipient) deems appropriate.”

5. Contract Wage Rates

The Contractor shall comply with:

The Federal and State wage rate requirements indicated in Exhibits F and G hereof, as revised, are hereby made part of this Contract. The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website

(<http://www.wdol.gov/dba.aspx>) as may be revised 10 days prior to bid opening. These applicable Federal wage rates will be physically incorporated in the final contract document executed by both parties. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents, prior to the bid opening date. During the bid advertisement period, bidders are responsible for obtaining the appropriate Federal wage rates from the US Department of Labor website.

To obtain the latest Federal wage rates go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose "Selecting DBA WDs" and follow the instruction to search the latest wage rates for the State, County and Construction Type. Refer to the Notice to Contractor (NTC) - Federal Wage Determinations (Davis Bacon Act).

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

Prevailing Wages for Work on State Highways; Annual Adjustments. With respect to contracts for work on state highways and bridges on state highways, the Contractor shall comply with the provisions of Section 31-54 and 31-55a of the Connecticut General Statutes, as revised.

As required by Section 1.05.12 (Payrolls) of the State of Connecticut, Department of Transportation's Standard Specification for Roads, Bridges and Incidental Construction (FORM 816), as may be revised, every Contractor or subcontractor performing project work on a Federal aid project is required to post the relevant prevailing wage rates as determined by the United States Secretary of Labor. The wage rate determinations shall be posted in prominent and easily accessible places at the work site.

6. Americans with Disabilities Act of 1990, as Amended

This provision applies to those Contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

7. Connecticut Statutory Labor Requirements

(a) Construction, Alteration or Repair of Public Works Projects; Wage Rates. The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut 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 persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

(b) Debarment List. Limitation on Awarding Contracts. The Contractor shall comply with Section 31-53a of the Connecticut General Statutes, as revised.

(c) Construction Safety and Health Course. The Contractor shall comply with section 31-53b of the Connecticut General Statutes, as revised. The contractor shall furnish proof to the Labor Commissioner with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 of the Connecticut General Statutes, as revised, on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

(d) Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited. The Contract is subject to Section 31-57b of the Connecticut General Statutes, as revised.

(e) Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS. Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, in the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available, then to residents of other states

8. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

Internet: Visit the DRS website at www.ct.gov/DRS to download and print Connecticut tax forms; or

Telephone: Call 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) and select Option 2 or call 860-297-4753 (from anywhere).

9. Executive Orders

This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the contract as if they had been fully set forth in it. The contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order No. 14 and/or Executive Order No. 49 are applicable, they are deemed to be incorporated into and are made a part of the contract as if they had been fully set forth in it. At the Contractor's request, the Department shall provide a copy of these orders to the Contractor.

10. Non Discrimination Requirement (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised): References to "minority business enterprises" in this Section are not applicable to Federal-aid projects/contracts. Federal-aid projects/contracts are instead subject to the Federal Disadvantaged Business Enterprise Program.

(a) For purposes of this Section, the following terms are defined as follows:

- i. "Commission" means the Commission on Human Rights and Opportunities;
- ii. "Contract" and "contract" include any extension or modification of the Contract or contract;
- iii. "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- iv. "gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.
- v. "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
- vi. "good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;
- vii. "marital status" means being single, married as recognized by the State of Connecticut, widowed, separated or divorced;
- viii. "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;

- ix. "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Connecticut General Statutes § 32-9n; and
- x. "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the State, including, but not limited to, a municipality, (2) a quasi-public agency, as defined in Conn. Gen. Stat. Section 1-120, (3) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. Section 1-267, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), (4) or (5).

- (b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e and 46a-68f; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

- (c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
- (d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.
- (e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes §46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.
- (f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (g) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Connecticut General Statutes § 46a-56.
- (h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with,

litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.”

The Nondiscrimination Certifications can be found at the Office of Policy and Management website.

<http://www.ct.gov/opm/cwp/view.asp?a=2982&Q=390928>

11. Whistleblower Provision

The following clause is applicable if the Contract has a value of Five Million Dollars (\$5,000,000) or more.

Whistleblowing. This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

12. Connecticut Freedom of Information Act

- (a) **Disclosure of Records.** This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.
- (b) **Confidential Information.** The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives from the Contractor. However, all materials associated with the Contract are subject to the terms of the FOIA and all corresponding rules, regulations and interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt

from release pursuant to the FOIA. To the extent that any other provision or part of the Contract conflicts or is in any way inconsistent with this section, this section controls and shall apply and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking the documentation as "CONFIDENTIAL," DOT will first review the Contractor's claim for consistency with the FOIA (that is, review that the documentation is actually a trade secret or commercial or financial information and not required by statute), and if determined to be consistent, will endeavor to keep such information confidential to the extent permitted by law. See, *e.g.*, Conn. Gen. Stat. §1-210(b)(5)(A-B). The State, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. Should the State withhold such documentation from a Freedom of Information requester and a complaint be brought to the Freedom of Information Commission, the Contractor shall have the burden of cooperating with DOT in defense of that action and in terms of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the State have any liability for the disclosure of any documents or information in its possession which the State believes are required to be disclosed pursuant to the FOIA or other law.

13. Service of Process

The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office, as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract and six (6) years thereafter.

14. Substitution of Securities for Retainages on State Contracts and Subcontracts

This Contract is subject to the provisions of Section 3-112a of the General Statutes of the State of Connecticut, as revised.

15. Health Insurance Portability and Accountability Act of 1996 (HIPAA)

The Contractor shall comply, if applicable, with the Health Insurance Portability and Accountability Act of 1996 and, pursuant thereto, the provisions attached at Exhibit D, and hereby made part of this Contract.

16. Forum and Choice of Law

Forum and Choice of Law. The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

17. Summary of State Ethics Laws

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Contract as if the summary had been fully set forth in the Contract.

18. Audit and Inspection of Plants, Places of Business and Records

- (a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract. For the purposes of this Section, "Contractor Parties" means the Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.
- (b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.
- (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.
- (d) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (e) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.
- (f) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

19. Campaign Contribution Restriction

For all State contracts, defined in Conn. Gen. Stat. §9-612(f)(1) as having a value in a calendar year of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this contract expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," a copy of which is attached hereto and hereby made a part of this contract, attached as Exhibit E.

20. Tangible Personal Property

- (a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:

- (1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
 - (2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;
 - (3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
 - (4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
 - (5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.
- (b) For purposes of this section of the Contract, the word "Affiliate" means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word "voting security" means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. "Voting security" includes a general partnership interest.
- (c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State's contracting authority, such information as the State may require to ensure, in the State's sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

21. Bid Rigging and/or Fraud – Notice to Contractor

The Connecticut Department of Transportation is cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bid rigging and/or fraud.

A toll-free "HOT LINE" telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The "HOT LINE" telephone number will be available during normal working hours (8:00 am – 5:00 pm EST). Information will be treated confidentially and anonymity respected.

22. Consulting Agreement Affidavit

The Contractor shall comply with Connecticut General Statutes Section 4a-81(a) and 4a-81(b), as revised. Pursuant to Public Act 11-229, after the initial submission of the form, if there is a change in the information contained in the form, a contractor shall submit the updated form, as applicable, either (i) not later than thirty (30) days after the effective date of such change or (ii) prior to execution of any new contract, whichever is earlier.

The Affidavit/Form may be submitted in written format or electronic format through the Department of Administrative Services (DAS) website.

23. Cargo Preference Act Requirements (46 CFR 381.7(a)-(b)) – Use of United States Flag Vessels

The Contractor agrees to comply with the following:

(a) ***Agreement Clauses.***

- (1) Pursuant to Pub. L. 664 ([43 U.S.C. 1241\(b\)](#)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.
- (2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(b) ***Contractor and Subcontractor Clauses.*** The contractor agrees—

- (1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- (2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- (3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

EXHIBIT A

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the

assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: 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, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential

minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26, and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating

areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or

any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is

registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit

any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under

construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered

transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with

obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency,

a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR
APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL
ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

EXHIBIT B**TITLE VI CONTRACTOR ASSURANCES**

During the performance of this Contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. **Compliance with Regulations:** The Contractor shall comply with the regulations relative to nondiscrimination in federally assisted programs of the United States Department of Transportation (hereinafter, "USDOT"), Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "Regulations"), which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, national origin, sex, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Subsection 5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:**

In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, age, or disability.

4. **Information and Reports:** The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Connecticut Department of Transportation (ConnDOT) or the Funding Agency (FHWA, FTA and FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to ConnDOT or the Funding Agency, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the ConnDOT shall impose such sanctions as it or the Funding Agency may determine to be appropriate, including, but not limited to:

- A. Withholding contract payments until the Contractor is in-compliance; and/or
- B. Cancellation, termination, or suspension of the Contract, in whole or in part.

6. **Incorporation of Provisions:** The Contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the ConnDOT or the Funding Agency may -direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the ConnDOT to enter into such litigation to protect the interests of the Funding Agency, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States

EXHIBIT C**CONTRACTOR WORKFORCE UTILIZATION (FEDERAL EXECUTIVE ORDER 11246) /
EQUAL EMPLOYMENT OPPORTUNITY
(Federal - FHWA)****1. Project Workforce Utilization Goals:**

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted or funded) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where the work is actually performed.

Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications which contain the applicable goals for minority and female participation.

The goals for minority and female utilization are expressed in percentage terms for the contractor's aggregate work-force in each trade on all construction work in the covered area, are referenced in the attached Appendix A.

2. Executive Order 11246

The Contractor's compliance with Executive Order 11246 and 41-CFR Part 60-4 shall be based on its implementation of the specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(A) and its efforts to meet the goals established for the geographical area where the contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hour performed.

If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Pan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the plan goals and timetables.

The Contractor shall implement the specific affirmative action standards provided in a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in

which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs (OFCCP) Office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant hereto.

In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites; and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason thereafter; along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the Union or Unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other

information that the Union referral process has impeded the Contractor's efforts to meet its obligations.

- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO Policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company EEO Policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment, decisions including specific Foreman, etc. prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO Policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work-force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and

employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

- n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review at least annually of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (a through p). The efforts of a contractor association, joint contractor union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work-force participation, makes a good faith effort to meet with individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of Executive Order 11246 if a particular group is employed in a substantially disparate manner, (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).

The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in these

specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status, (e.g. mechanic, apprentice, trainee, helper, or laborer) dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

Nothing herein provided shall be construed as a limitation upon the application of their laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

The Director of the Office of Federal Contract Compliance Programs, from time to time, shall issue goals and timetables for minority and female utilization which shall be based on appropriate workforce, demographic or other relevant data and which shall cover construction projects or construction contracts performed in specific geographical areas. The goals, which shall be applicable to each construction trade in a covered contractor's or timetables, shall be published as notices in the Federal Register, and shall be inserted by the Contracting officers and applicants, as applicable, in the Notice required by 41 CFR 60-4.2.

FEDERALLY FUNDED OR ASSISTED PROJECTS
APPENDIX A
(Labor Market Goals)

Standard Metropolitan Statistical Area (SMSA)

Female

Minority

| | |
|--|--------------|
| Bridgeport – Stamford – Norwalk – Danbury | 10.2% |
| 6.9% | |

| | | | |
|---------------|------------|------------|------------|
| Bethel | Bridgeport | Brookfield | Danbury |
| Darien | Derby | Easton | Fairfield |
| Greenwich | Milford | Monroe | New Canaan |
| New Fairfield | Newton | Norwalk | Redding |
| Shelton | Stamford | Stratford | Trumbull |
| Weston | Westport | Wilton | |

| | |
|---|-------------|
| Hartford – Bristol – New Britain | 6.9% |
| 6.9% | |

| | | | |
|--------------|---------------|---------------|---------------|
| Andover | Avon | Berlin | Bloomfield |
| Bolton | Bristol | Burlington | Canton |
| Colchester | Columbia | Coventry | Cromwell |
| East Granby | East Hampton | East Hartford | East Windsor |
| Ellington | Enfield | Farmington | Glastonbury |
| Granby | Hartford | Hebron | Manchester |
| Marlborough | New Britain | New Hartford | Newington |
| Plainville | Plymouth | Portland | Rocky Hill |
| Simsbury | South Windsor | Southington | Stafford |
| Suffield | Tolland | Vernon | West Hartford |
| Wethersfield | Willington | Windsor | Windsor Locks |

| | |
|--|-------------|
| New Haven – Waterbury – Meriden | 9.0% |
| 6.9% | |

| | | | |
|--------------|----------------|-------------|-------------|
| Beacon Falls | Bethany | Branford | Cheshire |
| Clinton | East Haven | Guilford | Hamden |
| Madison | Meriden | Middlebury | Naugatuck |
| New Haven | North Branford | North Haven | Orange |
| Prospect | Southbury | Thomaston | Wallingford |
| Waterbury | Watertown | West Haven | Wolcott |
| Woodbridge | Woodbury | | |

| | |
|-----------------------------|-------------|
| New London – Norwich | 4.5% |
| 6.9% | |

| | | | |
|---------|------------|--------------|------------|
| Bozrah | East Lyme | Griswold | Groton |
| Ledyard | Lisbon | Montville | New London |
| Norwich | Old Lyme | Old Saybrook | Preston |
| Sprague | Stonington | Waterford | |

Non SMSA**Female****Minority**

| Litchfield – Windham | | | 5.9% |
|-----------------------------|------------------|-------------------|-------------------------|
| 6.9% | | | |
| Abington | Ashford | Ballouville | Bantam |
| Barkhamsted | Bethlehem | Bridgewater | Brooklyn |
| Canaan | Canterbury | Central Village | Cahplin |
| Colebrook | Cornwall | Cornwall Bridge | Danielson |
| Dayville | East Canaan | East Killingly | East Woodstock |
| Eastford | Falls Village | Gaylordsville | Goshen |
| Grosvenor Dale | Hampton | Harwinton | Kent |
| Killigly | Lakeside | Litchfield | Moosup |
| Morris | New Milford | New Preston | New Preston Marble Dale |
| Norfolk | North Canaan | No. Grosvenordale | North Windham |
| Oneco | Pequabuck | Pine Meadow | Plainfield |
| Pleasant Valley | Pomfret | Pomfret Center | Putnam |
| Quinebaug | Riverton | Rogers | Roxbury |
| Salisbury | Scotland | Sharon | South Kent |
| South Woodstock | Sterling | Taconic | Terryville |
| Thompson | Torrington | Warren | Warrenville |
| Washington | Washington Depot | Wauregan | West Cornwall |
| Willimantic | Winchester | Winchester Center | Windham |
| Winsted | Woodstock | Woodstock Valley | |

EXHIBIT D**Health Insurance Portability and Accountability Act of 1996 (“HIPAA”).**

- (a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), the Contractor must comply with all terms and conditions of this Section of the Contract. If the Contractor is not a Business Associate under HIPAA, this Section of the Contract does not apply to the Contractor for this Contract.
- (b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and
- (c) The State of Connecticut Agency named on page 1 of this Contract (hereinafter the “Department”) is a “covered entity” as that term is defined in 45 C.F.R. § 160.103; and
- (d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of “individually identifiable health information,” as that term is defined in 45 C.F.R. § 160.103; and
- (e) The Contractor is a “business associate” of the Department, as that term is defined in 45 C.F.R. § 160.103; and
- (f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (hereinafter the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.
- (g) Definitions
 - (1) “Breach shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1))
 - (2) “Business Associate” shall mean the Contractor.
 - (3) “Covered Entity” shall mean the Department of the State of Connecticut named on page 1 of this Contract.
 - (4) “Designated Record Set” shall have the same meaning as the term “designated record set” in 45 C.F.R. § 164.501.
 - (5) “Electronic Health Record” shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5))

- (6) "Individual" shall have the same meaning as the term "individual" in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).
 - (7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and parts 164, subparts A and E.
 - (8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.
 - (9) "Required by Law" shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.
 - (10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.
 - (11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.
 - (12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.
 - (13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R. § 164.304.
 - (14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and parts 164, subpart A and C.
 - (15) "Unsecured protected health information" shall have the same meaning as the term as defined in section 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. §17932(h)(1)(A)).
- (h) Obligations and Activities of Business Associates.
- (1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.
 - (2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.
 - (3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.
 - (4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.

- (5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.
- (6) Business Associate agrees to insure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.
- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.

- (14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.
- (15) Business Associate agrees that it shall not, directly or indirectly, receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act,(42 U.S.C. § 17935(d)(2)) and in any accompanying regulations
- (16) Obligations in the Event of a Breach
- A. The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. 17932(b) and the provisions of this Section of the Contract.
- B. Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. 17932(g)) . A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been, or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
- C. The Business Associate agrees to include in the notification to the Covered Entity at least the following information:
1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
 2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).
 3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.
 4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.
 5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to

individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.

- D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.
 - E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notifications requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.
- (i) Permitted Uses and Disclosure by Business Associate.
- (1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by Covered Entity or the minimum necessary policies and procedures of the Covered Entity.
 - (2) Specific Use and Disclosure Provisions
 - (A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.
 - (B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.
 - (C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).
- (j) Obligations of Covered Entity.

- (1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.
 - (2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.
 - (3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.
- (k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.
- (l) Term and Termination.
- (1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.
 - (2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:
 - (A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or
 - (B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or
 - (C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.
 - (3) Effect of Termination
 - (A) Except as provided in (l)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity

within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.

(B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.

(m) Miscellaneous Provisions.

- (1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.
- (2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.
- (3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.
- (4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.
- (5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.
- (6) Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Contract will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Contract or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.

(7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the

HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations

This notice is provided under the authority of Connecticut General Statutes §9-612(g)(2), as amended by P.A. 10-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (*italicized words are defined on the reverse side of this page*).

CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract or state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall **knowingly solicit** contributions from the state contractor's or prospective state contractor's employees or from a *subcontractor or principals of the subcontractor* on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

DUTY TO INFORM

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

PENALTIES FOR VIOLATIONS

Contributions or solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

Civil penalties—Up to \$2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and the possible consequences of their violations may also be subject to civil penalties of up to \$2,000 or twice the amount of the prohibited contributions made by their principals.

Criminal penalties—Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than \$5,000 in fines, or both.

CONTRACT CONSEQUENCES

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, www.ct.gov/seec. Click on the link to "Lobbyist/Contractor Limitations."

DEFINITIONS

“State contractor” means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. “State contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Prospective state contractor” means a person, business entity or nonprofit organization that (i) submits a response to a state contract solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100. “Prospective state contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Principal of a state contractor or prospective state contractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract*, (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

“State contract” means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. “State contract” does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

“State contract solicitation” means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

“Managerial or discretionary responsibilities with respect to a state contract” means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

“Dependent child” means a child residing in an individual's household who may legally be claimed as a dependent on the federal income tax of such individual.

“Solicit” means (A) requesting that a contribution be made, (B) participating in any fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

“Subcontractor” means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor's state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. “Subcontractor” does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Principal of a subcontractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.

EXHIBIT F

General Decision Number: CT180002 10/19/2018 CT2

Superseded General Decision Number: CT20170002

State: Connecticut

Construction Type: Highway

County: New London County in Connecticut.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0 | 01/05/2018 |
| 1 | 01/12/2018 |
| 2 | 04/13/2018 |
| 3 | 05/18/2018 |
| 4 | 06/15/2018 |
| 5 | 06/22/2018 |
| 6 | 06/29/2018 |
| 7 | 07/06/2018 |
| 8 | 10/19/2018 |

BRCT0001-003 01/02/2018

| | Rates | Fringes |
|---------------------------------|-------|---------|
| BRICKLAYER | | |
| BRICKLAYERS, CEMENT | | |
| MASONS, CEMENT FINISHERS, | | |
| PLASTERERS, STONE MASONS.....\$ | 33.48 | 31.66 |

CARP0326-001 05/07/2018

| | Rates | Fringes |
|--------------------------------|-------|---------|
| Carpenters: | | |
| CARPENTERS, PILEDRIVERS.....\$ | 32.60 | 25.34 |
| DIVER TENDERS.....\$ | 32.60 | 25.34 |
| DIVERS.....\$ | 41.06 | 25.34 |

EXHIBIT F

MILLWRIGHTS.....\$ 33.14 25.74

ELEC0035-003 06/01/2018

Rates Fringes

Electricians:

Bozrah, Colchester, Franklin, Griswold, Lebanon, Ledyard, Lisbon, Montville, North Stonington, Norwich, Preston, Salem, Sprague, Stonington and Voluntown....\$ 40.00 3%+25.97

ELEC0090-003 06/01/2018

East Lyme, Groton, New London, Old Lyme, Waterford, plus the part of Ledyard wherein the property of the Submarine Base is located

Rates Fringes

ELECTRICIAN.....\$ 37.50 3%+27.91

* ENGI0478-002 09/30/2018

Rates Fringes

Power equipment operators:

GROUP 1.....\$ 39.55 24.30
GROUP 2.....\$ 39.23 24.30
GROUP 3.....\$ 38.49 24.30
GROUP 4.....\$ 38.10 24.30
GROUP 5.....\$ 37.51 24.30
GROUP 6.....\$ 37.20 24.30
GROUP 7.....\$ 36.86 24.30
GROUP 8.....\$ 36.46 24.30
GROUP 9.....\$ 36.03 24.30
GROUP 10.....\$ 33.99 24.30
GROUP 11.....\$ 33.99 24.30
GROUP 12.....\$ 33.93 24.30
GROUP 13.....\$ 35.46 24.30
GROUP 14.....\$ 33.35 24.30
GROUP 15.....\$ 33.04 24.30
GROUP 16.....\$ 32.21 24.30
GROUP 17.....\$ 31.80 24.30
GROUP 18.....\$ 31.15 24.30

Hazardous waste premium \$3.00 per hour over classified rate.

Crane with 150 ft. boom (including jib): \$1.50 extra.
Crane with 200 ft. boom (including jib): \$2.50 extra.
Crane with 250 ft. boom (including jib): \$5.00 extra.
Crane with 300 ft. boom (including jib): \$7.00 extra.
Crane with 400 ft. boom (including jib); \$10.00 extra.

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he

EXHIBIT F

receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
- 2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson
- 3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane Handling or Erecting Structural Steel or tone; Hoisting Engineer (2 drums or over); Front End Loader (7 cubic yards or over) Work Boat 26 ft. & over.

GROUP 2: Cranes (100 ton rated capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson

GROUP 3: Excavator; Cranes (under 100 ton rated capacity), 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.)

GROUP 4: Trenching machines; Lighter Derrick; Concrete Finishing Machine, cmi Machine or Similar; Koehring Loader Skooper).

GROUP 5: Specialty Railroad Equipment; Asphalt Spreader; Asphalt Reclaiming achine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell); Side Boom; Combination Hoe and Loader; Directional Driller.

GROUP 6: Front End Loader (3 cu. yds. up to 7 cubic yards); Bulldozer (Rough grade dozer).

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).

GROUP 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welder; Work Boat Under 26 ft.; Transfer Machine.

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).

GROUP 10: Vibratory Hammer, Ice Machine, Diesel and Air

Hammer, etc.

GROUP 11: Conveyor; Earth Roller; Power Pavement Breaker (Whiphammer); Robot Demolition Equipment.

GROUP 12: Wellpoint Operator.

GROUP 13: Portable Asphalt Plant Operator; Portable Concrete Plant Operator; Portable Crusher Plant Operator.

GROUP 14: Compressor Battery Operator.

GROUP 15: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL License)

GROUP 16: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).

GROUP 17: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater operator.

GROUP 18: Maintenance Engineer.

IRON0015-003 06/30/2018

Rates Fringes

Ironworkers: (Reinforcing & Structural).....\$ 35.47 35.14

a. PAID HOLIDAY: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

LABO0056-003 04/01/2018

Rates Fringes

Laborers:

GROUP 1.....\$ 30.05 19.84
GROUP 2.....\$ 30.30 19.84
GROUP 3.....\$ 30.55 19.84
GROUP 4.....\$ 31.05 19.84
GROUP 5.....\$ 31.80 19.84
GROUP 6.....\$ 32.05 19.84
GROUP 7.....\$ 16.00 19.84

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

EXHIBIT F

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

LABO0056-004 04/01/2018

| | Rates | Fringes |
|---|----------|---------|
| Laborers: (TUNNEL CONSTRUCTION) | | |
| CLEANING, CONCRETE AND CAULKING TUNNEL: | | |
| Concrete Workers, Form Movers and Strippers..... | \$ 31.28 | 19.84 |
| Form Erectors..... | \$ 31.60 | 19.84 |
| ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR: | | |
| Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers..... | \$ 31.28 | 19.84 |
| Laborers Topside, Cage Tenders, Bellman..... | \$ 31.17 | 19.84 |
| Miners..... | \$ 32.22 | 19.84 |
| SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR: | | |
| Brakemen and Trackmen..... | \$ 31.28 | 19.84 |
| Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel and Rodmen, Shield and Erector, Arm Operator, Cable Tenders..... | \$ 32.22 | 19.84 |
| TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: | | |
| Blaster..... | \$ 38.53 | 19.84 |
| Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders..... | \$ 38.34 | 19.84 |
| Change House Attendants, Powder Watchmen, Top on Iron Bolts..... | \$ 36.41 | 19.84 |
| Mucking Machine Operator... | \$ 39.11 | 19.84 |

a. PAID HOLIDAYS: On tunnel work only: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

EXHIBIT F

 PAIN0011-002 06/01/2018

| | Rates | Fringes |
|---------------------------|----------|---------|
| Painters: | | |
| Blast and Spray..... | \$ 36.62 | 21.05 |
| Brush and Roll..... | \$ 33.62 | 21.05 |
| Tanks, Towers, Swing..... | \$ 35.62 | 21.05 |

 PAIN0011-003 06/01/2018

| | Rates | Fringes |
|--|----------|---------|
| Painters: (BRIDGE CONSTRUCTION) | | |
| Brush, Roller, Blasting (Sand, Water, etc.) Spray... | \$ 49.75 | 21.05 |

 TEAM0064-003 04/01/2018

| | Rates | Fringes |
|--|----------|---------|
| Truck drivers: | | |
| 2 Axle Ready Mix..... | \$ 29.23 | 23.33 |
| 2 Axle..... | \$ 29.13 | 23.33 |
| 3 Axle Ready Mix..... | \$ 29.28 | 23.33 |
| 3 Axle..... | \$ 29.23 | 23.33 |
| 4 Axle Ready Mix..... | \$ 29.38 | 23.33 |
| 4 Axle..... | \$ 29.33 | 23.33 |
| Heavy Duty Trailer 40 tons and over..... | \$ 29.58 | 23.33 |
| Heavy Duty Trailer up to 40 tons..... | \$ 29.33 | 23.33 |
| Specialized (Earth moving equipment other than conventional type on-the-road trucks and semi-trailers, including Euclids)..... | \$ 29.38 | 23.33 |

Hazardous waste removal work receives additional \$1.25 per hour.

a. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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 Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the

EXHIBIT F

Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that

EXHIBIT F

classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classification was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division

EXHIBIT F

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISION



Opportunity * Guidance * Support



THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

**If you have QUESTIONS regarding your wages
CALL (860) 263-6790**

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

EXHIBIT G

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice
To All Mason Contractors and Interested Parties
Regarding Construction Pursuant to Section 31-53 of the
Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

STATUTE 31-55a

- SPECIAL NOTICE -**To: All State and Political Subdivisions, Their Agents, and Contractors****Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.**

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

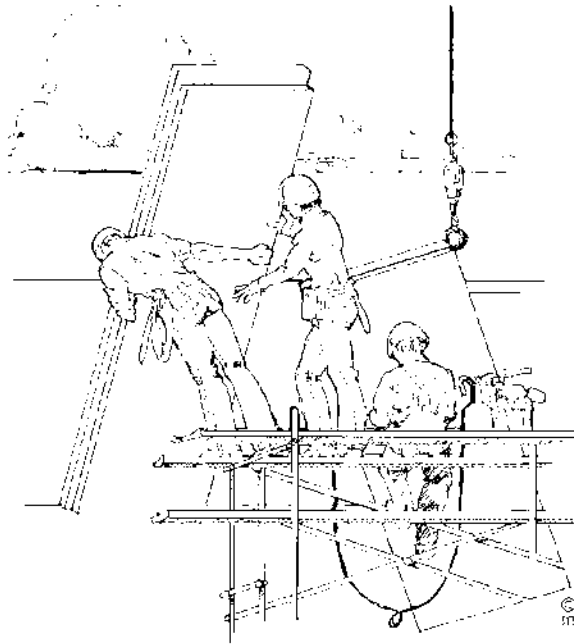
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached “Contracting Agency Certification Form” to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

 Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION
CONTRACT COMPLIANCE UNIT

CONTRACTING AGENCY CERTIFICATION FORM

I, _____, acting in my official capacity as _____,
authorized representative title

for _____, located at _____,
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with
_____, located at _____,
project name and number address

shall be \$_____, which includes all work, regardless of whether such project
consists of one or more contracts.

CONTRACTOR INFORMATION

Name: _____

Address: _____

Authorized Representative: _____

Approximate Starting Date: _____

Approximate Completion Date: _____

Signature

Date

Return To: Connecticut Department of Labor
Wage & Workplace Standards Division
Contract Compliance Unit
200 Folly Brook Blvd.
Wethersfield, CT 06109

Date Issued: _____

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM
Construction Manager at Risk/General Contractor/Prime Contractor

I, _____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

Street

City

and all of its subcontractors will pay all workers on the

Project Name and Number

Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

Signed

Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public

Return to:
Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

| CONTRACTOR NAME AND ADDRESS: | | | | | | | | | | | SUBCONTRACTOR NAME & ADDRESS | | | | WORKER'S COMPENSATION INSURANCE CARRIER | | | | | | |
|------------------------------------|-------------|-----------------------|--|-----------------------|---|---|---|----|---|----------------|------------------------------|---|--|------------------|---|------|----------------------|--|---------------------|--------------------|------------|
| PAYROLL NUMBER | | Week-Ending Date | PROJECT NAME & ADDRESS | | | | | | | | | | POLICY # | EFFECTIVE DATE: | EXPIRATION DATE: | | | | | | |
| PERSON/WORKER, ADDRESS and SECTION | APPR RATE % | MALE/FEMALE AND RACE* | WORK CLASSIFICATION | DAY AND DATE | | | | | | Total ST Hours | BASE HOURLY RATE | TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back) | GROSS PAY FOR ALL WORK PERFORMED THIS WEEK | TOTAL DEDUCTIONS | | | | GROSS PAY FOR THIS PREVAILING RATE JOB | CHECK # AND NET PAY | | |
| | | | | S | M | T | W | TH | F | S | | | | Total O/T Hours | TOTAL FRINGE BENEFIT PLAN CASH | FICA | FEDERAL WITH-HOLDING | | | STATE WITH-HOLDING | LIST OTHER |
| | | | Trade License Type & Number - OSHA 10 Certification Number | HOURS WORKED EACH DAY | | | | | | | \$ | 1. \$ | | | | | | | | | |
| | | | | | | | | | | \$ | 2. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 3. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 4. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 5. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 6. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 1. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 2. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 3. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 4. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 5. \$ | | | | | | | | | | |
| | | | | | | | | | | \$ | 6. \$ | | | | | | | | | | |

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker’s compensation, income taxes, etc.).

Please specify the type of benefits provided:

- 1) Medical or hospital care _____ 4) Disability _____
- 2) Pension or retirement _____ 5) Vacation, holiday _____
- 3) Life Insurance _____ 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of _____,

I, _____ of _____, (hereafter known as Employer) in my capacity as _____ (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

- a) The records submitted are true and accurate;
- b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;
- c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);
- d) Each such person is covered by a worker’s compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;
- e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and
- f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such persons name first appears.

_____ (Signature) _____ (Title) _____ Submitted on (Date)

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

| PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS | | | | | | | | | | Connecticut Department of Labor Wage and Workplace Standards Division 200 Folly Brook Blvd. Wethersfield, CT 06109 | | | | | | | | | | |
|--|------------------|------------------------|---|----|--|----|----|----|----------------|---|---|--|-----------------------------------|--------------------------------|-------|--|---------------------|----------------------|--------------------|-------------------|
| In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency. | | | | | | | | | | WEEKLY PAYROLL | | | | | | | | | | |
| CONTRACTOR NAME AND ADDRESS: Landon Corporation, 15 Connecticut Avenue, Northford, CT 06472 | | | | | SUBCONTRACTOR NAME & ADDRESS XYZ Corporation 2 Main Street Yantic, CT 06389 | | | | | WORKER'S COMPENSATION INSURANCE CARRIER Travelers Insurance Company POLICY # #BAC8888928 EFFECTIVE DATE: 1/1/09 EXPIRATION DATE: 12/31/09 | | | | | | | | | | |
| PAYROLL NUMBER | Week-Ending Date | PROJECT NAME & ADDRESS | | | | | | | Total ST Hours | BASE HOURLY RATE | TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back) | GROSS PAY FOR ALL WORK PERFORMED THIS WEEK | TOTAL DEDUCTIONS | | | GROSS PAY FOR THIS PREVAILING RATE JOB | CHECK # AND NET PAY | | | |
| | | DAY AND DATE | | | | | | | | | | | Total O/T Hours | TOTAL FRINGE BENEFIT PLAN CASH | FICA | | | FEDERAL WITH-HOLDING | STATE WITH-HOLDING | LIST OTHER |
| PERSON/WORKER, ADDRESS and SECTION | APPR RATE % | MALE/FEMALE AND RACE* | WORK CLASSIFICATION | S | M | T | W | TH | F | S | | | | | | | | | | |
| Trade License Type & Number - OSHA 10 Certification Number | | | | 20 | 21 | 22 | 23 | 24 | 25 | 26 | HOURS WORKED EACH DAY | | | | | | | | | |
| Robert Craft 81 Maple Street Willimantic, CT 06226 | | M/C | Electrical Lineman E-1 1234567 Owner OSHA 123456 | | 8 | 8 | 8 | 8 | 8 | | S-TIME 40 | \$ 30.75 Base Rate | 1. \$ 5.80 2. \$ 3. \$ 2.01 | \$1,582.80 | | | | P-xxxx | \$1,582.80 | #123 \$ xxx.xx |
| | | | | | | | | | | | O-TIME | \$ 8.82 Cash Fringe | 4. \$ 5. \$ 6. \$ | | | | | | | |
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| Ronald Jones 212 Elm Street Norwich, CT 06360 | 65% | M/B | Electrical Apprentice OSHA 234567 | | 8 | 8 | 8 | 8 | 8 | | S-TIME 40 | \$ 19.99 Base Rate | 1. \$ 2. \$ 3. \$ | \$1,464.80 | xx.xx | xxx.xx | xx.xx | G-xxx | \$1,464.80 | #124 \$xxx.xx |
| | | | | | | | | | | | O-TIME | \$ 16.63 Cash Fringe | 4. \$ 5. \$ 6. \$ | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | |
| Franklin T. Smith 234 Washington Rd. New London, CT 06320 SECTION B | | M/H | Project Manager | | | 8 | | | | | S-TIME 8 | \$ Base Rate | 1. \$ 2. \$ 3. \$ | \$1,500.00 | xx.xx | xx.xx | xx.xx | M-xx.x | xxx.xx | #125 |
| | | | | | | | | | | | O-TIME | \$ Cash Fringe | 4. \$ 5. \$ 6. \$ | | | | | | | |
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OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

*FRINGE BENEFITS EXPLANATION (P):

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

- 1) Medical or hospital care Blue Cross 4) Disability _____
- 2) Pension or retirement _____ 5) Vacation, holiday _____
- 3) Life Insurance Utopia 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of 9/26/09

I, Robert Craft of XYZ Corporation, (hereafter known as

Employer) in my capacity as Owner (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

- a) The records submitted are true and accurate;
- b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;
- c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);
- d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;
- e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and
- f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA-The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

Robert Craft owner 10/2/09
 (Signature) (Title) Submitted on (Date)

Section B: Applies to CONNDOT Projects ONLY

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

Robert Craft owner 10/2/09
 (Signature) (Title) Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

THIS IS A PUBLIC DOCUMENT
 DO NOT INCLUDE SOCIAL SECURITY NUMBERS

Information Bulletin *Occupational Classifications*

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **DELIVERY PERSONNEL**

- If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

- An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

- **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ****License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.***

- **ELEVATOR CONSTRUCTORS**

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. **License required by Connecticut General Statutes: R-1,2,5,6.*

- **FORK LIFT OPERATOR**

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

- **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

- **INSULATOR**

- Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

- **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

- Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

- Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. **License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.*

- **POWER EQUIPMENT OPERATORS**

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. **License required, crane operators only, per Connecticut General Statutes.*

- **ROOFERS**

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be relaid.)

- **SHEETMETAL WORKERS**

Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

- **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems.

****License required per Connecticut General Statutes: F-1,2,3,4.***

- **TILE MARBLE AND TERRAZZO FINISHERS**

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are requires to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ****License required, drivers only, per Connecticut General Statutes.***

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

➤ *Any questions regarding the proper classification should be directed to:*
Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543.

**Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES**

⇒ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

**Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)**

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

- a. Paid Holidays: Labor Day and Christmas Day.

**Power Equipment Operators
(Heavy and Highway Construction & Building Construction)**

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

- a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.