

TOWN OF SIMSBURY

**DEPARTMENT OF PUBLIC WORKS 933
HOPMEADOW STREET
SIMSBURY, CT 06070**

INVITATION TO BID FOR

**HOPMEADOW STREET CONNECTIVITY
PROJECT, SIMSBURY
DPW 2022-04**

The Town of Simsbury is soliciting bids for HOPMEADOW STREET CONNECTIVITY PROJECT, SIMSBURY. The scope of work includes furnishing all labor, materials, equipment necessary for the construction of a sidewalk corridor along the west side of Hopmeadow Street beginning at the southern end at Hoskins Road and continuing north to the CTDOT Storage Facility/Park n' Ride. The design will include a 5ft wide concrete sidewalk along Hopmeadow Street that is approximately 4,400 LF with a varying snow shelf for a majority of the project area.

This project is subject to State of Connecticut Prevailing Wage requirements. Contractors must comply with the State of Connecticut Department of Administrative Services (DAS) Contractor Prequalification Program for any contract over \$100,000. The classification for which construction contractors are being sought is as follows: Heavy/Highway Construction.

Sealed proposals will be accepted by Amy Merriweather, Director of Finance, 933 Hopmeadow Street (Rt. 10/202), Simsbury, CT until 10:00 a.m., June 16, 2022.

Specifications and bidding documents may be obtained electronically via the Town's web site at the following link: <http://www.simsbury-ct.gov/finance/pages/public-bids-and-rfp>. Bid documents will not be mailed or faxed.

**STANDARD INSTRUCTIONS TO BIDDERS
HOPMEADOW STREET CONNECTIVITY
PROJECT, SIMSBURY**

1. Project Overview:

The Town of Simsbury is soliciting bids for the HOPMEADOW STREET CONNECTIVITY PROJECT, SIMSBURY. The project includes a sidewalk corridor along the west side of Hopmeadow Street beginning at the southern end at Hoskins Road and continuing north to the CTDOT Storage Facility/Park n' Ride. The design will include a 5ft wide concrete sidewalk along Hopmeadow Street that is approximately 4,400 LF with a varying snow shelf for a majority of the project area. The proposed sidewalk will consist of three (3) crosswalks and a proposed concrete retaining wall for approximately 100ft at the Saxton Brook crossing in order to support the proposed sidewalk and minimize potential property and/or wetland impacts. One (1) proposed sidewalk connection will be created to the existing concrete sidewalk along the eastern side of the Hopmeadow at Hoskin Road intersection. The project includes installation of decorative streetlights, to illuminate new sidewalk for pedestrians. Additionally, approximately 330 LF of new sidewalks will be constructed along Dorset Crossing Drive which will connect to Hopmeadow Street.

The scope of work for this project includes furnishing all labor, materials and equipment required to complete the project as specified.

2. Key Event Dates:

| | |
|--------------------------|--|
| Invitation to Bid Issued | May 24, 2022 |
| Pre-Bid Conference | 6/9/2022 @ 10:00 AM 66 Town Forest Road, West Simsbury 06092 |
| Bids Due | June 16, 2022 |
| Commencement of Work | Within ten (10) calendar days of Notice to Proceed |

3. Bid Submission Instructions:

- A. One (1) original and one (1) copy of all bids must be submitted in a sealed envelope with the bidder's name on the outside of the envelope and clearly marked "Sealed Bid for Town of Simsbury –HOPMEADOW STREET CONNECTIVITY PROJECT, SIMSBURY". If forwarded by mail or courier, the sealed envelope must be addressed to "Amy Meriwether, Director of Finance, 933 Hopmeadow Street (Rt. 10/202), Simsbury, CT 06070". Bids must be at the office of the Director of Finance prior to 10 a.m., June 16, 2022. Postmarks are NOT an acceptable waiver of this policy. Once the first bid is opened, all bids are deemed final and no corrections or alterations may be made.
- B. Ditto marks or words such as "SAME" must not be used for the bid to be considered.
- C. All information must be submitted in ink or typewritten. Errors, alterations or corrections must be shown on both the original and all required copies and each must be initialed by the person signing the bid.

- D. Bids are considered valid for ninety (90) days after bids are opened. Bidders may not withdraw, cancel or modify their bid during this ninety (90) day period after bids are opened.
- E. An authorized person representing the legal entity of the bidder must sign bids.
- F. The inability to meet any specified requirement(s) must be stated in writing and attached to the bid form or written on the bid form. If no exceptions are noted, it shall be assumed that the terms of the Invitation to Bid have been accepted.
- G. The Town of Simsbury reserves the right to waive any minor informality in a bid when such a waiver is in the best interest of the Town.

4. Questions:

Any questions about this project should be directed to: Mr. Thomas J. Roy, Director of Public Works/Town Engineer by fax (860) 408-5416, Pubworks@simsbury-ct.gov, or by mail Department of Public Works, 66 Town Forest Road, West Simsbury, CT 06092. To receive consideration, such questions must be received at least five (5) business days before the established date for receipt of bids. No oral interpretations shall be made to any respondent as to the meaning of any of the bid documents. Every request for an interpretation shall be made in writing.

The Town will respond to all appropriate questions received via an addendum available to all prospective bidders. Such addenda will become part of this Invitation to Bid and the resulting contract. At least two (2) days prior to the receipt of bids, the Town will post a copy of any addenda to its website, located at: www.simsbury-ct.gov/finance/pages/public-bids-and-rfp. It shall be the responsibility of each bidder to determine whether addenda have been issued, and if so, to download copies directly from the Town's website.

5. Presumption of Bidder Being Fully Informed:

At the time the first bid is opened, each bidder is presumed to have read and is thoroughly familiar with all bidding documents as well as all contract documents for this project. Failure or omission of the bidder to receive or examine any documentation or information concerning this bid shall in no way relieve any bidder from obligations with respect to their bid.

6. Pre-Bid Conference:

A pre-bid conference will be held at the Simsbury Department of Public Works, 66 Town Forest Road, West Simsbury, CT 06092, at 10:00 Am 6/7/2022. The intent of this conference is to provide an outline of the project and to provide clarification to any potential bidders. Prospective bidders are encouraged to visit and inspect the project site and to carefully review the Invitation to Bid in advance of this conference to provide for a meaningful discussion. All salient points of the conference and responses to any questions will be provided via addendum. This will be followed by a re-assembly of the conference at the project site, if warranted.

7. Interpretation of Acceptable Work:

All work on this project is to be in accordance with the specifications, bidding and contract documents are to be interpreted as meaning those acceptable to the Town of Simsbury. Work is to be done in a clean and workmanlike fashion and meet industry best practices for quality and performance.

8. Wage Rates:

State of Connecticut Department of Labor Prevailing Wage rates apply for any contract over \$100,000. Copies of these wage rates are incorporated in the Contract Documents. Each CONTRACTOR or Subcontractor performing Work on this Project shall comply in all respects with all laws governing the employment of labor, Social Security, and Unemployment insurance of both State and Federal government. Contractors must submit certified payroll documentation with each payment application for processing. Payment applications will not be approved without certified payroll.

9. Tax Exemptions:

The bidder shall be aware that the Town of Simsbury is exempt from Federal Excise Taxes and Connecticut Sales and Use Taxes. Appropriate tax-exempt forms will be provided to the successful bidder(s) as part of the contract award process.

10. Insurance Requirements:

The firm must carry insurance under which the Town is named as an additional insured, as follows:

Such insurance must be by insurance companies licensed to write such insurance in Connecticut against the following risks with the following minimum amounts and minimum durations.

- A. Workman's Compensation, as required by State Statute & \$100,000 employers liability limit.
- B. Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

| | |
|--|-------------|
| Injury or death of one person: | \$2,000,000 |
| Injury to more than one person in a single accident: | \$1,000,000 |
| Property damage in one accident: | \$1,000,000 |
| Property damage in all accidents: | \$2,000,000 |
- C. Automobile and Truck (Vehicular) Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

| | |
|--|-------------|
| Injury or death of one person: | \$1,000,000 |
| Injury to more than one person in a single accident: | \$1,000,000 |
| Property damage in one accident: | \$1,000,000 |
| Property damage in all accidents: | \$1,000,000 |

Insurance under B, and C above must provide for a 30-day notice to the Town of cancellation/or restrictive amendment.

Insurance under B and C above must be for the whole duration of the contract and for twelve (12) months after acceptance of the project by the Town.

8. Wage Rates:

State of Connecticut Department of Labor Prevailing Wage rates apply for any contract over \$100,000. Copies of these wage rates are incorporated in the Contract Documents. Each CONTRACTOR or Subcontractor performing Work on this Project shall comply in all respects with all laws governing the employment of labor, Social Security, and Unemployment insurance of both State and Federal government. Contractors must submit certified payroll documentation with each payment application for processing. Payment applications will not be approved without certified payroll.

9. Tax Exemptions:

The bidder shall be aware that the Town of Simsbury is exempt from Federal Excise Taxes and Connecticut Sales and Use Taxes. Appropriate tax-exempt forms will be provided to the successful bidder(s) as part of the contract award process.

10. Insurance Requirements:

The firm must carry insurance under which the Town and the State of Connecticut are named as an additional insured, as follows:

Such insurance must be by insurance companies licensed to write such insurance in Connecticut against the following risks with the following minimum amounts and minimum durations.

- A. Workman's Compensation, as required by State Statute & \$100,000 employers liability limit.
- B. Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

| | |
|--|-------------|
| Injury or death of one person: | \$2,000,000 |
| Injury to more than one person in a single accident: | \$1,000,000 |
| Property damage in one accident: | \$1,000,000 |
| Property damage in all accidents: | \$2,000,000 |
- C. Automobile and Truck (Vehicular) Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

| | |
|--|-------------|
| Injury or death of one person: | \$1,000,000 |
| Injury to more than one person in a single accident: | \$1,000,000 |
| Property damage in one accident: | \$1,000,000 |

Insurance under B, and C above must provide for a 30-day notice to the Town of cancellation/or restrictive amendment.

Insurance under B and C above must be for the whole duration of the contract and for twelve (12) months after acceptance of the project by the Town.

Subcontractors must carry A, B, and C in the same amounts as above for the duration of the project and until acceptance by the Town.

Certificates of insurance must be submitted to the Director of Public Works prior to the signing of the contract and within ten days of notification of award of contract. Should any insurance expire or be terminated during the period in which the same is required by this contract, the Director of Public Works shall be notified and such expired or terminated insurance must be replaced with new insurance and a new certificate furnished to the Director of Public Works.

Failure to provide the required insurance and certificates may, at the option of the Town, be held to be a willful and substantial breach of this contract.

11. Substitution for Name Brands:

~~Should brand name items appear in this bid, the bidder must attach specifications for any substitutions and explain how the substitution compares with the specifications of the named brand. The decision on whether to use the substitution or the named brand rests solely with the Town of Simsbury.~~

12. Awarding the Bid:

The Town reserves the right to accept any bid or any part of bids, to reject any, all, or any part of bids, and to waive formalities and informalities in the bidding process. The Town at its discretion will award the bid to the lowest responsible bidder. That bidder is the person or firm who is qualified and competent to do the work, whose past performance is satisfactory to the Town and whose bid documents comply with the procedural requirements stated herein.

Bid Alternates, where applicable, will be awarded if it is determined to be in the best interest of the Town. The Town reserves the right to award any and all alternatives in the order that best suits the Town.

13. Rejection and/or Cancellation of Bids:

The Town reserves the right to reject or cancel any and all bids, or any part of any or all bids, if such action is deemed to be in the best interest of the Town.

14. Delivery Arrangements: Not applicable

15. Bid Bond: Bidders must provide the Town of Simsbury with a completed Bid Bond Form.

16. Performance Bond: Bidders must provide the Town of Simsbury with a completed Performance Bond Form.

17. W-9 Form

The successful bidder must provide the Town of Simsbury with a completed W-9 Form prior to commencing work.

18. Submittals:

The Bidder shall, as soon as practicable, but not exceed fifteen (15) calendar days, after notification of selection of the award of the bid, furnish to the Owner, in writing the following:

- A. Designation of the Work to be performed by the Contractor's own forces
- B. Names of the manufacturers, products and suppliers of the principal items of materials proposed for the work
- C. Project work schedule

19. Agreement Documents:

The Agreement Documents are defined in Section 1.7 of the General Conditions.

20. CHRO Compliance:

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806

21. Liquidated Damages:

Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement. 180 calendar days excluding Winter shut down, will be allowed for completion of the work on this project and the liquidated damages charge to apply will be One Thousand One Hundred Dollars (\$1,100.00) per calendar day.

END OF STANDARD INSTRUCTION TO BIDDERS

BID FORM
HOPMEADOW STREET CONNECTIVITY PROJECT
HOPMEADOW STREET

Pursuant to and in compliance with the "Invitation to Bid" and Standard Instructions to Bidders relating thereto, the undersigned, having visited the sites and carefully examined all Bidding Documents and complete General Specifications together with all Addenda issued and received prior to the scheduled closing time for receipt of Bids, hereby offers and agrees as follows:

- To provide all labor, materials, and anything else reasonably necessary to complete all work per the attached specifications.
- If awarded this Contract, we will execute a Contract with the Town of Simsbury, Owner of the properties.

In submitting this BID, the BIDDER acknowledges that:

1. Each lump sum price includes all labor, materials, transportation, hauling, overhead, fees and insurances, profit, and all other costs to cover the finished work called for regarding the specified section of Town as stated in the Contract Documents. No additional payment of any kind in the form of a surcharge will be made for work accomplished under the lump sum prices, as bid.
2. No representation of warranty has been made by the OWNER that the estimated quantities used for comparison of BIDS will even approximate the actual quantities required to satisfactorily complete the WORK required under this CONTRACT.
3. Upon receipt of written notice of acceptance of this BID by the OWNER, the BIDDER shall execute the AGREEMENT attached to these documents within ten (10) calendar days and other documents as required in these documents.
4. In regard to all conditions affecting the WORK to be done and the labor and materials to be furnished, this BID is based solely on the BIDDER'S investigations and findings and neither the OWNER nor its officers, employees or agents shall be held responsible for the accuracy of, or be bound by any information contained in these Contract Documents.

Submitted By: _____
Company *Phone*

Street *City* *Zip*

Authorized Signature: _____
Signature *Printed Name*

HOPMEADOW STREET CONNECTIVITY IMPROVEMENTS, SIMSBURY

IF A SOLELY OWNED COMPANY:

Company Name _____
Address _____
Town _____
By _____
(Authorized Signature)
Title _____ Date _____

IF A CORPORATION OR LIMITED LIABILITY COMPANY:

A corporation or limited liability company organized under the laws of

_____, composed of officers as follows:

| | |
|-------------------------|--------------------|
| _____ President | _____ Secretary |
| _____ Vice President | _____ Treasurer |

IF A PARTNERSHIP:

A partnership doing business under the firm name and style of

_____, composed of partners as follows:

| | |
|--------------------------------|--------------------------------|
| _____ Name & Title (if any) | _____ Name & Title (if any) |
| _____ Name & Title (if any) | _____ Name & Title (if any) |

This Bill must bear the written signature of the BIDDER. If the BIDDER is a partnership, the Bid must be signed by a partner. If the BIDDER is a corporation or limited liability company, the Bid must be signed by a duly authorized officer of such corporation or Limited Liability Company.

**HOPMEADOW STREET CONNECTIVITY PROJECT
PROPOSAL FORM**

SIMSBURY PROJECT: L128-0002

CONTRACT NO.

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|----------|--------------|-------|---|------------|--------|
| 0201001 | 1 | l.s. | CLEARING AND GRUBBING at _____ dollars and _____ cents per lump sum. | \$ | \$ |
| 0202000 | 950 | c.y. | EARTH EXCAVATION at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 0202100 | 38 | c.y. | ROCK EXCAVATION at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 0202452 | 1 | ea. | TEST PIT at _____ dollars and _____ cents per each. | \$ | \$ |
| 0202512 | 20 | l.f. | CUT CONCRETE SIDEWALK at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0202529 | 2000 | l.f. | CUT BITUMINOUS CONCRETE PAVEMENT at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0202533 | 670 | l.f. | REMOVAL OF EXISTING CURBING at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0203100 | 20 | c.y. | STRUCTURE EXCAVATION - ROCK (COMPLETE) at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 0209001 | 292 | s.y. | FORMATION OF SUBGRADE at _____ dollars and _____ cents per square yard. | \$ | \$ |
| 0212000 | 99 | c.y. | SUBBASE at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 0219001 | 1275 | l.f. | SEDIMENTATION CONTROL SYSTEM at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0219011A | 22 | ea. | SEDIMENT CONTROL SYSTEM AT CATCH BASIN at _____ dollars and _____ cents per each. | \$ | \$ |

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|------------|-----------|-------|---|------------|--------|
| 0286001.10 | 5 | c.y. | ROCK IN DRAINAGE TRENCH EXCAVATION 0'-10' DEEP at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 0406170 | 58 | ton | HMA S1 at _____ dollars and _____ cents per ton. | \$ | \$ |
| 0406171 | 63 | ton | HMA S0.5 at _____ dollars and _____ cents per ton. | \$ | \$ |
| 0406236 | 34 | gal | MATERIAL FOR TACK COAT at _____ dollars and _____ cents per gallon. | \$ | \$ |
| 0586001.10 | 2 | ea. | TYPE 'C' CATCH BASIN - 0' - 10' DEEP at _____ dollars and _____ cents per each. | \$ | \$ |
| 0586600 | 1 | ea. | RESET CATCH BASIN at _____ dollars and _____ cents per each. | \$ | \$ |
| 0586650 | 2 | ea. | RESET MANHOLE at _____ dollars and _____ cents per each. | \$ | \$ |
| 0586701 | 1 | ea. | CONVERT CATCH BASIN TO TYPE 'C-L' CATCH BASIN at _____ dollars and _____ cents per each. | \$ | \$ |
| 0586750 | 1 | ea. | TYPE 'C' CATCH BASIN TOP at _____ dollars and _____ cents per each. | \$ | \$ |
| 0601650A | 985 | s.f. | RETAINING WALL (SITE NO. 1) at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 0651287 | 24 | l.f. | 10" HIGH DENSITY POLYETHYLENE PIPE at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0686000.15 | 100 | l.f. | 15" R.C. PIPE - 0' - 10' DEEP at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0811001 | 950 | l.f. | CONCRETE CURBING - 8" REVEAL at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0813021 | 340 | l.f. | 6" GRANITE STONE CURBING at _____ dollars and _____ cents per linear foot. | \$ | \$ |

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|------------|-----------|-------|--|------------|--------|
| 0813031 | 30 | l.f. | 6" GRANITE CURVED STONE CURBING at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0815001 | 220 | l.f. | BITUMINOUS CONCRETE LIP CURBING at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0822100.01 | 180 | l.f. | TEMPORARY TRAFFIC BARRIER at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0910173 | 2 | ea. | R-B 350 BRIDGE ATTACHMENT - VERTICAL SHAPED PARAPET at _____ dollars and _____ cents per each. | \$ | \$ |
| 0911924 | 2 | ea. | R-B END ANCHORAGE-TYPE II at _____ dollars and _____ cents per each. | \$ | \$ |
| 0912503 | 140 | l.f. | REMOVE METAL BEAM RAIL at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 0915000 | 1 | l.s. | TREE PROTECTION at _____ dollars and _____ cents per lump sum. | \$ | \$ |
| 0921001 | 15200 | s.f. | CONCRETE SIDEWALK at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 0921002 | 1330 | s.f. | CONCRETE SIDEWALK - 8" THICK at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 0921003A | 1000 | s.f. | MONOLITHIC CONCRETE SIDEWALK AND CURB at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 0921005 | 1450 | s.f. | CONCRETE SIDEWALK RAMP at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 0921024A | 600 | s.f. | BRICK PAVER SIDEWALK at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 0921039 | 9 | ea. | DETECTABLE WARNING STRIP at _____ dollars and _____ cents per each. | \$ | \$ |
| 0922001 | 80 | s.y. | BITUMINOUS CONCRETE SIDEWALK at _____ dollars and _____ cents per square yard. | \$ | \$ |

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|----------|-----------|-------|---|------------|--------------|
| 0922500 | 110 | s.y. | BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL) at _____ dollars and _____ cents per square yard. | \$ | \$ |
| 0922501 | 9 | s.y. | BITUMINOUS CONCRETE DRIVEWAY at _____ dollars and _____ cents per square yard. | \$ | \$ |
| 0939001 | 12 | hr | SWEEPING FOR DUST CONTROL at _____ dollars and _____ cents per hour. | \$ | \$ |
| 0942001 | 3 | ton | CALCIUM CHLORIDE FOR DUST CONTROL at _____ dollars and _____ cents per ton. | \$ | \$ |
| 0943001 | 26 | m.gal | WATER FOR DUST CONTROL at _____ dollars and _____ cents per thousand gallons. | \$ | \$ |
| 0944000 | 1704 | s.y. | FURNISHING AND PLACING TOPSOIL at _____ dollars and _____ cents per square yard. | \$ | \$ |
| 0949833 | 2 | ea. | ACER RUBRUM RED MAPLE 2 1/2" - 3" CAL. B.B. at _____ dollars and _____ cents per each. | \$ | \$ |
| 0950005 | 1704 | s.y. | TURF ESTABLISHMENT at _____ dollars and _____ cents per square yard. | \$ | \$ |
| 0969062A | 6 | mo. | CONSTRUCTION FIELD OFFICE, MEDIUM at _____ dollars and _____ cents per month. | \$ | \$ |
| 0970008A | 30000 | est. | TRAFFICPERSON (STATE POLICE OFFICER) at ONE dollars and ZERO cents per estimate. | \$ 1.00 | \$ 30,000.00 |
| 0971001A | 1 | l.s. | MAINTENANCE AND PROTECTION OF TRAFFIC at _____ dollars and _____ cents per lump sum. | \$ | \$ |
| 0975004 | 1 | l.s. | MOBILIZATION AND PROJECT CLOSEOUT at _____ dollars and _____ cents per lump sum. | \$ | \$ |
| 0976002 | 749 | day | BARRICADE WARNING LIGHTS - HIGH INTENSITY at _____ dollars and _____ cents per day. | \$ | \$ |
| 0977001 | 20 | ea. | TRAFFIC CONE at _____ dollars and _____ cents per each. | \$ | \$ |

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|----------|-----------|-------|---|------------|--------|
| 0978002 | 20 | ea. | TRAFFIC DRUM at _____ dollars and _____ cents per each. | \$ | \$ |
| 0979003 | 5 | ea. | CONSTRUCTION BARRICADE TYPE III at _____ dollars and _____ cents per each. | \$ | \$ |
| 0980020 | 1 | l.s. | CONSTRUCTION SURVEYING at _____ dollars and _____ cents per lump sum. | \$ | \$ |
| 1001001 | 1970 | l.f. | TRENCHING AND BACKFILLING at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 1002110A | 15 | ea. | DECORATIVE LIGHT POLE FOUNDATION at _____ dollars and _____ cents per each. | \$ | \$ |
| 1003595A | 15 | ea. | DECORATIVE LIGHT POLE AND LUMINAIRE at _____ dollars and _____ cents per each. | \$ | \$ |
| 1008190 | 2500 | l.f. | 2" PVC CONDUIT SCHEDULE 80 at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 1010001 | 11 | ea. | CONCRETE HANDHOLE at _____ dollars and _____ cents per each. | \$ | \$ |
| 1010901 | 1 | ea. | REMOVE AND RELOCATE CONCRETE HANDHOLE at _____ dollars and _____ cents per each. | \$ | \$ |
| 1010905 | 8 | ea. | RESET CONCRETE HANDHOLE at _____ dollars and _____ cents per each. | \$ | \$ |
| 1012031A | 2840 | l.f. | NO. 2 SINGLE CONDUCTOR at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 1012034A | 2170 | l.f. | NO. 4 SINGLE CONDUCTOR at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 1015004A | 1420 | l.f. | NO. 2 BARE COPPER GROUNDING CONDUCTOR at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 1015005A | 1090 | l.f. | NO. 4 BARE COPPER GROUNDING CONDUCTOR at _____ dollars and _____ cents per linear foot. | \$ | \$ |

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|----------|-----------|-------|---|------------|--------|
| 1017100 | 1 | ea. | SERVICE ENTRANCE CABINET at _____ dollars and _____ cents per each. | \$ | \$ |
| 1206023A | 1 | l.s. | REMOVAL AND RELOCATION OF EXISTING SIGNS at _____ dollars and _____ cents per lump sum. | \$ | \$ |
| 1210101 | 335 | l.f. | 4" WHITE EPOXY RESIN PAVEMENT MARKINGS at _____ dollars and _____ cents per linear foot. | \$ | \$ |
| 1210105 | 890 | s.f. | EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 1220013 | 100 | s.f. | CONSTRUCTION SIGNS - BRIGHT FLUORESCENT SHEETING at _____ dollars and _____ cents per square foot. | \$ | \$ |
| 1300007A | 5 | c.y. | EXCAVATION AND DISPOSAL OF UNSUITABLE MATERIAL (WATER MAIN) at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 1300015A | 5 | c.y. | ROCK IN TRENCH EXCAVATION 0' - 10' DEEP (WATER MAIN) at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 1300151A | 15 | c.y. | ADDITIONAL BACKFILL MATERIAL (WATER MAIN) at _____ dollars and _____ cents per cubic yard. | \$ | \$ |
| 1302061A | 2 | ea. | ADJUST GATE BOX (WATER) at _____ dollars and _____ cents per each. | \$ | \$ |
| 1302062A | 1 | ea. | ADJUST GATE BOX (GAS) at _____ dollars and _____ cents per each. | \$ | \$ |
| 1303195A | 2 | ea. | REMOVE HYDRANT (WATER MAIN) at _____ dollars and _____ cents per each. | \$ | \$ |
| 1303202A | 2 | ea. | INSTALL FIRE HYDRANT at _____ dollars and _____ cents per each. | \$ | \$ |
| 1304059A | 10 | s.y. | PERMANENT PAVEMENT REPLACEMENT (WATER MAIN) at _____ dollars and _____ cents per square yard. | \$ | \$ |
| 1304060A | 10 | s.y. | TEMPORARY PAVEMENT REPAIRS (WATER MAIN) at _____ dollars and _____ cents per square yard. | \$ | \$ |

| ITEM NO. | EST. QTY. | UNITS | DESCRIPTION AND WRITTEN UNIT PRICE | UNIT PRICE | AMOUNT |
|---|-----------|-------|---|------------|---|
| 1802210.04 | 2 | ea. | TEMPORARY SAND BARREL (400 lb.) at _____ dollars and _____ cents per each. | \$ | \$ |
| 1802210.07 | 6 | ea. | TEMPORARY SAND BARREL (700 lb.) at _____ dollars and _____ cents per each. | \$ | \$ |
| 1802210.14 | 8 | ea. | TEMPORARY SAND BARREL (1400 lb.) at _____ dollars and _____ cents per each. | \$ | \$ |
| 1802210.21 | 4 | ea. | TEMPORARY SAND BARREL (2100 lb.) at _____ dollars and _____ cents per each. | \$ | \$ |
| Total Proposal: | | | | | \$ |
| The total amount of this Base Proposal at _____ dollars and _____ cents | | | | | Add up all values in the "Amount" column and insert the total here and as your Base Proposal |

"Unit price" amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. In case of discrepancy between "unit price" and "extended price", the unit price will govern.

Under penalty of perjury and other remedies available to the TOWN/CITY of _____, the undersigned certifies this proposal is submitted without collusion, and all responses are true and accurate. If awarded this proposal it is agreed this forms a contractual obligation to provide services at the fees specified in this Proposal Form, subject to and in accordance with all instructions, proposal and contract documents, including any addenda, which are all made part of this proposal.

Signature of Authorized Person

Date

Printed Name of Authorized Person

Company Title of Authorized Person

Name of Company

Address of Company

City, State, and Zip Code

Telephone Number

Facsimile Number

END OF PROPOSAL FORM

BIDDER'S QUALIFICATIONS STATEMENT

The BIDDER shall answer all of the following questions, as part of the Bid, so that the OWNER can judge the BIDDER's ability, experience and facilities for performing the proposed work.

1. Name of BIDDER: _____
2. Bidder's Tax Identification Number: _____
3. What year was company organized/formed? _____
4. How many years has the BIDDER been engaged in business under the present firm or trade name? _____
5. What is the general character or type of work you perform? _____

6. Has a claim ever been brought in court or to arbitration against the BIDDER for failure to complete any contracted work or default on a contract? _____
If yes, explain with whom and why: _____

7. For other similar projects you have under contract at the present time: Attach list with description of work; the name of the client/owner with telephone number; and the approximate value of the work to be performed.

NOTE: The BIDDER is required to have completed a minimum of five (5) similar projects as a demonstration of competency and experience for the project proposed herein. Such projects are to be listed below.

8. Attach a list of all projects that your present organization has completed within the past ten years or is presently working on, including name of project, owner and name and telephone number of the owner's representative. Indicate here how many additional pages attached: pages.
9. Attach a list of the names, addresses and the background/experience of all principal or key members of the BIDDERS organization, including its officers:

Indicate the number of pages attached: _____ pages

NOTE: If requested, the BIDDER agrees to furnish the OWNER with a detailed financial statement and other relevant information that may be required by the Town of Simsbury to properly evaluate the qualifications of the BIDDER.

HOPMEADOW STREET CONNECTIVITY IMPROVEMENTS, SIMSBURY

PROPOSED SUBCONTRACTORS

BIDDER intends to utilize the following subcontractors on this project:

If none, write "None" here: _____

NAME AND ADDRESS
OF SUBCONTRACTOR

____DESCRIPTION OF WORK:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

NON-COLLUSION AFFIDAVIT OF BIDDER

State of _____, County of _____, being first
duly sworn, disposes and says that:

1. He is the owner, officer, representative or agent of: _____ the
BIDDER that has submitted the attached BID;
2. The attached BID is genuine; it is not a collusive or sham BID.
3. He is fully informed respecting the preparation, and contents of, and knowledgeable of all pertinent
circumstances respecting the attached BID.
4. Neither BIDDER nor any of its officers, partners, owners, agents, representatives, employees, or
parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed,
directly or indirectly, with any other bidder, firm or person to submit a collusive or sham BID in
connection with the AGREEMENT for which the attached BID has been submitted or to refrain
from bidding in connection with any contract, or has in any manner, directly or indirectly, sought by
agreement, collusion, communication or conference with any other bidder, firm or person to fix the
price or prices in the attached BID or of any other bidder, or to fix any overhead, profit or cost
element of the BID prices or the bid price of any other bidder, or to secure through collusion,
conspiracy, connivance or unlawful agreement any advantage against the Town of Simsbury or any
other person interested in the proposed AGREEMENT.
5. The price(s) quoted in the attached BID are fair and proper and are not tainted by any collusion,
conspiracy, connivance or unlawful agreement on the part of the BIDDER or any of its agents,
representatives, owners, employees, or parties in interest, including this affiant; and
6. That no elected or appointed official or other officer or employee of the Town of Simsbury, who is
directly or indirectly interested in this BID, or in the supplies, materials, equipment, work or labor
to which it relates, or in any of the profits thereof.

(Signed) _____

(Name of Bidder)

Subscribed and sworn to before me this
_____ Day of _____, 2021

Title
My Commission expires _____, 20__

**STATEMENT OF BIDDERS COMPLIANCE WITH
EQUAL EMPLOYMENT OPPORTUNITY LAW AND
REGULATION INCLUDING EXECUTIVE ORDER NO. 3**

This statement must be completed by the Bidder and shall accompany his bid for this project.

IT IS HEREBY CERTIFIED THAT:

NAME OF BIDDER: _____

BUSINESS ADDRESS: _____

To the extent required by law, the Bidder has complied on past Contracts and will fully comply on this project with all applicable laws and regulation regarding equal employment opportunities for minorities and women, and;

Has _____ has not _____ previously performed work under the conditions of the Governor's Executive Order No. 3 of the State of Connecticut, or any preceding similar Executive Order with regards to Non-Discrimination.

Signature

Title

Subscribed and sworn to before me this
_____ Day of _____, 2021

Title

My Commission expires _____, 20_

IMPORTANT: THIS STATEMENT MUST BE SUBMITTED WITH BID

END OF SECTION

HOPMEADOW STREET CONNECTIVITY PROJECT, SIMSBURY

HOPMEADOW STREET CONNECTIVITY PROJECT
HOPMEADOW STREET

STANDARD CONTRACT DOCUMENTS FOR THE
DEPARTMENT OF PUBLIC WORKS

TOWN OF SIMSBURY
HOPMEADOW STREET CONNECTIVITY PROJECT
SIMSBURY

THIS AGREEMENT, made this day of _____ by and between THE TOWN OF SIMSBURY, 933 Hopmeadow Street, Simsbury, Connecticut hereinafter referred to as the OWNER and WINNING BIDDER with an address at ADDRESS OF WINNING BIDDER hereinafter referred to as the CONTRACTOR

WITNESSETH:

That for and in consideration of the mutual covenants and promises between the parties hereto, it is hereby agreed that:

1. The CONTRACTOR will furnish all of the materials and supplies, equipment, and labor and other services necessary in conformance with these contract documents for the construction and completion of the project described in general as follows: _____, as defined in the Standard Instruction for Bidders.
2. COMPLETION OF WORK. The Contractor shall commence the work covered by this contract within ten (10) calendar days after the date of receipt of the Notice to Proceed and shall complete the same within 180 calendar days unless the period for completion is extended as provided for in the General Conditions.
3. CONTRACT SUM. The Owner shall pay the Contractor for the performance of said work the sum of \$_____, subject to additions or deductions provided herein in conformity with the bid schedule of prices.
4. LIQUIDATED DAMAGES. Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement. 180 calendar days excluding Winter shut down, will be allowed for completion of the work on this project and the liquidated damages charge to apply will be One Thousand One Hundred Dollars (\$1,100.00) per calendar day.
-
5. The Contract Documents include all items outlined in General Conditions Section 1.7.
6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions and in such amounts as required by the

Contract Documents.

7. This Contract shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Contract in duplicate, on the date first above written.

OWNER:

Signed, Sealed and
Delivered in the presence of:

Town of Simsbury
BY: Maria Capriola
Town Manager

Printed Name: _____

Title: _____

PROJECT: HOPMEADOW STREET CONNECTIVITY PROJECT

Information Needed for Communications
on the Project

Name of Company:

Location of Company Office:

Street

City/State

Zip Code

Mailing Address of Company Office (if different than location):

Street

City/State

Zip Code

Phone No. of Company's Office (include area code)

Phone No. of Company's Project Office (if applicable)

Company Official Responsible for this Project:

Name

Title

Phone No. ()

Project Supervisor or Foreman:

Name

Phone No. ()

Person to be Contacted in Emergencies after Work Hours:

Name _

Phone No. ()

Person to be Contacted in Emergencies on Weekends and

Holidays: Name

Phone No. ()

If any changes to the above information occur during the progress of the work, the Public Works Director shall be immediately notified.

BID BOND

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

_____ as Principal, and
(Name of Principal)

_____ as Surety,
(Name of Surety)

are held and firmly bound unto the TOWN OF SIMSBURY, CONNECTICUT,

hereinafter called the "OWNER", in the penal sum of _____ DOLLARS,

(\$ _____) lawful money of the United States,

for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT

WHEREAS, the Principal has submitted the Accompanying Bid dated

_____, 2022 for Project: Hopmeadow Street Connectivity_____

Project No: L0128-0002

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within thirty (30) days after the said opening, and shall within the period specified therefore, or if no period be specified, within, ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the Owner in accordance with the Bid, as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract: or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time

specified, if the Principal shall pay the Owner the difference between the amount specified in said Bid and the amount for which the Owner may procure the required work or supplies or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, 2022, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In presence of:

_____(SEAL)
(Principal)

(Business Address)

Attest: _____ By: _____
(Corporate Principal)

Date: _____

(Business Address)

By: _____
Affix Corporate Seal:

Countersigned:

By: _____

Attorney-In-Fact, State of _____

(Power of Attorney for person signing for surety company must be attached to bond).

CERTIFICATE AS TO CORPORATE SEAL

I, _____, certify that I am the _____
_____, Secretary of the Corporation named as
Principal in the within bond: that _____,
who signed the said bond on behalf of the Principal was then _____

of said corporation: that I know his/her signature, and his/her signature thereto is genuine; and
that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by
authority of this governing body.

_____ (Corporate Seal)

_____ (Title)

_____ (Date)

PERFORMANCE BOND

TOWN OF SIMSBURY, CONNECTICUT

KNOW ALL MEN BY THESE PRESENTS

THAT WE, _____ of the Town of _____, County of _____ and State of Connecticut; as PRINCIPAL, and _____, as SURETY, are held and firmly bound unto the TOWN OF SIMSBURY, hereinafter called OWNER in the sum of _____ (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, whereas the Principal has entered into a certain written contract with the Owner, dated _____ day of _____, 2022, a copy of which is hereunto attached and made a part hereof for the construction of:

S. R. T. S. : HOPMEADOW STREET CONNECTIVITY PROJECT

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

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PERFORMANCE BOND

TOWN OF SIMSBURY, CONNECTICUT

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

IN WITNESS WHEREOF, WE HAVE SET our hands and seals this _____ day of _____, 2022.

| | |
|------------------|--------------------|
| _____ Witness | _____ Principal |
| | L.S. |

By: _____ L.S.

| | |
|------------------|-----------------|
| _____ Witness | _____ Surety |
| | L.S. |

By: _____ L.S.

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Connecticut.

Town of Simsbury

SUPPLEMENTAL CONTRACT SECTION

CODE OF ETHICS

Chapter 13 of the Code of Ordinances, the Simsbury Code of Ethics, is hereby incorporated by reference as if fully set forth, and is made a part of the Contract Documents. All Contractors shall sign the Acknowledgement Form.

TOWN OF SIMSBURY

Acknowledgement Form and

Charter Section 1103 Code of the Town of Simsbury

ACKNOWLEDGEMENT FORM

I have read Section 1103 of the Charter of the Town of Simsbury, the Code of Ethics Ordinance, and the Guidelines issued thereunder. I understand my responsibilities as a Contractor retained by the Town of Simsbury, and I am in compliance with the Charter and the Code of Ethics. I have indicated in the space below any areas of conflict should they arise in matters before our board, commission, agency or department, and I agree to report any future conflicts under the provisions of Section 1103 of the Charter.

| |
|--------------------|
| Areas of Exception |
|--------------------|

CONFLICTS OF INTEREST SECTION 1103

CONFLICTS OF INTEREST. It is hereby declared to be the policy of the Town that any elected or appointed officer, any member of any board or commission or any employee of the Town who has a financial interest, direct or indirect, in any contract, transaction or decision of any officer or agent of the Town or any board or commission, shall disclose that interest to the Board of Selectmen, which shall record such disclosure upon the official record of its meetings. Such disclosure of a financial interest, direct or indirect, in any contract, transaction or decision of any officer or agent of the town or of any board or commission shall disqualify such elected or appointed official or such member of a board of commission or such town employee from participation in the awarding, assignment or discussion of said contract, transaction or decision. Violation by any such official, board or commission member or employee of the provisions of this section shall be grounds for his/her removal.

Signature

Name (Please Print)

Date

CONTRACTOR'S EXEMPT PURCHASE CERTIFICATE

I hereby certify, under penalties of perjury, that I am engaged in the performance of a construction contract on a project for the following named exempt agency or organization:

Town of Simsbury

Full Name of Agency of Organization

**933 Hopmeadow Street
Simsbury, CT. 06070**

Address of Same

That such agency is, to the best of my knowledge and belief, exempt from the Sales and Use Tax because it is a

Town

(Town, School, Fire or Police Department, Library etc.,
or other branch of State or Federal Government)

In accordance with Regulation No. 16 of Sales and Use Tax.

That this certificate is issued to cover all purchases of materials and supplies, designated by me, for use of the project referred to above.

Permit No. (if any) (signed)

Contractor

Date:

Place:

Firm Name

Address:

GENERAL CONDITIONS

1. DEFINITIONS

- 1.1 Wherever used in the CONTRACT DOCUMENTS, The following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof.
- 1.2 ADDENDA - Written or Graphic Instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by additions, deletions, clarifications or corrections.
- 1.3 BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4 BIDDER -Any person, firm, or corporation submitting a BID for the WORK.
- 1.5 ~~BONDS — Bid, Performance, and Payment Bonds and other instruments of security, furnished by the CONTRACTOR in accordance with the CONTRACT DOCUMENTS.~~
- 1.6 CHANGE ORDER - A written order to the CONTRACTOR authorizing an addition, deletion, or revision in the WORK within the general scope of the CONTRACT TIME.
- 1.7 CONTRACT DOCUMENTS - The contract including Advertisement for Bids, Instructions to Bidders, BID, ~~Bid Bond~~, Agreement, ~~Payment Bond~~, ~~Performance Bond~~, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, AND ADDENDA.
- 1.8 CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.9 CONTRACT TIME - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.
- 1.10 CONTRACTOR - The person, firm, or corporation with whom the OWNER has executed the Agreement.
- 1.11 DRAWINGS - The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.
- 1.12 ENGINEER - The Director of Public Works for the Town of Simsbury, Connecticut.
- 1.13 FIELD ORDER - A written order affecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.

- 1.14 INSPECTOR - The person appointed by the Town of Simsbury, Conn. to supervise the WORK and shall extend to and include any assistant whom he/she may designate to act in the premises.
- 1.15 NOTICE OF AWARD - The written notice of the acceptance of the Bid from the OWNER to the successful BIDDER.
- 1.16 NOTICE TO PROCEED - Written communication issued by the OWNER to the CONTRACTOR authorizing him/her to proceed with the WORK and establishing the date of commencement of the work.
- 1.17 OWNER - The Town of Simsbury, Connecticut (A Public Body) for whom the WORK is to be performed.
- 1.18 PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.19 SHOP DRAWINGS - All Drawings, Diagrams, Illustrations, Brochures, Schedules, and other data which are prepared by the CONTRACTOR, A SUBCONTRACTOR, manufacturer SUPPLIER or Distributor which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.20 SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- 1.21 SUBCONTRACTOR - An individual firm or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the work at the site.
- 1.22 SUBSTANTIAL COMPLETION- That date as certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.
- 1.23 SUPPLEMENTAL GENERAL CONDITIONS - Special provisions required by the funding program or Agency (Federal, State, or Local) for participation in the PROJECT and included in the CONTRACT DOCUMENTS. Also, such requirements that may be imposed by Applicable State Laws and special characteristics of the PROJECT.
- 1.24 SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.
- 1.25 WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, all construction tools, machinery, and equipment, and all materials and equipment incorporated or to be incorporated in the PROJECT.
- 1.26 WRITTEN NOTICE - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof

completed, when posted by Mail to the said party at his/her last given address or delivered in person to said party or his/her authorized representative on the WORK.

2. PAYMENT

- 2.1 On the first of each month, the Contractor may submit an itemized estimate of work completed up to that time, including an estimate of the portion of lump sum items completed.

He/she must, if requested by the Engineer, submit satisfactory evidence that he/she has paid in full for all labor, materials and equipment included in the monthly estimate. The estimates shall be made on forms furnished by the Town and the Contractor shall certify that the estimate is correct, and the work performed is in conformity with the plans and specifications. No later than 31 days after submission by the Contractor, and acceptance by the Town, of the estimate, the Town will pay the estimated cost, less five percent (5%) retained by the Town.

After completion of the project and acceptance by the Town, the Contractor shall submit an itemized final estimate. No later than 31 days after acceptance of the final estimate by the Town, the Town shall pay ninety-five (95%) percent of the Contract price. No later than six months after acceptance of the final estimate the Town will pay the five (5%) retained, unless in that time the materials or workmanship in the project shall have been found to be defective.

3. PERMITS DURATION

- 3.1 The Contractor must obtain an encroachment permit from District 4 of the State of Connecticut.
- 3.2 Should the Town be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Town, the Contractor shall not be entitled to or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

4. SUPERVISION

- 4.1 The Town will be represented at all times by the TOWN DIRECTOR OF PUBLIC WORKS or an employee authorized by the TOWN DIRECTOR OF PUBLIC WORKS to represent him/her; and the DIRECTOR OF PUBLIC WORKS or is/her authorized representative shall have sole authority in the interpretation and execution of the contract.

- 4.2 The Contractor must have a competent Field Supervisor on the job during all working hours and notify the Town of his/her name and address in writing, and where he/she may be reached normally after working hours. In the event of the absence of the Field Supervisor, the Contractor must appoint a second in command to take responsible charge of the job. The actual performance of work and superintendence shall be performed by the Contractor, but the owner shall, at all times, have access to the premises for the purpose of observing or inspecting the work performed by the Contractor.

5. LAYOUT

- 5.1 The Town will provide line and grade by means of offset points. However, the Contractor will protect these offset points and may be charged for replacing of same. Any additional field work required to reestablish these offset points to facilitate construction will be paid for by the Contractor.

6. SITE WORK

- 6.1 The Contractor will be responsible for maintenance of adequate barricades, signs, and warning systems to protect the job and the public.
- 6.2 The Contractor shall properly protect all underground and above ground utilities from damage. No interruption shall be caused to any utility without the knowledge of the TOWN DIRECTOR OF PUBLIC WORKS.
- 6.3 Contractor will maintain site in a clean and professional manner. Contractor will clean area of work at the end of the day including sweeping adjacent pavement.
- 6.4 Contractor will use standard dust control methods when requested by the Engineer.

7. STANDARDS

- 7.1 Whenever a material, article, or piece of equipment is identified on the plans or in the specifications by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard and, any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed, is, in the opinion of the Town Engineer, of equal substance and function. It shall not be purchased or installed by the Contractor without written approval.

8. CHANGES IN WORK

- 8.1 The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly.

9. CORRECTION OF WORK AFTER FINAL PAYMENT

- 9.1 Neither the final Certificate nor payment nor any provision in the Contract Documents shall relieve the contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of substantial completion.
- 9.2 The Owner shall give notice of observed defects with reasonable promptness. All questions arising under this article shall be decided by the DIRECTOR OF PUBLIC WORKS subject to mediation.

10. INSURANCE REQUIREMENTS

See Section 10 of the Instructions to Bidders for insurance requirements.

11. OWNER'S RIGHT TO DO WORK

If the Contractor fails to prosecute the work properly or fails to perform any provisions of this contract, the Owner, after three days written notice to the Contractor may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Provided, however, that the Public Works Director shall approve both such action and the amount charged to the Contractor.

12. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

The acceptance by the Contractor of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS ~~or the Performance BOND and Payment BONDS.~~

13. CONTRACT SECURITY

~~The Contractor shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a performance BOND and a payment BOND in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions, and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and shall be in a Form acceptable to the Town Director of Finance. When Surety Company Bonds are used, the corporate bonding company shall be licensed to transact such business in the State of Connecticut and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such bond is declared as bankrupt or loses its right to do business in the State in which the WORK is to be performed or is removed from the list of surety companies accepted on FEDERAL BONDS, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the CONTRACTOR shall have furnished an acceptable BOND to the OWNER.~~

14. ASSIGNMENT

Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign, or otherwise dispose of the CONTRACT or any portion thereof, or of his/her right title or interest therein, or his obligations there under, without written consent of the other party.

15. DRAWINGS AND SPECIFICATIONS

- 15.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner ready for use, occupancy, or operation by the OWNER.
- 15.2 In case of conflict between the DRAWINGS AND SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.
- 15.3 Any discrepancies found between the DRAWINGS AND SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by

the CONTRACTOR after his/her discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

15.4 The OWNER will furnish free of charge to the contractor up to three

(3) copies of the DRAWINGS and SPECIFICATIONS as necessary for the proper execution of the WORK.

16. MATERIALS, WORKMANSHIP, SERVICES, AND FACILITIES

16.1 It is understood that except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, tools, equipment, sanitary conveniences, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

16.2 All materials furnished shall be new and of the best quality customarily used in or furnished for work of the character of that herein proposed. Many features of the proposed work are described in detail herein, but the failure to so describe any part of the proposed work or any details or appurtenance thereof shall not be an exception to the above rule. The absence of requirements in drawings or specifications covering details usually included in first class installations of this kind shall not excuse the contractor for their omission in this work.

16.3 All workmanship shall be of the best quality for WORK of the character of that herein proposed. The CONTRACTOR shall employ only competent employees to do the WORK required.

16.4 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.

16.5 Materials, supplies, or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

16.6 Drinking water furnished for the employees on the job shall comply with O.S.H.A. regulations.

17. PROTECTION OF WORK AND PROPERTY

17.1 The CONTRACTOR will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the WORK--he/she will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the site and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees,

shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

- 17.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction. He/she will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. He/she will notify owners of adjacent utilities when prosecution of the work may affect them. The CONTRACTOR will remedy all damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, and SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or the acts or omissions, of the OWNER or the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.
- 17.3 The CONTRACTOR will notify the OWNER at least one week prior to the start of construction.
- 17.4 The CONTRACTOR shall be responsible for verifying the location of any existing utilities. The CONTRACTOR shall notify "Call Before You Dig" at 1-800-922-4455 such that any utility lines can be marked.
- 17.5 In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, shall act to prevent threatened damage, injury or loss. He/she will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

18. CHANGES IN CONTRACT PRICE

The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one

or more of the following methods in the order of precedence listed below:

- (a) Unit prices previously approved
- (b) An agreed lump sum
- (c) The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work. In addition, there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the WORK to cover the cost of general overhead and profit.

19. TIME FOR COMPLETION

- 19.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.
- 19.2 The CONTRACTOR will proceed with the work at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.
- 19.3 If the CONTRACTOR is delayed at any time in the progress of the WORK by changes ordered in the WORK, by labor disputes, fire, unusual delay in transportation, unavoidable casualties, causes beyond the CONTRACTOR'S control, or by any cause which the ENGINEER may determine justifies the delay, then the CONTRACT TIME shall be extended by CHANGE ORDER for such reasonable time as the ENGINEER may determine.

20. SUSPENSION OF WORK, TERMINATION AND DELAY

- 20.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days, or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which notice shall fix the date on which work shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.
- 20.2 If the CONTRACTOR is adjudged as bankrupt or insolvent, or if he/she makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he/she files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he/she repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he/she repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials, or equipment or if he/she disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or if he/she disregards the authority of the ENGINEER, or if he/she otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his/her surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment, and machinery thereon owned by the CONTRACTOR and finish the WORK by whatever method he/she may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished.

If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

- 20.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 20.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the contract. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.
- 20.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty(30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within (30) days of its approval and presentation, then the Contractor may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER, terminate the CONTRACT and recover from the OWNER payment for all WORK executed to date. In addition and in lieu of terminating the CONTRACT, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon Ten (10) Days written notice to the OWNER and the ENGINEER stop the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK. In no event shall Contractor be entitled for costs and expenses for work not yet completed.
- 20.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

21. INDEMNIFICATION

- 21.1 The CONTRACTOR will defend and hold harmless the OWNER and their agents and employees from and against all Claims, Damage, Loss, or Expense including Attorney's fees arising out of or resulting from the performance of the WORK, provided that any such Claims, Damage, Loss or Expense is attributed to Bodily Injury, Sickness, Disease

or Death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

- 21.2 In any and all claims against the OWNER or any of their agents or employees, by any employee of the CONTRACTOR or SUBCONTRACTOR, anyone directly or indirectly employed by any

of them, or anyone for whose acts any of them may be liable, the INDEMNIFICATION OBLIGATION shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under Workmen's Compensation Acts, Disability Benefit Acts or other Employee Benefits Acts.

- 21.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the OWNER or any of its agents or employees arising out of the preparation or approval of MAPS, DRAWINGS, Opinions, Reports, Surveys, CHANGEORDERS, Designs, or SPECIFICATIONS.

22. SEPARATE CONTRACTS

- 22.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR's WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

- 22.2 The OWNER may perform additional WORK related to the PROJECT by himself, or he may let other Contracts containing provisions like these. The CONTRACTOR will afford the other CONTRACTORS who are Parties to such CONTRACTS (or the OWNER, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

- 22.3 If the performance of Additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a Claim therefore as provided in Sections 18 and 19.

23. SUBCONTRACTING

- 23.1 The CONTRACTOR may utilize the services of Specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by Specialty CONTRACTORS.
- 23.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s) in excess of Fifty (50) Percent of the CONTRACT PRICE, without prior written approval of the OWNER.
- 23.3 The CONTRACTOR shall be fully responsible to the OWNER for the Acts and omissions of his SUBCONTRACTORS, and of persons either directly or indirectly employed by him
- 23.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS, as applicable to the WORK OF SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise of the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.
- 23.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

24. GUARANTY

The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and

guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the PROJECT that the completed PROJECT is free from all defects due to faulty materials or WORKMANSHIP and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the PROJECT resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred.

~~The PERFORMANCE BOND or a MAINTENANCE BOND shall remain in force at a value of 25% of the completed WORK through the GUARANTEE PERIOD.~~

25. DISPUTE RESOLUTION

- 25.1 All claims, disputes and other matters in questions arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by the making and acceptance of Final Payment as provided by Section 12, shall be decided by Arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. This agreement to arbitrate shall be specifically enforceable under the prevailing Connecticut Arbitration law.
- 25.2 Notice of the Demand for Arbitration shall be filed in writing with the Other Party to the CONTRACT DOCUMENTS and with the American Arbitration Association, and a copy shall be filed with the Engineer. The Demand for Arbitration shall in no event be made on any claim, dispute, or other matter in question which would be barred by the applicable Statute of Limitations.
- 25.3 The CONTRACTOR will carry on the WORK and maintain the Progress Schedule during any Mediation proceedings, unless otherwise mutually agreed in writing.

26. TAXES

The CONTRACTOR will pay all consumer, use, and other similar taxes required by the Law of the Place where the WORK is performed. This WORK is being performed for a Municipal Government and is exempt from Sales Tax.

SUPPLEMENTAL GENERAL CONDITIONS

1. PA 86-87, AAC Workers' Compensation Insurance Requirements for Contractors on Public Works projects and State licenses, prohibits municipalities from entering into a public works contract with an employer without receiving sufficient evidence from the employer that he has workers' compensation insurance and a statement from the state treasurer that the employer does not owe the Second Injury and Compensation Assurance Fund any money.
2. The Town of Simsbury Public Works Department shall be notified at least five (5) days prior to beginning work.
3. Prior to beginning work, the "Call Before You Dig" service shall be notified by the Contractor by calling 811 or 1-800-922-4455, or, if the contractor is registered, by e-ticket entry, such that any underground utilities in the immediate vicinity of the work can be marked.
4. All staking and surveying will be the responsibility of the Contractor.
5. All road monuments and lot pins shall be PRESERVED. Cost of resetting will be back charged to the Contractor.
6. Sales and Use Tax Exempt Purchase Certificate/ The Contractor's attention is called to Regulation 18 as amended promulgated by the Sales and Use Tax Division of the State Tax Department, which provided for the Exemption of the sales and use tax on the purchase of such materials and supplies as are to be physically incorporated in and become a permanent part of the project being performed under this contract. The Contractor or Subcontractor shall furnish his suppliers with a completed certificate, in the prescribed form; a copy of which is attached to these specifications
7. Upon completion or termination of the work, the Contractor shall remove from the vicinity of the work all equipment and all temporary structures, waste materials and rubbish resulting from its operations, leaving the premises in a neat and acceptable condition. In the event of failure to do so, the same may be done by the Owner at the expense of the Contractor.
13. The Contractor shall pay for any broken utility lines, except where the utility company may be liable under the "Call Before You Dig" law. The Owner will only pay for relocations necessary to complete the work of this project
14. In accordance with Executive Order 11246, the Contractor is obliged not to discriminate against any employee or applicant for employment because of race, color, creed, or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following: hiring, placement, upgrading, transfer, demotion, recruitment, advertising, solicitation for employment training during employment, rates of pay or other forms of compensation, selection for training including apprenticeship, layoff, or termination.
15. For all new underground facilities installed after January 1, 1989 which is practicable and for all repairs, replacements or modifications involving an exposure of existing underground facilities

at least 100 feet longitudinally after January 1, 1989, of which the utility has knowledge of such exposure, the utility shall install a warning tape located above the facility, and keep appropriate records thereof. The minimum separation between the facility and the warning tape shall be 12 inches unless the depth, other underground facilities or other engineering considerations make the minimum separation infeasible. The warning tape shall be durable, designed to withstand extended underground exposure, be of color assigned to the type of facility for surface markings in Section 16-345-5 (h) and durable imprinted with an appropriate warning or message.

STATE OF CONNECTICUT
Certificate of Compliance with
Connecticut General Statute Section 31 - 57b

I hereby certify that all of the statements herein contained below have been examined by me, and to the best of my knowledge and belief are true and correct.

The _____ **HAS / HAS NOT**
Company Name (Cross out Non-applicable)

been cited for three (3) or more willful or serious or serious violations of any Occupational Safety and Health Act (OSHA) or of any standard, order or regulation promulgated pursuant to such act, during the three year period preceding the bid, provided such violations were cited in accordance with the provisions of any State Occupational Safety and Health Act of 1970, and not abated within the time fixed by the citation and such citation has not been set aside following appeal to the appropriate agency of court having jurisdiction or **HAS / HAS NOT** (Cross out Non-applicable) received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the bid.

The list of violations (if applicable) is attached.

(Name of Firm, Organization or Corporation)

Signed:

Written Signature:

Name Typed: (Corporation Seal)

Title:

(Title of Above Person, typed)

Dated:

State of _____)
County of _____) *ss:* *A.D., 20* _____
_____)

Sworn to and personally appeared before me for the above, _____,
(Name of Firm, Organization, Corporation)

Signer and Sealer of the foregoing instrument of and acknowledged the same to be the free act and deed of

_____, and his/her free act and deed as
(Name of Person appearing in front of Notary or Clerk)

(Title of Person appearing in front of Notary or Clerk)

My Commission Expires:

(Notary Public) (Seal)

COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
CONTRACT COMPLIANCE REGULATIONS
NOTIFICATION TO BIDDERS

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by [Sections 4a-60](#) and [4a-60a](#) of the Connecticut General Statutes; and, when the awarding agency is the State, [Sections 46a-71\(d\)](#) and [46a-81i\(d\)](#) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at [Section 46a-68j-21 through 43](#) of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by [Sections 4a-60](#) and [46a-71\(d\)](#) of the Connecticut General Statutes.

According to [Section 46a-68j-30\(9\)](#) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in [Section 4a-60](#) of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in 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 [Section 32-9n](#).” “Minority” groups are defined in [Section 32-9n](#) of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by [Section 4a-60g](#) of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of [Section 46a-68j-21\(11\)](#) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with [Sections 46a-68-1 to 46a-68-17](#) of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. [See Section 46a-68j-30\(10\)\(E\)](#) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

The following **BIDDER CONTRACT COMPLIANCE MONITORING REPORT** must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to [Sections 4a-60](#) and [4a-60a](#) CONN. GEN. STAT., and [Sections 46a-68j-23](#) of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder’s good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) Definition of Small Contractor

[Section 4a-60g](#) CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision [4a-60g](#) CONN. GEN. STAT.

2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

MARKETING AND SALES: Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

LEGAL OCCUPATIONS: In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists

ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

BUILDING AND GROUNDS CLEANING AND MAINTENANCE: This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

CONSTRUCTION AND EXTRACTION: This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category.

INSTALLATION, MAINTENANCE AND REPAIR: Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

MATERIAL MOVING WORKERS: The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

PRODUCTION WORKERS: The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

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| <p><u>White</u> (not of Hispanic Origin)-All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u> (not of Hispanic Origin)-All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p> | <p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p> |
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BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART 1 – Bidder Information

| | |
|---|---|
| Company Name: Street Address: City & State: Chief Executive: | Bidder Federal Employer Identification Number: Or Social Security Number: |
| Major Business Activity: (brief description) | Bidder Identification (response optional/definitions on page 1) -Bidder is a small contractor? Yes <input type="checkbox"/> No <input type="checkbox"/> -Bidder is a minority business enterprise? Yes <input type="checkbox"/> No <input type="checkbox"/> (If yes, check ownership category) Black <input type="checkbox"/> Hispanic <input type="checkbox"/> Asian American <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Iberian Peninsula <input type="checkbox"/> Individual(s) with a Physical Disability <input type="checkbox"/> Female <input type="checkbox"/> -Bidder is certified as above by State of CT? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Bidder Parent Company: (If any) | |
| Other Locations in CT: (If any) | |

PART II - Bidder Nondiscrimination Policies and Procedures

| | |
|---|--|
| 1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes <input type="checkbox"/> No <input type="checkbox"/> | 7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes <input type="checkbox"/> No <input type="checkbox"/> | 8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes <input type="checkbox"/> No <input type="checkbox"/> | 9. Does your company have a mandatory retirement age for all employees? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes <input type="checkbox"/> No <input type="checkbox"/> | 10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes <input type="checkbox"/> No <input type="checkbox"/> | 11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> |
| 6. Does your company have a collective bargaining agreement with workers? Yes <input type="checkbox"/> No <input type="checkbox"/> | 12. Does your company have a written affirmative action Plan? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, please explain. |
| 6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of CT? Yes <input type="checkbox"/> No <input type="checkbox"/> | 13. Is there a person in your company who is responsible for equal employment opportunity? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, give name and phone number: |

1. Will the work of this contract include subcontractors or suppliers? Yes ☐ No ☐

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes ☐ No ☐

PART IV - Bidder Employment Information

Date:

| JOB CATEGORY* | OVERALL TOTALS | WHITE (not of Hispanic origin) | | BLACK (not of Hispanic origin) | | HISPANIC | | ASIAN or PACIFIC ISLANDER | | AMERICAN INDIAN or ALASKAN NATIVE | |
|---|-------------------|-----------------------------------|--------|-----------------------------------|--------|----------|--------|---------------------------------|--------|--------------------------------------|--------|
| | | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| Management | | | | | | | | | | | |
| Business & Financial Ops | | | | | | | | | | | |
| Marketing & Sales | | | | | | | | | | | |
| Legal Occupations | | | | | | | | | | | |
| Computer Specialists | | | | | | | | | | | |
| Architecture/Engineering | | | | | | | | | | | |
| Office & Admin Support | | | | | | | | | | | |
| Bldg/ Grounds Cleaning/Maintenance | | | | | | | | | | | |
| Construction & Extraction | | | | | | | | | | | |
| Installation , Maintenance & Repair | | | | | | | | | | | |
| Material Moving Workers | | | | | | | | | | | |
| Production Occupations | | | | | | | | | | | |
| TOTALS ABOVE | | | | | | | | | | | |
| Total One Year Ago | | | | | | | | | | | |
| FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE) | | | | | | | | | | | |
| Apprentices | | | | | | | | | | | |
| Trainees | | | | | | | | | | | |

*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

| | | | | | | |
|--|--------------------------|--------------------------|------------------------------------|---|-----------------------------------|--|
| 1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used) | | | | 2. Check (X) any of the below listed requirements that you use as a hiring qualification (X) | | 3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination |
| SOURCE | YES | NO | % of applicants provided by source | | | |
| State Employment Service | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Work Experience | |
| Private Employment Agencies | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Ability to Speak or Write English | |
| Schools and Colleges | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Written Tests | |
| Newspaper Advertisement | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | High School Diploma | |
| Walk Ins | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | College Degree | |
| Present Employees | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Union Membership | |
| Labor Organizations | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Personal Recommendation | |
| Minority/Community Organizations | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Height or Weight | |
| Others (please identify) | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Car Ownership | |
| | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Arrest Record | |
| | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | Wage Garnishments | |

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

| | | | |
|-------------|---------|---------------|-------------|
| (Signature) | (Title) | (Date Signed) | (Telephone) |
|-------------|---------|---------------|-------------|

Construction Contracts - Required Contract Provisions (State Funded Only Contracts)

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Index of Exhibits

- EXHIBIT A – Contractor Work Force Utilization / Equal Employment Opportunity (page 14)
EXHIBIT B – Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 17)
EXHIBIT C - State Wage Rates and Other Related Information (page 25)

1. Contractor Work Force Utilization / Equal Employment Opportunity

- (a) The Contractor shall comply with the Contractor Work Force Utilization / Equal Employment Opportunity requirements attached at Exhibit A 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.

2. Contract Wage Rates

The Contractor shall comply with:

The State wage rate requirements indicated in Exhibit C hereof are hereby made part of this Contract.

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 817), 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.

3. 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.

4. 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

5. 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).

6. Executive Orders and Other Enactments

- (a) All references in this Contract to any Federal, State, or local law, statute, public or special act, executive order, ordinance, regulation or code (collectively, "Enactments") shall mean Enactments that apply to the Contract at any time during its term, or that may be made applicable to the Contract during its term. This Contract shall always be read and interpreted in accordance with the latest applicable wording and requirements of the Enactments. At the Contractor's request, the Client Agency shall provide a copy of these Enactments to the Contractor. Unless otherwise provided by Enactments, the Contractor is not relieved of its obligation to perform under this Contract if it chooses to contest the applicability of the Enactments or the Client Agency's authority to require compliance with the Enactments.
- (b) 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 this Contract as if they had been fully set forth in it.
- (c) This Contract may be subject to (1) Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services; **(2) Executive Order No. 61 of Governor Dannel P. Malloy promulgated December 13, 2017 concerning the Policy for the Management of State Information Technology Projects, as issued by the Office of Policy and Management, Policy ID IT-SDLC-17-04;** and (3) Executive Order Nos. 13F and 13G of Governor Ned Lamont, promulgated September 3, 2021 and September 10, 2021, respectively, concerning protection of public health and safety during COVID-19 pandemic, as extended by Executive Order No. 14A of Governor Ned Lamont, promulgated September 30, 2021. If any of the Executive Orders referenced in this subsection is applicable, it is deemed to be incorporated into and made a part of this Contract as if fully set forth in it.

7. Non Discrimination Requirement and Certification (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:

- (1) "Commission" means the Commission on Human Rights and Opportunities;
- (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
- (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;

- (4) "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.
- (5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
- (6) "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;
- (7) "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- (8) "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;
- (9) "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
- (10) "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 of Connecticut, including, but not limited to municipalities, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state of the United States, including but not limited to, the District of Columbia, Puerto Rico, U.S. territories and possessions, and federally recognized Indian tribal governments, as defined in Connecticut General Statutes § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in subdivision (1), (2), (3), or (4) of this subsection.

- (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, status as a veteran, 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, status as a veteran, 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.

(i) Nondiscrimination Certification

Pursuant to subsection (c) of section 4a-60 and subsection (b) of section 4a-60a of the Connecticut General Statutes, the Contractor, for itself and its authorized signatory of this Contract, affirms that it understands the obligations of this section and that it will maintain a policy for the duration of the Contract to assure that the Contract will be performed in compliance with the nondiscrimination requirements of such sections. The Contractor and its authorized signatory of this Contract demonstrate their understanding of this obligation by either (A) having provided an affirmative response in the required online bid or response to a proposal question which asks if the contractor understands its obligations under such sections, or (B) initialing this nondiscrimination affirmation in the following

box: ☐

8. 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.

9. 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.

10. 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.

11. 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.

12. 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 B, and hereby made part of this Contract.

13. 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.

14. Summary of State Ethics Laws

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes (a) the State has provided to the Contractor the summary of State ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the Connecticut General Statutes, which summary is incorporated by reference into and made a part of this Contract as if the summary had been fully set forth in this Contract; (b) the Contractor represents that the chief executive officer or authorized signatory of the Contract and all key employees of such officer or signatory have read and understood the summary and agree to comply with the provisions of state ethics law; (c) prior to entering into a contract with any subcontractors or consultants, the Contractor shall provide the summary to all subcontractors and consultants and each such contract entered into with a subcontractor or consultant on or after July 1, 2021, shall include a representation that each subcontractor or consultant and the key employees of such subcontractor or consultant have read and understood the summary and agree to comply with the provisions of state ethics law; (d) failure to include such representations in such contracts with subcontractors or consultants shall be cause for termination of the Contract; and (e) each contract with such contractor, subcontractor or consultant shall incorporate such summary by reference as a part of the contract terms.

15. 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.

16. Campaign Contribution Restriction

For all State contracts, defined in section 9-612 of the Connecticut General Statutes 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 represents that they have received 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.

17. 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.

18. 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.

19. Consulting Agreements Representation

Pursuant to section 4a-81 of the Connecticut General Statutes, the Contractor represents that it has not entered into any consulting agreements in connection with this Contract, except for the agreements listed below. "Consulting agreement" means any written or oral agreement to retain the services, for a fee, of a consultant for the purposes of (A) providing counsel to a contractor, vendor, consultant or other entity seeking to conduct, or conducting, business with the State, (B) contacting, whether in writing or orally, any executive, judicial, or administrative office of the State, including any department, institution, bureau, board, commission, authority, official or employee for the purpose of solicitation, dispute resolution, introduction, requests for information, or (C) any other similar activity related to such contracts. "Consulting agreement" does not include any agreements entered into with a consultant who is registered under the provisions of chapter 10 of the Connecticut General Statutes as of the date such contract is executed in accordance with the provisions of section 4a-81 of the Connecticut General Statutes.

| | |
|-----------------------------|------------------------------|
| Consultant's Name and Title | Name of Firm (if applicable) |
|-----------------------------|------------------------------|

| | | |
|------------|----------|------|
| Start Date | End Date | Cost |
|------------|----------|------|

The basic terms of the consulting agreement are: _____

Description of Services Provided: _____

Is the consultant a former State employee or former public official? ☐ YES ☐ NO

If YES:

Name of Former State Agency

Termination Date of Employment

20. Sovereign Immunity

The parties acknowledge and agree that nothing in the Solicitation or the Contract shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by Federal law or the laws of the State of Connecticut to the State or any of its officers and employees, which they may have had, now have or will have with respect to all matters arising out of the Contract. To the extent that this section conflicts with any other section, this section shall govern.

21. Large State Contract Representation for Contractor

Pursuant to section 4-252 of the Connecticut General Statutes and Acting Governor Susan Bysiewicz Executive Order No. 21-2, promulgated July 1, 2021, the Contractor, for itself and on behalf of all of its principals or key personnel who submitted a bid or proposal, represents:

- (1) That no gifts were made by (A) the Contractor, (B) any principals and key personnel of the Contractor, who participate substantially in preparing bids, proposals or negotiating State contracts, or (C) any agent of the Contractor or principals and key personnel, who participates substantially in preparing bids, proposals or negotiating State contracts, to (i) any public official or State employee of the State agency or quasi-public agency soliciting bids or proposals for State contracts, who participates substantially in the preparation of bid solicitations or requests for proposals for State contracts or the negotiation or award of State contracts, or (ii) any public official or State employee of any other State agency, who has supervisory or appointing authority over such State agency or quasi-public agency;
- (2) That no such principals and key personnel of the Contractor, or agent of the Contractor or of such principals and key personnel, knows of any action by the Contractor to circumvent such prohibition on gifts by providing for any other principals and key personnel, official, employee or agent of the Contractor to provide a gift to any such public official or State employee; and
- (3) That the Contractor is submitting bids or proposals without fraud or collusion with any person.

22. Large State Contract Representation for Official or Employee of State Agency

Pursuant to section 4-252 of the Connecticut General Statutes and Acting Governor Susan Bysiewicz Executive Order No. 21-2, promulgated July 1, 2021, the State agency official or employee represents that the selection of the most qualified or highest ranked person, firm or corporation was not the result of collusion, the giving of a gift or the promise of a gift, compensation, fraud or inappropriate influence from any person.

23. Iran Energy Investment Certification

(a) Pursuant to section 4-252a of the Connecticut General Statutes, the Contractor certifies that it

has not made a direct investment of twenty million dollars or more in the energy sector of Iran on or after October 1, 2013, as described in Section 202 of the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, and has not increased or renewed such investment on or after said date.

(b) If the Contractor makes a good faith effort to determine whether it has made an investment described in subsection (a) of this section shall not be subject to the penalties of false statement pursuant to section 4-252a of the Connecticut General Statutes. A "good faith effort" for purposes of this subsection includes a determination that the Contractor is not on the list of persons who engage in certain investment activities in Iran created by the Department of General Services of the State of California pursuant to Division 2, Chapter 2.7 of the California Public Contract Code. Nothing in this subsection shall be construed to impair the ability of the State agency or quasi-public agency to pursue a breach of contract action for any violation of the provisions of the Contract.

24. Access to Contract and State Data

The Contractor shall provide to the Client Agency access to any data, as defined in Conn. Gen Stat. Sec. 4e-1, concerning the Contract and the Client Agency that are in the possession or control of the Contractor upon demand and shall provide the data to the Client Agency in a format prescribed by the Client Agency and the State Auditors of Public Accounts at no additional cost.

EXHIBIT A

CONTRACTOR WORKFORCE UTILIZATION / EQUAL EMPLOYMENT OPPORTUNITY

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 Appendix A below.

STATE FUNDED PROJECTS (only)

APPENDIX A

(Labor Market Goals)

LABOR MARKET AREA GOAL

Female

Minority

| | | | |
|----------------------------------|--------------|--|--|
| Bridgeport 1.4% | 22.7% | | |
|----------------------------------|--------------|--|--|

| | | | |
|----------|--------------|------------|-----------|
| Ansonia | Beacon Falls | Bridgeport | Derby |
| Easton | Fairfield | Milford | Monroe |
| Oxford | Seymour | Shelton | Stratford |
| Trumbull | | | |

| | | | |
|-------------------------------|--------------|--|--|
| Danbury 3.8% | 10.7% | | |
|-------------------------------|--------------|--|--|

| | | | |
|------------|---------------|-------------|---------|
| Bethel | Bridgewater | Brookfield | Danbury |
| Kent | New Fairfield | New Milford | Newtown |
| Redding | Ridgefield | Roxbury | Sherman |
| Washington | | | |

| | | | |
|---------------------------------|-------------|--|--|
| Danielson 1.8% | 4.3% | | |
|---------------------------------|-------------|--|--|

| | | | |
|----------|-----------|----------|-----------|
| Brooklyn | Eastford | Hampton | Killingly |
| Pomfret | Putnam | Scotland | Sterling |
| Thompson | Voluntown | Union | Woodstock |

| | | | |
|--------------------------------|--------------|--|--|
| Hartford 2.1% | 13.7% | | |
|--------------------------------|--------------|--|--|

| | | | |
|--------------|---------------|--------------|---------------|
| Andover | Ashford | Avon | Barkhamsted |
| Belin | Bloomfield | Bolton | Bristol |
| Burlington | Canton | Chaplin | Colchester |
| Columbia | Coventry | Cromwell | Durham |
| East Granby | East Haddam | East Hampton | East Hartford |
| East Windsor | Ellington | Enfield | Farmington |
| Glastonbury | Granby | Haddam | Hartford |
| Harwinton | Hebron | Lebanon | Manchester |
| Mansfield | Marlborough | Middlefield | Middletown |
| Newington | Plainville | Plymouth | Portland |
| Rocky Hill | Simsbury | Somers | South Windsor |
| Southington | Stafford | Suffield | Tolland |
| Vernon | West Hartford | Wethersfield | Willington |
| Winchester | Windham | Windsor | Windsor Locks |

| | | | |
|-----------------------------------|-------------|--|--|
| Lower River 1.8% | 4.3% | | |
|-----------------------------------|-------------|--|--|

| | | | |
|-----------|------------|-------|----------|
| Chester | Deep River | Essex | Old Lyme |
| Westbrook | | | |

LABOR MARKET AREA GOAL
Female

Minority

| | | | |
|---------------------------------|--------------|--|--|
| New Haven 3.1% | 17.9% | | |
|---------------------------------|--------------|--|--|

| | | | |
|------------|----------|----------|--------------|
| Bethany | Branford | Cheshire | Clinton |
| East Haven | Guilford | Hamden | Killingworth |

Madison
North Haven
Woodbridge

Meriden
Orange

New Haven
Wallingford

North Branford
West Haven

New London
3.1%

7.4%

Bozrah
Griswold
Montville
Old Lyme
Salem
Hopkinton

Canterbury
Groton
New London
Old Saybrook
Sprague
RI – Westerly Rhode Island

East Lyme
Ledyard
North Stonington
Plainfield
Stonington

Franklin
Lisbon
Norwich
Preston
Waterford

Stamford
2.1%

33.2%

Darien
Stamford

Greenwich
Weston

New Canaan
Westport

Norwalk
Wilton

Torrington
1.8%

4.3%

Canaan
Hartland
Norfolk
Torrington

Colebrook
Kent
North Canaan
Warren

Cornwall
Litchfield
Salisbury

Goshen
Morris
Sharon

Waterbury
1.6%

12.4%

Bethlehem
Southbury
Wolcott

Middlebury
Thomaston
Woodbury

Naugatuck
Waterbury

Prospect
Watertown

EXHIBIT B**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.

EXHIBIT C

State Wages and Other Related Information

Please refer to the Department of Labor website for the latest updates, annual adjusted wage rate increases, certified payroll forms and applicable statutes.

<http://www.ctdol.state.ct.us/wgwkstnd/prevailwage.htm>

Prevailing Wage Law Poster Language

**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.

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.

**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): _____

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 J1,2,3,4 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, assemble, install and repair 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 required 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.

Rev. 7/1/19

SEE BELOW FOR STATE WAGE RATES

INSERT STATE WAGES HERE

HOPMEADOW STREET CONNECTIVITY
PROJECT, SIMSBURY

**INDEX TO STANDARD TECHNICAL
SPECIFICATIONS**

Sections

Section 1.02 – Proposal Requirements and Conditions
Section 1.05 – Control of the Work
Section 1.07 – Legal Relations and Responsibilities
Section 1.08 – Prosecution and Progress
Section 12.00 – General Clauses for Highway Signing

Notice to Contractors

NTC-01 – Training Requirement for 10-Hour OSHA Construction Safety and Health Course
NTC-02 – Procurement of Materials
NTC-03 – Site Cleanliness
NTC-04 – Superpave Design Level
NTC-05 – GPS Coordinates for Signs
NTC-06 – Utility Generated Schedule
NTC-07 – Protection of Existing Utilities
NTC-08 – Verification of Existing Conditions
NTC-09 – Schedule of Minimum Testing Requirements
NTC-10 – Prime Contractor

Special Provisions

0219011A – Sedimentation Control System at Catch Basin
0601650A – Retaining Wall (Site No. 1)
0921003A – Monolithic Concrete Sidewalk and Curb
0921024A – Brick Paver Sidewalk
0969062A – Construction Field Office – Medium
0970008A – Trafficperson (State Police Officer)
0971001A – Maintenance and Protection of Traffic
1002110A – Decorative Light Pole Foundation
1003595A – Decorative Light Pole and Luminaire
1012031A – No. 2 Single Conductor
1012034A – No. 4 Single Conductor
1015004A – No. 2 Bare Copper Grounding Conductor
1015005A – No. 4 Bare Copper Grounding Conductor
1206023A – Removal and Relocation of Existing Signs
1300007A – Excavation and Disposal of Unsuitable Material (Water Main)
1300015A – Rock in Trench Excavation 0'-10' Deep (Water Main)
1300151A – Additional Backfill Material (Water Main)
1302061A – Adjust Gate Box (Water)
1302062A – Adjust Gate Box (Gas)
1303195A – Remove Hydrant (Water Main)
1303202A – Install Fire Hydrant
1304059A – Permanent Pavement Replacement (Water Main)
1304060A – Temporary Pavement Repairs (Water Main)

NOTICE TO CONTRACTOR – CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

In accordance with Connecticut General Statute 31-53b and Public Act No. 08-83, the Contractor is required to furnish proof that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53, 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.

Proof of compliance with the provisions of the statute shall consist of a student course completion card issued by the federal Occupational Safety and Health Administration, or other such proof as deemed appropriate by the Commissioner of the Connecticut Department of Labor, dated no earlier than five years prior to the commencement of the project. Each employer shall affix a copy of the construction safety course completion card for each applicable employee to the first certified payroll submitted to the Department of Transportation on which the employee's name first appears.

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.

This section does not apply to employees of public service companies, as defined in section 16-1 of the 2008 supplement to the General Statutes, 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.

The internet website for the federal Occupational Safety and Health Training Institute is <http://www.osha.gov/fso/ote/training/edcenters>.

Additional information regarding this statute can be found at the Connecticut Department of Labor website, <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>.

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".

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 – SITE CLEANLINESS

The Contractor is hereby notified that all areas utilized for construction activities including all onsite and offsite facilities shall be maintained so as to be free of rubbish, trash and deleterious construction debris at all times. The use of covered and secured trash receptacles is required. All receptacles will be regularly emptied and maintained.

There will be no direct payment for maintaining the site cleanliness of the construction areas under the contract.

NOTICE TO CONTRACTOR - SUPERPAVE DESIGN LEVEL INFORMATION

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

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

| Mix Designation | PG Binder | | All Roads | Route | Route | Route | Route |
|------------------------|------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | PG 64S-22 | PG 64E-22 | Design Level | Design Level | Design Level | Design Level | Design Level |
| HMA S0.25 | - | - | - | - | - | - | - |
| HMA S0.375 | - | - | - | - | - | - | - |
| HMA S0.5 | X | - | 2 | - | - | - | - |
| HMA S1 | X | - | 2 | - | - | - | - |
| PMA S0.25 | - | - | - | - | - | - | - |
| PMA S0.375 | - | - | - | - | - | - | - |
| PMA S0.5 | - | - | - | - | - | - | - |
| PMA S1 | - | - | - | - | - | - | - |

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

**NOTICE TO CONTRACTOR – GLOBAL POSITIONING SYSTEM (GPS)
COORDINATES FOR SIGNS**

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new State owned and maintained signs. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Sign data submissions or questions relating to SIMS or GPS shall be sent to DOT-SignInventory@ct.gov. Refer to the special provision for Section 12.00 General Clauses For Highway Signing.

NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULE

The attached project specific utility work schedule(s) was 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 – Schedules and Reports***) 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.

Aquarion Water Company relocations to be performed by the General Contractor and reimbursed by Aquarion Water Company after completion of work. Utility work schedule generated by Aquarion Water Company is included in the bid package for reference only.

| UTILITY WORK SCHEDULE Rev 3/2015 | | | |
|--|--|----------------|---------------------------|
| CTDOT Project Number: | L0128-0002 | Town: | Simsbury |
| Project Description: | Hopmeadow Street Connectivity Improvements | | |
| CTDOT Utilities Engineer: | Ken Radziwon | | |
| Phone: | 860-681-5426 | Email: | kradziwon@blcompanies.com |
| | | | |
| Utility Company: | Connecticut Natural Gas | | |
| Prepared By: | Jonathan Gould | Date Prepared: | 1/24/2022 |
| Phone: | 860-727-3044 | Email: | jgould@ctgcorp.com |
| <p align="center">Scope of Work</p> <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>The work that is planned by Connecticut Natural Gas in conjunction with DOT project L0128-0002 comprises of: Install, tie-in, & gas up approx. 195' of 6" HDPE gas main from Stations 38+05 to 36+25. Then Abandon in place the existing gas main from stations 38+00 to 36+30. The duration is only for the purpose of scheduling and subject to change with the sequence and operation mode of DOT contractor. Total duration to complete gas related work is estimated as 14 days.</p> | | | |
| <p align="center">Special Considerations and Constraints</p> <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 08 02 2016 | |
|--|---------------------------------------|
| CTDOT Project Number: | Town: Simsbury |
| Project Description: Hopmeadow Street Connectivity Improvements | |
| CTDOT Utilities Engineer: | |
| Phone: | Email: |
| | |
| Utility Company: Aquarion Water Company | |
| Prepared By: Carlos J Vizcarrondo | Date Prepared: 7-Jan |
| Phone: 203 337-5950 | Email: cvizcarrondo@aquarionwater.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>Existing hydrants along Hopmeadow Street require relocation to avoid conflicts with the proposed sidewalk layout.</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>Contractor shall confirm the proposed roadway and sidewalk layout before proceeding with the work. Contractor shall confirm the proposed location for the hydrants before proceeding with the work.</p> | |

| UTILITY WORK SCHEDULE Rev 3/2015 | | | |
|---|---------------------------------------|----------------|--------------------------------|
| CTDOT Project Number: | L128-0002 | Town: | Simsbury |
| Project Description: | HOPMEADOW STREET CONNECTIVITY PROJECT | | |
| CTDOT Utilities Engineer: | Ken Radziwon - BL Companies | | |
| Phone: | 860-760-1925 | Email: | kradziwon@blcompanies.com |
| | | | |
| Utility Company: | Eversource | | |
| Prepared By: | John Remkiewicz | Date Prepared: | 5/4/2022 |
| Phone: | 860-280-2497 | Email: | John.remkiewicz@eversource.com |
| <p align="center">Scope of Work</p> <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>Station 27+75</p> <p>Eversource to install an overhead secondary line from existing pole #222 to a new Eversource installed pole on the western side of Hopmeadow St. This new pole will feed the new power pedestal installed by your contractor. 3" Conduit from the power pedestal to the new pole including the 90 degree steel sweep at the pole will also be installed by your contractor.</p> | | | |
| <p align="center">Special Considerations and Constraints</p> <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> | | | |
| Empty space for special considerations and constraints | | | |

NOTICE TO CONTRACTOR - PROTECTION OF EXISTING UTILITIES

The Contractor's attention is directed to the need for the protection of the existing underground and overhead utilities, during the construction of the proposed structures.

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

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.

Any damage to any existing utility shall be repaired including all materials, labor, etc., to the Engineer's and/or respective utility company's satisfaction at no cost to the Owner.

The contractor's attention is directed to the requirements of Article 1.07.13 – Contractor's Responsibility for Adjacent Property and Services. The contractor shall provide a minimum three feet nominal cover, and equipment wheel loads shall not exceed 24,000 lbs. where construction equipment traverses watermain.

Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., sewer, gas, electric lines, etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation.

In order to notify utility companies, the number 1-800-922-4455 (Call Before You Dig) must be called at least forty-eight (48) hours prior to the start of excavation. This notification will enable the utility companies to mark out their facilities in the field.

NOTICE TO CONTRACTOR – VERIFICATION OF EXISTING CONDITIONS

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

The cost for this work and incorporation of information into the working drawings and shop drawings is part of the general cost of the work. Accordingly, no additional payment will be made for this work.

NOTICE TO CONTRACTOR – SCHEDULE OF MINIMUM TESTING REQUIREMENTS

Local standards or materials testing requirements may be used; however, in the absence of local standards or requirements, materials incorporated into the project must be tested in accordance the Department's Schedule of Minimum Testing for the LOTCIP. Final Materials Certification must be certified by the Engineer and included in the Final Package submitted to the Department through the COG subsequent to construction completion.

Minimum testing must include sufficient material testing for structural materials (i.e. concrete, steel, reinforcement, etc.), roadway materials (gravel, subbase, etc.), and HMA to assure the integrity of construction.

Local Transportation Capital Improvement Program (LOTICIP)

4/2/2019

*ONLY Applies to Municipal Administered LOTICIP Projects **not** on National Highway System*

| Material Name | Unit | Test/Documentation | Frequency 1 per | Notes |
|--|------|--------------------|-----------------|----------------|
| Anchor Bolts | ea. | MC | project | 1 per size |
| Asphalt Emulsions (CSS-1, RS-1 or SS-1) | gal | MC | 10k | |
| Bituminous Concrete (HMA) | ton | D 2950 FLDT | day | See Note 3 |
| Cement - Portland Type I/II | bag | FLDT | project | empty bag |
| Chemical Anchor | lb. | QPL MC | project | |
| Concrete-Ready Mixed | c.y. | T22 FLDT | 75 | 4 cylinders |
| Construction Signing | ea. | MC | project | |
| Geotextile | s.y. | QPL MC | project | |
| Gravel (Bank Run or Crushed) | c.y. | T27 LABT | 5k | |
| Grout, Non-shrink | bag | MC | project | |
| Masonry Brick & Block (Solid) | ea. | FLDT | project | See Note 1 |
| Pipe - Reinforced Concrete | l.f. | PC-1 | project | See Note 1 |
| Pipe (Metal & Plastic) All types | lf | MC | project | See Note 1 |
| Pipe Arch - Aluminum | lf | MC | project | See Note 1 |
| Precast Concrete Items (not pipe) | ea. | PC-1 | Item type | |
| Prestressed Concrete Members | ea. | LABT | 1 | See Note 2 & 3 |
| Reclaimed Misc. Aggregate | c.y. | T27/Chem Analysis | 2500 | See Note 5 |
| Reclaimed Waste | c.y. | T180 LABT | 50k | See Note 5 |
| Sand (Masonry /Trenching & Backfilling) | c.y. | T27 LABT | 2500 | |
| Sheet Piling | l.f. | MC | project | See Note 4 |
| Sign Post | ea | MC | project | See Note 1 |
| Span Pole - Steel or Wood | ea. | MC | project | See Note 3 |
| Steel Reinforcing Bars (Plain or Epoxy) | lb. | T244 MC | 200t | |
| Stone (Broken/Crushed) | c.y. | T27 LABT | 20k | |
| Structural Steel | cw | Shop Drawings | project | Notes 2, 3 & 4 |
| Traffic Signal Equipment | ea. | MC | project | NA |

Notes

| | |
|---|---|
| 1 | Material should be inspected on the project site prior to use. Suspect material should be physically tested to determine conformance. |
| 2 | QC Inspection should be provided and documented during fabrication. |
| 3 | Contact the Department of Transportation Division of Materials Testing to determine vendor qualifications and QA inspection availability. |
| 4 | Documentation should be provided to determine conformance to Buy America requirements. |
| 5 | FORM MAT-212 should be completed and provided by the Contractor prior to use of material. |

Test Method/Test Type

| | |
|------|--|
| LABT | Laboratory Test |
| FLDT | Test performed in the field |
| QPL | ConnDOT Qualified Products List (http://www.ct.gov/dot/lib/dot/documents/dresearch/conndot_qpl.pdf) |
| PC-1 | MAT-308 Required from producer with shipment |
| MC* | Materials Certificate |

*Should comply with ConnDOT Standard Specification Section 1.06.07

NOTICE TO CONTRACTOR – PRIME CONTRACTOR

It shall be noted that the awarded Prime Contractor shall complete a minimum of 50% of the work here within this contract.

SECTION 1.02 - PROPOSAL REQUIREMENTS AND CONDITIONS

1.02.01—Contract Bidding and Award:

Section 1.02.01 of the Standard Specifications, Form 818, is amended as follows:

After the first sentence of the third paragraph, add the Following:

In accordance with the provisions of the Construction Contract Bidding and Award Manual, bidders must be prequalified for **sidewalk installation, retaining wall installation and full depth reconstruction along a State Route** to be eligible to bid on this project. Bidders that are not prequalified for this work classification will not be approved to bid on this project.

SECTION 1.05 - CONTROL OF THE WORK

Replace Article 1.05.02 with the following:

1.05.02—Plans, Working Drawings, Shop Drawings, Product Data, Submittal Preparation and Processing - Review Timeframes, Department's Action:

1. Plans: The plans prepared by the Engineer show the details necessary to give a comprehensive idea of the construction contemplated under the Contract. The plans will generally show location, character, dimensions, and details necessary to complete the Project. If the plans do not show complete details, they will show the necessary dimensions and details, which when used along with the other Contract documents, will enable the Contractor to prepare Working Drawings, Shop Drawings or Product Data necessary to complete the Project.

Project submittals shall be delivered to the Town by email.

2. Working Drawings: When required by the Contract or when ordered to do so by the Engineer, the Contractor shall prepare and submit the Working Drawings, signed, sealed and dated by a qualified Professional Engineer licensed to practice in the State of Connecticut, for review. The Working Drawings shall be submitted sufficiently in advance of the work detailed, to allow for their review in accordance with the requirements specified in 1.05.02-5 (including any necessary revisions, resubmittal, and final review). There will be no direct payment for furnishing any Working Drawings, procedures or supporting calculations, but the cost thereof shall be considered as included in the general cost of the work.

The Contractor is only required to deliver paper copies that have been stamped with "No Exceptions Noted" or "Exceptions as Noted." Guidance to the Contractor for the number of properly sized paper copies will be provided by the Department.

All Working Drawing submission documents shall conform to the following requirements:

A. Drawings:

- i. Delivered in a single multi-page PDF file.
- ii. Shall be sized ANSI D (34 inches × 22 inches).
- iii. Contain a border, title block and a rectangular box, 2.25 inches wide × 1.75 inches high, in the lower right hand corner for the Department's stamp.
- iv. Text height and width shall be 0.125 inch.
- v. All letter characters shall be uppercase.
- vi. Shall be searchable.
- vii. Shall be black and white.
- viii. Cover Page - shall be digitally signed by the Contractor's Professional Engineer.
- ix. All pages shall include a watermark of the Professional Engineer's stamp in a common area.

B. Calculations:

- i. Delivered in a single PDF file

- ii. Shall be sized ANSI A (8.5 inches × 11 inches).
- iii. Cover Page shall be digitally signed by the Contractor's Professional Engineer.

C. Supporting Documentation:

- i. Delivered as an independent single PDF file
 - ii. Shall be sized ANSI A (8.5 inches × 11 inches).
- a. Working Drawings for Permanent Construction: The Contractor shall supply to the Department a certificate of insurance in accordance with 1.03.07 at the time that the Working Drawings for the Project are submitted.
- The Contractor's designer, who prepares the working drawings, shall secure and maintain at no direct cost to the State a Professional Liability Insurance Policy for errors and omissions in the minimum amount of \$2,000,000 per error or omission. The Contractor's designer may elect to obtain a policy containing a maximum \$250,000 deductible clause, but if the Contractor's designer should obtain a policy containing such a clause, they shall be liable to the extent of at least the deductible amount. The Contractor's designer shall obtain the appropriate and proper endorsement of its Professional Liability Policy to cover the indemnification clause in this Contract, as the same relates to negligent acts, errors or omissions in the Project work performed by them. The Contractor's designer shall continue this liability insurance coverage for a period of
- (i) 3 years from the date of acceptance of the work by the Engineer, as evidenced by a State of Connecticut, Department of Transportation form entitled "Certificate of Acceptance of Work," issued to the Contractor; or
 - (ii) 3 years after the termination of the Contract, whichever is earlier, subject to the continued commercial availability of such insurance.
- b. Working Drawings for Temporary Construction: The Contractor shall submit drawings, calculations, procedures and other supporting data to the Department in accordance with this Specification, with the exception of requirements defined under a. Working Drawings for Permanent Construction.

3. Shop Drawings: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and deliver Shop Drawings to the Department for review.

Shop Drawings shall be submitted sufficiently in advance of the work detailed, to allow for their review in accordance with the requirements specified in 1.05.02-5 (including any necessary revisions, resubmittal, and final review). There will be no direct payment for furnishing any Shop Drawings but the cost thereof shall be considered as included in the general cost of the work.

The Contractor is only required to deliver paper copies that have been stamped with "No Exceptions Noted" or "Exceptions as Noted." Guidance to the Contractor for the number of properly sized paper copies will be provided by the Department.

Shop Drawing submission documents shall conform to the following requirements:

- A. Delivered in a single multi-page PDF file.
- B. Shall be sized ANSI D (34 inches × 22 inches).
- C. Contain a border, title block and a rectangular box, 2.25 inches wide × 1.75 inches high, in the lower right hand corner for the Department's stamp.
- D. Text height and width shall be 0.125 inch.
- E. All letter characters shall be uppercase.
- F. Shall be searchable.
- G. Shall be black and white.

4. Product Data: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and deliver Product Data to the Department for review.

Product Data shall be submitted sufficiently in advance of the work detailed, to allow for their review in accordance with the requirements specified in 1.05.02-5 (including any necessary revisions, resubmittal, and final review). There will be no direct payment for furnishing any Product Data but the cost thereof shall be considered as included in the general cost of the work.

The Contractor shall submit the Product Data in a single submittal for each element of construction.

The Contractor shall mark each copy of the Product Data submittal to show applicable choices and options. Where Product Data includes information on several products that are not required, copies shall be marked to indicate the applicable information. Product Data shall include the following information and confirmation of conformance with the Contract to the extent applicable: manufacturer's printed recommendations, compliance with recognized trade association standards, compliance with recognized testing agency standards, application of testing agency labels and seals, notation of coordination requirements, Contract item number, and any other information required by the individual Contract provisions.

The Contractor is only required to deliver paper copies that have been stamped with "No Exceptions Noted" or "Exceptions as Noted." Guidance to the Contractor for the number of properly sized paper copies will be provided by the Department.

Product Data submission documents shall conform to the following requirements:

- A. Delivered in a single PDF file
- B. Shall be sized ANSI A (8.5 inches × 11 inches).
- C. Marked to indicate applicable choices and options.
- D. Where non-applicable information and products are included, notations shall be made to clearly delineate applicable from non-applicable information.

5. Submittal Preparation and Processing – Review Timeframes: If the Department deems a submittal incomplete or unacceptable because not all the required documents were attached, documents are incomplete, or are in the incorrect format, the Department will send the submittal back to the Contractor before reviewing. When a submittal is sent back as incomplete, the

associated documents have not been reviewed and the review process and any associated timeframe requirements have not begun.

The Contractor shall allow 30 calendar days for submittal review by the Department, from the date receipt is acknowledged by the Department. For any submittals stamped with “Revise and Resubmit” or “Rejected,” the Department is allowed an additional 20 calendar days for review of any resubmissions.

An extension of Contract time will not be authorized due to the Contractor’s failure to transmit submittals sufficiently in advance of the work to permit processing.

The furnishing of Shop Drawings, Working Drawings or Product Data, or any comments or suggestions by the Designer or Engineer concerning Shop Drawings, Working Drawings or Product Data, shall not relieve the Contractor of any of its responsibility for claims by the State or by third parties, as per 1.07.10.

The furnishing of the Shop Drawings, Working Drawings and Product Data shall not serve to relieve the Contractor of any part of its responsibility for the safety or the successful completion of the Project construction.

6. Department’s Action: The Department will review each submittal, mark each with a self-explanatory action stamp, and return the stamped submittal promptly to the Contractor. The Contractor shall not proceed with the part of the Project covered by the submittal until the submittal is marked “No Exceptions Noted” or “Exceptions as Noted” by the Department. The Contractor shall retain sole responsibility for compliance with all Contract requirements. The stamp will be marked as follows to indicate the action taken:

- b. If submittals are marked “No Exceptions Noted,” the Designer or Engineer has not observed any statement or feature that appears to deviate from the Contract requirements. This disposition is contingent on being able to execute any manufacturer’s written warranty in compliance with the Contract provisions.
- c. If submittals are marked “Exceptions as Noted,” the considerations or changes noted by the Department’s Action are necessary for the submittal to comply with Contract requirements. The Contractor shall review the required changes and inform the Department if they feel the changes violate a provision of the Contract or would lessen the warranty coverage.
- d. If submittals are marked “Revise and Resubmit,” the Contractor shall revise the submittals to address the deficiencies or provide additional information as noted by the Department. The Contractor shall allow an additional review period as specified in 1.05.02-5.
- e. If submittals are marked “Rejected,” the Contractor shall prepare and submit a new submittal in accordance with the Department’s notations. The resubmissions require an additional review and determination by the Department. The Contractor shall allow an additional review period as specified in 1.05.02-5.

SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES

Article 1.07.13 - Contractor's Responsibility for Adjacent Property, Facilities and Services is supplemented as follows:

The following company and representative shall be contacted by the Contractor to coordinate the protection of their utilities on this project 30 days prior to the start of any work on this project involving their utilities:

Mr. Arnold Ozols
District 3 Electrical Supervisor
Department of Transportation
Milford, Connecticut
(203) 878-1869

Mr. Eric Clark
Lighttower Fiber Networks
1781 Highland Avenue, Suite 102
Cheshire, CT 06410
(203) 649-3904

Mr. Frank Gomes
Cablevision
28 Cross Street
Norwalk, CT 06851
(203) 750-5630

Ms. Lynne DeLucia
Frontier Communications
1441 North Colony Road
Meriden, CT 06450-4101
(203) 238-5000

Mr. Johnathan Gould
Connecticut Natural Gas Corporation
76 Meadow St
East Hartford, CT 06108
(860) 727-3044

Mr. Carlos Vizcarrondo
Aquarion Water Company of Connecticut
600 Lindley Street
Bridgeport, CT 06606
(203) 337-5950

Ms. Uyen Thy Ho
United Illuminating Company
180 Marsh Hill Road
Orange, CT 06477-3629
(203) 260-1214

Please provide the electrical service request number provided by the power company. This is a Work Request (WR) Number provided by Eversource (formerly Northeast Utilities [CL&P]).

SECTION 1.08 - PROSECUTION AND PROGRESS

Article 1.08.04 - Limitation of Operations - Add the following:

In order to provide for traffic operations as outlined in the Special Provision "Maintenance and Protection of Traffic," the Contractor will not be permitted to perform any work which will interfere with the described traffic operations on all project roadways as follows:

All Roadways

Monday through Friday between 5:01 pm and 6:59 am.
Saturday and Sunday between 12:01 am and 11:59 pm.

SECTION 12.00 – GENERAL CLAUSES FOR HIGHWAY SIGNING

Description:

Work under this item shall conform to the requirements of Section 12.00 supplemented as follows:

12.00.07 – Global Positioning System (GPS) coordinates for signs:

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new permanent State owned and maintained signs (temporary and construction signs are not to be included) installed in the project. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Sign data submissions or questions relating to SIMS or GPS shall be sent to DOT-SignInventory@ct.gov.

The horizontal datum is to be set to the State Plane Coordinate System, North American Datum of 1983 (NAD83) in feet. The minimum tolerance must be within 10 feet. The format of the GPS information shall be provided in a Microsoft Office compatible spreadsheet (Excel) file with data for each sign. The record for each sign installed is to be compatible with the anticipated CTDOT Sign Inventory and Management System (CTSIMS). The following format shall be used. However, the data fields noted by “#” are not required for the project submission. These entries will be completed as part of the Traffic Engineering CTSIMS data upload.

The cost of this work shall be included in the cost of the respective sign face – sheet aluminum and sign face – extruded aluminum items. The receipt of this electronic database must be received and accepted by the Engineer prior to final payment for items involving permanent highway signing. The electronic database information shall detail information regarding the sign actually installed by the project.

| Field Number | Type | size | Description |
|--------------|------|------|--------------------------------------|
| 1 | text | 20 | Record Number (starting at 1...) |
| 2 | text | 20 | Sign Catalog Number |
| # 3 | text | 10 | Size Height |
| # 4 | text | 10 | Size Width |
| 5 | text | 25 | Legend |
| # 6 | text | 10 | Background Color |
| # 7 | text | 10 | Copy Color |
| 8 | Link | 25 | Material (see acceptable categories) |
| 9 | text | 30 | Comments if any |
| # 10 | text | 20 | MUTCD Type |
| 11 | text | 15 | Town |

| | | | | |
|---|----|---------|-----|--|
| | 12 | text | 5 | Route |
| | 13 | text | 5 | Route direction |
| # | 14 | text | 10 | Highway Log Mileage |
| | 15 | text | 15 | Latitude |
| | 16 | text | 15 | Longitude |
| | 17 | text | 25 | Mounting Type |
| | 18 | text | 25 | Reflective Sheeting Type |
| | 19 | date | 25 | Date Installed |
| | 20 | text | 10 | Number of Posts |
| | 21 | text | 255 | Sheeting Manufacturer name and address |
| | 22 | text | 15 | State Project Number (or) |
| | 23 | text | 15 | Encroachment Permit number. |
| | 24 | Graphic | * | Sign Picture Graphic. |

* Graphics provided shall be representative of the sign supplied and be in color. Graphic formats shall be either JPG or TIFF and provided with a recommended pixel density of 800 x 600. The graphic shall be inserted in the supplied media in field 24 for each sign.

ITEM #0219011A – SEDIMENTATION CONTROL AT CATCH BASIN

Description: This work shall consist of furnishing, installing, cleaning, maintaining, replacing, and removing sedimentation control at catch basins at the locations and as shown on plans and as directed by the engineer.

Materials

Sack shall be manufactured from a specially designed woven polypropylene geotextile sewn by a double needle machine, using a high strength nylon thread. Sack shall be manufactured by one of the following or an approved equal:

Siltsack®

SI Geosolutions:

www.sigeosolutions.com

(800)621-0444

Dandy Sack™

Dandy Products Inc.

P.O. Box 1980

Westerville, Ohio 43086

Phone: 800-591-2284

Fax: 740-881-2791

Email: dlc@dandyproducts.com

Website: www.dandyproducts.com

FLeXstorm Inlet Filters

Inlet & Pipe Protection

24137 W. 111th St - Unit A

Naperville, IL 60564

Telephone: (866) 287-8655

Fax: (630) 355-3477

The sack will be manufactured to fit the opening of the catch basin or drop inlet. Sack will have the following features: two dump straps attached at the bottom to facilitate the emptying of sack and lifting loops as an integral part of the system to be used to lift sack from the basin. The sack shall have a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls, this cord is also a visual means of indicating when the sack should be emptied. Once the strap is covered with sediment, the sack should be emptied, cleaned and placed back into the basin. Contractor is accountable for proper and responsible disposal of sediment.

Construction Methods:

Installation, removal, and maintenance shall be per manufacturer instructions and recommendations.

Method of Measurement: Sedimentation Control at Catch Basin will be measured as each installed, maintained, accepted, and removed. There will be no separate measurement for maintenance or replacement associated with this item.

Basis of Payment:

Sedimentation Control at Catch Basin will be paid for at the contract unit price each complete in place and accepted, which price shall include all maintenance throughout construction, materials, equipment, tools, and labor incidental thereto.

Pay Item

Pay Unit

Sedimentation Control System at Catch Basin

Ea.

ITEM #0601650A - RETAINING WALL (SITE NO. 1)

Description: This item shall consist of designing, furnishing and constructing a retaining wall that shall include all incidentals necessary to complete the work in the location, at the grades, and to the dimensions and details shown on the plans. This item shall also include furnishing and installing footings, a top portion moment slab and parapet designed to resist Traffic Impact Loads as deemed appropriate for the location. Additionally, the contractor shall be responsible for any geotechnical data and soil borings required to design the structure.

Retaining Wall Selection:

The following is a list of the current approved proprietary retaining walls:

Prefabricated Modular Walls

1. Doublewal-Standard Module
Doublewal
173 Church Street
Yalesville, CT 06492
(203) 269-3119

2. T-Wall Retaining Wall System
The Neel Company
8328-D Traford Lane
Springfield, VA 22152
(703) 913-7858

Prefabricated Modular Walls

On-Site Representative: A qualified and experienced representative from the retaining wall supplier shall be at the Site at the initiation of wall construction to assist the Contractor and the Engineer at no additional cost to the Department. The wall supplier's on-Site representative shall have, in the past three years, successfully installed at least three retaining walls of the height, length and complexity similar to the retaining wall(s) shown on the plans and meeting the tolerances specified herein. The representative shall also be available on an as needed basis, as requested by the Engineer.

Pre-Installation Meeting: A Pre-Installation meeting shall be scheduled prior to commencement of construction activity. Attendees shall include the Engineer, the Contractor (including wall construction crew chiefs), the wall Subcontractor, wall manufacturer and wall designer, or their respective representatives. No wall construction activity shall be performed until the Contractor's final submittal has been approved by the Engineer including maintenance and protection of traffic during construction of the wall and the Pre-Installation meeting has been held.

Design: The Contractor shall submit working drawings and design computations, in accordance with Article 1.05.02, for any temporary earth retaining systems (TERS) necessary (included in the lump sum item).

The submissions for proprietary retaining walls shall be treated as working drawings in accordance with Section 1.05.02.

1. Design Computations: If the Contractor chooses one of the proprietary wall options, he is fully responsible for the design, detailing and additional specifications required. The actual designer of the retaining wall shall be a qualified Professional Engineer licensed in the State of Connecticut. The designer must have designed at least three proprietary walls within the last three years.
2. Designer's Liability Insurance: The Designer of the proprietary retaining wall shall secure and maintain, at no direct cost to the Department, a Professional Liability Insurance Policy for errors and omissions in accordance with Articles 1.03.07 and 1.05.02.
3. Preliminary Submissions for Proprietary Retaining Walls: Prior to the start of fabrication or construction, the Contractor shall submit working drawings to the Engineer, which shall include, at a minimum the following:
 - a. Detailed Plans:
 - 1) Full plan view of the wall drawn to scale. The plan view must reflect the horizontal alignment and offset from the horizontal control line to the face of the wall. Beginning and ending stations, all utilities, signs, lights, etc. that affect the construction along with all property lines and easement lines adjacent to the retaining wall shall be shown.
 - 2) Full elevation view of the wall drawn to scale. Elevation views shall indicate the elevation at the top and bottom of walls, horizontal and vertical break points, and the location of finished grade.
 - 3) Typical cross sections drawn to scale including all appurtenances. Detailed cross sections shall be provided at significant reinforcement transitions such as wall ends.
 - 4) Details of all wall components and their connections such as the length, size and type of reinforcement and where any changes occur; modular component and facing details including reinforcing steel and reinforcement connections; joint material including geotextile filter location and horizontal joint compression material, etc.
 - 5) Drainage details for embankment backfill including attachment to outlets shown on plans.
 - 6) Details of any roadway drainage pipe projecting through the wall, or any attachments to the wall. Details of the treatment of drainage swales or ditches shown on the plans.
 - 7) Design parameters used along with references from latest edition of American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specifications, including the latest interims.
 - 8) Material designations for all materials to be used.
 - 9) Detailed construction methods including a Quality Control plan. Construction Quality Control plans shall include monitoring and testing frequencies (e.g., for setting batter and maintaining horizontal and vertical control), construction restraints, and specific requirements for construction around obstructions.
 - 10) Details of parapet attachments where required, along with any lighting and/or signing requirements.

- 11) Details of architectural treatment where required.
 - 12) Details of TERS where required to comply with Article 9.71.01 as supplemented herein and Maintenance and Protection of Traffic Plan unless approved otherwise by the engineer. Unless otherwise determined by contractor soil investigations and approved by an engineer the contractor shall assume OSHA soil classification Type C.
 - 13) Details of retaining wall treatment where the wall abuts other structures.
 - 14) Treatment at underground utilities where required.
 - b. Design Computations:
 - 1) Computations shall clearly refer to the applicable AASHTO LRFD Bridge Design Specifications provisions as stated herein.
 - 2) Documentation of computer programs including all design parameters.
 - 3) The design shall meet the criteria listed below.
 - c. Construction Specifications:
 - 1) Construction methods shall be specific to the proprietary retaining wall chosen. These specifications shall include construction limitations including vertical clearance, right-of-way limits, etc.
 - 2) Submittal requirements for materials such as certification, quality, and acceptance/rejection criteria.
 - 3) Details on connection of modular units and connection of reinforcements including assurance of uniform stress transfer.
 - 4) Any other requirements.
4. Final Submissions for Proprietary Retaining Walls: Once a proprietary retaining wall design has been reviewed and accepted by the Department, the Contractor shall submit working drawings in accordance with Article 1.05.02.
- The working drawing submission shall be made no later than 14 days after acceptance by the Department. No work shall be performed on the retaining wall until the Department has accepted the working drawings.
- Acceptance of the working drawings shall not relieve the Contractor of responsibility for the successful completion of the work.
- The Contractor's designer of the proprietary retaining wall shall review any shop drawings prepared for the fabrication of the wall. One set of full-size approved shop drawings shall be submitted per Article 1.05.02-2. Working Drawings.
5. General Design Requirements:
- a. All designs for proprietary walls and TERS (if required) shall meet the requirements of the latest edition of the AASHTO LRFD Bridge Design Specifications including the latest Interims published except as noted otherwise herein.
 - b. Geotechnical borings shall be taken in the area of the proposed wall under the direction of the contractors selected design engineer, responsible for the design of the wall. A minimum of two (2) borings shall be taken and analyzed as part of the design. The contractor will be responsible for presenting the information to the engineer in their design for the retaining wall.
 - c. The wall design shall follow the dimensions of the wall envelope shown on the plans.

For all proprietary walls, the top of the leveling pad or reinforced concrete toe footing shall be located at or below the bottom of the footing elevation shown on the plans. If no footing elevation is shown, the minimum wall embedment shall be 4 feet as measured to the top of the leveling pad or toe footing.

If steps at the bottom of the wall are required, they shall be kept at or below the footing elevation shown on the plans. Steps in addition to those shown on the plans will be permitted at no additional cost to the Department.

- c. The wall shall be designed to be within all property lines and easement lines shown on the plans. If additional work areas are necessary for the construction of the proprietary retaining wall, the Contractor shall be responsible for obtaining the rights from the affected property owners. Copies of these rights shall be forwarded to the Department.
- d. The top of the wall shall be at the top of the wall elevations shown on the plans. Where coping or barrier is utilized, the wall face panel shall extend up into the coping or barrier a minimum of 2 inches. The top of the face panels may be level or sloped to meet the top of the wall line noted.
- e. Cast-in-place concrete will not be an acceptable replacement for areas noted by the wall envelope, except for minor grouting of pipe penetrations and leveling required for coping or traffic barrier.
- f. The wall shall be designed for a minimum live load surcharge as specified in AASHTO LRFD Bridge Design Specifications Article 3.11.6. If there are specific live load surcharges acting on the wall, they shall also be accounted for. The minimum equivalent fluid pressure used to design the wall shall meet the requirements of AASHTO LRFD Article 3.11.5.
- g. If stated on the plans, the retaining wall shall be designed for seismic forces according to the AASHTO LRFD Bridge Design Specifications.
- h. If the wall is detailed with a concrete parapet, the top two courses of prefabricated modular walls units shall be designed to support a transverse railing load of 10 kips. The 10 kip load may be distributed over the length of the parapet section between joints, but not exceeding 20 feet. Computations that verify the stability of the top two courses of the modular units shall be submitted to the Engineer.

The detailing and reinforcement in the parapet section above the gutterline or finished grade, including any light standard attachments, shall be as shown on the plans.

- i. The wall shall be designed to accommodate all roadway drainage and drainage structures as shown on the plans.
- j. At a minimum, an underdrain system shall be provided for leading subsurface and surface water away from the backfill and outside limits of the wall.
- k. Hydrostatic Forces: Unless specified otherwise, when a design high water surface is shown on the plans at the face of the wall, the design stresses calculated from that elevation to the bottom of wall must include a 3-foot minimum differential head of saturated backfill. In addition, the buoyant weight of saturated soil shall be used in the calculation of pullout resistance.
- l. The maximum allowable bearing pressure of the soil shall be provided by the contractor's geotechnical engineer.
- m. Backfill: The friction angle of the Pervious Structure Backfill used in the reinforced fill zone for the internal stability design of the wall shall be assumed to be 34 degrees unless

shown otherwise on the plans. The friction angle of the in-situ soils shall be assumed to be a maximum of 30 degrees unless otherwise shown on the plans.

n. Parapet and Moment Slab Design:

1) General requirements for parapet and moment slab design:

Where an unyielding barrier (e.g. concrete barrier, parapet) on top of the retaining wall is warranted, the parapet and moment slab shall be designed in accordance with the latest AASHTO LRFD Bridge Design Specifications, including the latest interim specifications and errata, amended as follows:

The parapet shall be designed and constructed of precast or cast-in-place concrete.

The parapet shall include an architectural finish by using concrete form liners that will be used to produce a simulated stone facing on the exposed faces of the concrete parapets as shown on the plans, as directed by the Engineer and in accordance with these specifications. All form lined concrete surfaces shall be stained.

The moment slab shall be designed and constructed of cast-in-place reinforced concrete.

Above the finished grade, the parapet dimensions, concrete and reinforcement shall at minimum meet the Connecticut Bridge Design Manual "Wingwall Parapet with Sidewalk, Plate Number 3.4.6" as modified for height and architectural finish in the plans. Below the finished grade, the parapet shall be designed to resist the forces specified in the following table:

| MASH Test Level | Parapet Height (in.) | Design Transverse Impact Force F_t (kips) | Height of Design Impact Force (in.) |
|------------------------|-----------------------------|---|--|
| TL-3 | ≥ 29 | 71 | 19 |
| TL-4 | 36 | 68 | 25 |
| | > 36 | 80 | 30 |
| TL-5 | 42 | 160 | 35 |
| | > 42 | 262 | 43 |

The structural design of the moment slab and its connection to the parapet shall resist, at a minimum, a transverse load equal to 100% of F_t . The length of the structural connection between parapet and moment slab assumed to resist transverse force F_t shall be the distance between parapet joints but not greater than 30 feet in any case.

The minimum thickness of the moment slab shall be 1 foot.

The design of the moment slab for overturning and sliding shall be based on a lateral force of 10 kips static load. The length of the moment slab assumed to resist sliding and overturning may exceed parapet joint spacing providing the slab is monolithic beneath the joints, but shall be no greater than 30 feet in any case. The moments shall be summed about the front face of the wall facing. All resistance factors shall be taken as 1.0. The internal angle of friction for the soil shall be assumed to be 34 degrees unless otherwise shown on the plans.

Minimum concrete cover for reinforcing steel shall be 2 inches for top bars and 3 inches for bottom bars.

2) Precast Concrete Parapet Alternative:

- Precast parapet sections shall be no less than 10 feet in length.
- Parapets shall include details for shear transfer between adjacent units by either concrete shear keys or steel dowels as follows:
 - Shear keys, when used, shall be monolithically cast in each parapet section or joint location. Shear keys shall be located vertically within the top 32 inches of the parapet and shall be a minimum of 24 inches in length with a tapered width between 3 and 4 inches, and a minimum interlock depth of 2 inches.
 - Steel dowels, when used, shall be, at a minimum, 14 inches long and have a 1-inch diameter at each parapet interface. The steel dowels shall be smooth and, at a minimum, number 3 bars. Steel dowels shall be located in each parapet joint and spaced approximately 1 foot apart vertically. Steel dowels shall be positioned to project equally into each adjoining parapet section and shall be detailed to avoid impeding shrinkage and thermal movements. Bond breakers may be used with steel dowels for that purpose. Alternatively, pockets may be cast to receive steel dowels in adjacent parapet units. Pocket widths shall not exceed steel dowel diameters by more than 1/2 inch.
- Moment slabs for precast concrete parapets shall be structurally continuous throughout the overall retaining wall length. Construction joints are permitted in moment slabs.

3) Cast-in-Place Parapet Alternative:

The minimum distance between parapet joints shall be 20 feet. Expansion and contraction joints shall be placed in accordance with Section 11.6 of the AASHTO LRFD Bridge Design specifications. Expansion and contraction joints shall be located a minimum of 10 feet from the nearest edge of a catch basin. Expansion and contraction joints shall be located a minimum of 6 feet from the centerline of light standard anchorages and junction boxes. Preformed expansion joint filler, 1/2 inch thick, shall be installed at the expansion joints in the parapet.

Parapets shall include details for shear transfer between sections by way of concrete shear keys or steel dowels as follows:

- Shear keys, when used, shall be monolithically cast in each parapet section or joint location. Shear keys shall be located vertically within the top 32 inches of the parapet and shall be a minimum of 24 inches in length with a tapered width between 3 and 4 inches, and a minimum interlock depth of 2 inches.
- Steel dowels, when used, shall be a minimum of 14 inches long and have a 1-inch diameter at each parapet interface. The steel dowels shall be smooth and, at a minimum, number 3 bars. Steel dowels shall be located in each parapet joint and spaced approximately 1 foot apart vertically. Steel dowels shall be positioned to project equally into each adjoining parapet sections and shall be detailed to avoid impeding shrinkage and thermal movements. A bond breaker shall be used with steel dowels for that purpose.

Moment slabs for cast-in-place parapets shall extend to the outside face of the retaining wall as shown on the plans. Moment slabs for cast-in-place parapets shall be structurally continuous throughout the overall wall length, except for the purpose of crack control at parapet contraction and expansion joint locations, longitudinal reinforcing within 2 feet of the retaining wall face shall be discontinuous. All remaining longitudinal reinforcement in moment slabs at parapet expansion and contraction joints shall be continuous. A vertical 1 inch deep chamfer on the exposed face of the moment slab shall be provided in locations directly under parapet expansion and contraction joints. Construction joints are permitted in cast-in place moment slabs.

6. Design Requirements for Prefabricated Modular Walls: The general design of the retaining wall shall be according to the AASHTO LRFD Bridge Design Specifications. The Contractor shall be responsible for internal stability aspects of wall design. The design shall consider the stability at each level of modules. The global stability of the structure, including slope stability, bearing capacity at strength and service limit states, and total and differential settlement, is the responsibility of the Department.
 - a. Infill: The maximum assumed unit weight of infill material used for overturning stability analysis shall be 100 pounds per cubic foot. If Doublewal modules are to be filled with crushed stone, the maximum assumed unit weight of the infill shall be 80 pounds per cubic foot.
 - b. Resistance Factors: The resistance factors used in the design computations shall be as specified in the AASHTO LRFD Bridge Design Specifications amended as follows: The unfactored resistance for pullout of the concrete stem for T-Walls shall be 1.5 times or greater than the unfactored loads. Shear keys shall not be included in these computations. Only resisting forces developed beyond the theoretical failure plane may be used in these computations.

Materials:

1. Cast-in Place Concrete Walls and/or Parapets: The materials furnished and used in the work shall be those prescribed in the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, including supplemental specifications and applicable special provisions as specified in the Contract.
2. Prefabricated Modular Walls: Materials shall meet the following requirements, and those not listed below shall be as prescribed within the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, including supplemental specifications and applicable special provisions.
 - a. Concrete: The concrete shall meet the requirements of Section M.03 and as follows:
Concrete for all precast components shall be air-entrained, Portland cement, fine and coarse aggregates, admixtures and water. An air-entraining Portland cement or an approved air-entraining admixture shall be used. The entrained-air content shall be from 4% to 7%. The concrete shall attain a minimum 28-day strength (f'_c) of 4,500 pounds per square inch. The mix design shall be furnished to the Engineer.

Concrete for footings or unreinforced leveling pads shall meet the requirements of Class PCC03340 Concrete. Class PCC04460 Concrete shall be used for cast-in-place concrete copings.

Concrete Finish: Unless otherwise indicated on the plans or elsewhere in the specifications, the concrete surface for the exposed face shall have a steel form finish. All non-exposed surfaces shall have an unformed finish which shall be free of open pockets of aggregate and surface distortions in excess of 1/4 inch.

Special Surface Treatment: If a special surface finish is proposed, before proceeding with production, a model face panel shall be provided by the fabricator for the Engineer's approval, to establish a guide and standard for the type of finish on the exposed face. This panel shall be stored at the fabricator's plant to be used for comparison purposes during production. Formed surfaces other than the exposed face shall not require a special finish.

Acceptance Criteria for Precast Components: Acceptance of precast components shall be based on the concrete strength, the soil reinforcement connection devices and the panel or module dimensions meeting the manufacturer's allowable tolerances. Any chipping, cracks, honeycomb or other defects shall be within acceptable standards for precast concrete or repaired as determined by the Engineer.

It is recognized that certain cracks and surface defects are not detrimental to the structural integrity of the precast components if properly repaired. The Engineer shall determine the need for, and proper method of, such repair and all repairs shall be approved by the Engineer prior to acceptance for use in wall construction.

Marking: The date of manufacture, production lot number, and piece-mark shall be clearly marked on the non-exposed side of each element.

- b. Reinforcing Steel: Reinforcing steel shall meet the requirements of ASTM A615, Grade 60.
- c. Attachment Devices for Prefabricated Modular Walls: All structural connectors shall be hot-dip galvanized according to the requirements of ASTM A123 (AASHTO M111). The minimum thickness of the galvanizing shall be based on the service life requirements in the AASHTO LRFD Bridge Design Specifications.
- d. Joint Materials: All horizontal and vertical joints between panels shall be covered by a Geotextile (Separation-High Survivability) meeting the requirements of Subarticle M.08.01-19. The minimum width and lap shall be 12 inches. Details of installation including connection of the geotextile to coping shall be provided.
- e. Backfill: Backfill shall be Pervious Structure Backfill meeting the requirements of Articles M.02.05 and M.02.06.
- f. Smooth Steel dowels: Steel dowels used in parapet joints shall meet the requirements of ASTM A36 and shall be galvanized in accordance with ASTM A153.

3. Concrete Form Liners:

The concrete form liner shall conform to:

Pattern No. 1352 North East Dry Stack from Concrete Rock Surfaces, LLC, Bethel, Connecticut or 1202-R1.5 Adjustable Random Fieldstone by Customrock Formliner or approved equal.

Concrete Stain shall be as determined by the Engineer and the Town of Simsbury.

Form Liners – The form liners shall be reusable, made of high-strength urethane and not compress more than 3/16” when concrete is poured at a rate of 10 vertical feet per hour. All form liners for the project shall be from a single supplier.

Release Agent – The release agent shall be compatible with the form liners as recommended by the manufacturer.

Form Ties – The form ties shall be designed to separate at least 1 inch back from the finished surface, leaving only a neat hole that can be plugged with patching material. Patching material shall be Portland Cement Mortar of a suitable type.

Construction Methods:

1. Cast-in-Place Concrete Walls and/or Parapets: All construction methods for cast-in-place retaining walls and parapets shall be in accordance with the detailed requirements prescribed for the construction of the appropriate component items as specified in the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction.
2. Prefabricated Modular Walls: All construction methods for prefabricated modular retaining walls shall be in accordance with the detailed requirements prescribed for the construction of the appropriate component items as specified in the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, with the following additional requirements:
 - a. Inspection and Rejection: The quality of materials, process of manufacture, and finished units shall be subject to inspection by the Engineer prior to shipment.

Modular units which have imperfect molding, honeycomb, open texture concrete, or broken corners shall be repaired to the satisfaction of the Engineer or shall be rejected. Insufficient compressive strength shall also be cause for rejection.

Modular units with special surface treatments shall be rejected if there are variations in the exposed face that deviate from the approved model as to color or texture in accordance with precast concrete industry standards.
 - b. Installation: The modular units shall be installed in accordance with manufacturer's recommendations. Special care shall be taken in setting the bottom course of units to true line and grade.

The vertical joint opening on the front face of the wall shall not exceed 3/4 inch. Vertical tolerances and horizontal alignment of the wall shall not exceed 3/4 inch in 8 feet from the vertical. The plumbness of the wall from top to bottom shall not exceed 1/2 inch per 8 feet, or 1 inch total, whichever is less, measured from the face line shown on the plans. A strip of geotextile shall be installed at all vertical joints.

Assembly of the various components shall not place any undue strain or stress on any of the members that constitute the completed structure.

c. Backfilling:

1) Doublewal:

- Infill for modular units shall be placed one course at a time, in lifts not exceeding two feet in thickness. The dry density of each lift of Pervious Structure Backfill, after compaction, shall meet the requirements of Article 2.16.03.
- Placement of the Pervious Structure Backfill behind the wall shall follow erection of successive courses of modular units. The difference in backfill elevation between the interior and exterior of the wall shall not exceed 6 feet.
- The units may be backfilled with crushed stone if the design of the retaining wall was based on a density of 80 pounds per cubic foot.
- All Pervious Structure Backfill placed outside of the modular units shall be placed in accordance with the requirements of Article 2.16.03.
- At the end of each work shift, the Contractor shall slope the last level of backfill away from the wall facing to direct runoff away from the wall face. The Contractor shall control and divert runoff at the ends of the wall to prevent erosion. In addition, the Contractor shall prevent surface runoff from entering the wall construction site.

2) T-Wall:

- Backfill placement in the interior of the wall unit and behind the wall shall follow erection of each course of prefabricated wall modules. Backfill shall be placed in such a manner as to avoid any damage or disturbance to the wall materials or misalignment of the modules. Any wall materials which become damaged or disturbed during backfill placement shall be removed and replaced at the Contractor's expense or corrected, as directed by the Engineer. Any backfill material placed within the wall envelope which does not meet the specified material requirements shall be corrected or removed and replaced at the Contractor's expense.
- Each lift (10 inches thick maximum) shall be placed and compacted with a mechanical or vibratory compactor to meet the density requirements in Article 2.16.03. The Contractor may reduce the lift thickness to obtain the specified density.
- Compaction within 3 feet of the module face shall be achieved by at least three passes of a lightweight mechanical tamper, roller or vibratory system. The specified lift thickness shall be adjusted as warranted by the type of compaction equipment actually used. Care shall be exercised in the compaction process to avoid misalignment or damage to the module. Heavy compaction equipment shall not be used to compact backfill within 3 feet of the wall face. Sheepfoot rollers and puddling for compaction will not be allowed. The Contractor shall take soil density tests, in accordance with Article 2.16.03, to ensure compliance with specified compaction requirements and if a compaction test fails, no additional backfill shall be placed over the area until the lift is recompacted and a passing test is achieved.

- The moisture content of the backfill material prior to and during compaction shall be uniform throughout each layer. Backfill material shall have a placement moisture content less than or equal to the optimum moisture content. Backfill material with a placement moisture content in excess of the optimum moisture content shall be removed and reworked until the moisture content is uniform and acceptable throughout the entire lift. The optimum moisture content shall be determined in accordance with Article 2.16.03.
- At the end of each day's operation, the Contractor shall slope the last level of backfill away from the retaining wall facing to direct runoff away from the retaining wall face. The Contractor shall control and divert runoff at the ends of the wall to prevent erosion or washout of the wall section does not occur. In addition, the Contractor shall prevent surface runoff from entering the wall construction site.

3. Concrete Form Liners:

- The Contractor shall submit the following for approval by the Engineer prior to beginning the forming operations:
- Form Tie Sample – A sample, description and demonstration of the form tie the Contractor proposes to use.
- Layout Plans (3 copies) – Layout plans shall be the plan, elevation and details showing the overall pattern, joint locations, form tie locations, weephole locations and any other special conditions.
- Concrete Facing Test Panel – A concrete test panel is to be built on site, using the same materials and methods of work force that will be used for the project. The Town of Westport shall approve the location of the test panel and review the constructed test panel along with the Engineer. The form liner pattern and color stain will be completed to the satisfaction of the Town of Westport for their viewing and approval. Upon review of the test panel the Town shall provide a written approval to the Contractor to use the form liner pattern and color stain on the bridge wingwalls and end blocks. The concrete test panel shall conform to the following:
 1. The size of the test panel shall be 50 square feet, or larger if needed to adequately illustrate the pattern selected.
 2. The test panel shall contain an area demonstrating the continuation of the pattern through an expansion joint.
 3. The test panel shall be removed when it is no longer needed, to the satisfaction of the Engineer
- Wall Patching – After the form liners are removed, all honeycombed areas and tie holes shall be filled and textured to match the surrounding areas. Seam lines and other unnatural protrusions shall be ground down to match adjacent areas with a hand-held power grinder using disks made for concrete. Patching of tie

holes & honeycombed areas and grinding of seams shall be performed immediately after removal of the form liners. The process of wall patching shall be to the satisfaction of the Engineer and conform to Section 6.01.

Method of Measurement: This work, being paid for on a lump sum basis, will not be measured for payment. Prior to the commencement of work on this item, the Contractor shall submit a proposed schedule of values for review and approval by the Engineer.

Basis of Payment: This work will be paid for at the Contract lump sum price for “Retaining Wall (Site No. 1),” complete in place, which price shall include all incidental work shown within limits on the plans for the retaining wall including the following:

1. Soil investigations, design, and construction of the proprietary retaining wall.
2. Excavation required for the construction of the retaining wall.
3. Design and construction of temporary earth retaining systems to retain the existing facilities during construction.
4. The furnishing and placing of backfill drainage systems for the wall.
5. The furnishing, placing and compacting of Pervious Structure Backfill within the payment lines.
6. The furnishing and placing of rigid metal conduit, junction boxes, light standard anchorages, and other electrical appurtenances located within the wall proper.
7. Services of the On-Site Wall Representative.
8. Any other work and materials shown on the plans for the retaining wall, footings, moment slab, parapet, reinforcing steel, concrete form liners,

The price shall also include all materials, equipment, tools and labor incidental thereto. Bedrock or boulders in excess of 1 cubic yard encountered in the excavation, will be paid for under the item "Structure Excavation - Rock."

| Pay Item | Pay Unit |
|-----------------------------|----------|
| Retaining Wall (Site No. 1) | l.s. |

ITEM #0921003A – MONOLITHIC CONCRETE SIDEWALK AND CURB

This work shall conform to Section 9.21 “Concrete Sidewalks” of the ConnDOT Standard Specifications, Form 818, supplemented and amended as follows:

9.21.01—Description: Add the following:

This item shall include monolithic concrete sidewalk and curb constructed on a gravel or reclaimed miscellaneous aggregate base course in the locations and to the dimensions and details shown on the plans or as ordered and in accordance with these specifications.

9.21.02—Materials: Add the following:

Reinforcement shall conform to the requirements of Article M.06.03.

9.24.04—Method of Measurement: Add the following:

4. Cost for reinforcement will not be measured for payment, but the cost shall be included in the Monolithic Concrete Sidewalk and Curb.

9.21.05—Basis of Payment: Add the following:

This work will be paid for at the contract unit price per square foot for "Monolithic Concrete Sidewalk and Curb" complete in place, which price shall include all excavation as specified above, reinforcement, backfill, disposal of surplus material, gravel or reclaimed miscellaneous aggregate base, equipment, tools, materials and labor incidental thereto.

Pay Item

Pay Unit

Monolithic Concrete Sidewalk and Curb

S.F.

ITEM #0921024A – BRICK PAVER SIDEWALK

Description:

1. Summary

Work under this item shall consist of brick paver sidewalks constructed on a concrete base and paver bedding material and base in the locations and to the dimensions and details shown on the plans or as directed by the Engineer.

2. Submittals

Submit sample units of each paver type representative of size, shape, color and finish, indicating color variation and texture range expected in finished installation. Submit minimum of ½ pallet and lay out pavers on site or where directed for the Engineer's approval. Do not order brick for project until the Engineer has approved the sample units.

Submit five (5) copies of Manufacturer's Product Data and Installation Instructions for the following items:

- a) Accent brick pavers
- b) Polymeric sand joint filler mixture
- c) Bituminous setting bed

Submit five (5) copies of the test report of brick pavers and accent brick pavers indicating ASTM C-902 compliance as well as ASTM C-1272 compliance as applicable. Testing shall be done by a qualified independent testing laboratory. Test procedures shall conform to ASTM C-67-03 methods, as applicable. Test report shall indicate, as a minimum, the following:

- a) Compressive strength, psi
- b) Absorption, 5 hr. submersion in cold water.
- c) Absorption, 24 hr. submersion in cold water.
- d) Maximum saturation coefficient.
- e) Initial rate of absorption (suction).
- f) Abrasion index.
- g) Freeze-thaw.
- h) Tolerance to saline conditions.
- i) Efflorescence.

Sieve Analysis: for aggregate setting bed materials, according to ASTM C136.

3. Quality Assurance

Installer Qualifications: Installer shall have not less than three years' experience with at least 75,000-100,000 square feet installed. Successful completion of five similar clay brick paver installations similar in design which are to be documented. Installer shall

include the specified product(s) in their bid and shall have read and understand the contents of ASTM C 902 and/or C 1272 whichever is applicable.

Source Limitations: Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

Dimensional Uniformity: The entire order for all material including waste must be ordered and blended at the manufacturer's plant at one time, so that they can be supplied from one production run or sequential production runs to ensure reasonable dimensional uniformity. The manufacturer shall earmark the plant-blended pavers ordered for this Contract.

Inspections: Inspect all materials upon delivery. Colors and size within a given shipment may vary slightly due to subtle changes in clay composition and kiln firing temperatures. Pavers are sealed with a siloxane-based penetrating sealer/water proofer.

Pre-installation Meetings: Conduct pre-installation meeting one week prior to commencing work of this Section to verify project requirements, substrate condition, coordination with other trades, installation instructions, and warranty requirements. Pre-installation meeting shall include the Contractor, Installer, Engineer, Distributor and/or Manufacturer's Representative, and other interested parties as appropriate.

Mockup: Construct a mockup of not less than 12' x 12' to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. The Mockup shall include the running bond "sidewalk" pattern, soldier course banding, brick accent pavers, and granite paver. Use mock-up(s) to determine pre-compaction setting bed level, joint sizes, lines, laying patterns, color and texture range, and workmanship. Do not start work until Engineer has approved mock-up. Remove mock-up and dispose of materials at the completion of the work or as directed by Engineer.

Materials:

1) Brick Pavers

- a) Clay brick pavers to be manufactured by Whitacre-Greer, 1400 S. Mahoning Ave., Alliance, OH 44601. Phone: 330-823-1610, Fax: 330-823-5502, email: info@wgpaver.com. Or approved equal.
- b) Pavers may be chamfered and lugged or square edge without lugs. Finish may be smooth or textured.
- c) 4x8x2¼ or other specified size as per ASTM C 902 Class SX, Type 1, Application PS.
- d) Slip resistance shall be tested in general accordance with ASTM C 1028-96, standard test method for determining the static coefficient of friction of ceramic tile and other like surfaces by the horizontal dynamometer pull-meter test. Minimum static coefficient of friction shall be .60 for wet and .70 for dry.

e) COLOR AND TEXTURE TO BE SELECTED BY THE OWNER'S REP.

2) Bituminous Setting-Bed

Primer for Base shall be ASTM D 2028, cutback asphalt, grade as recommended by brick paver manufacturer.

Asphalt cement to be used in the bituminous setting bed shall be Performance Grade binder PG 64-28.

Fine aggregate to be used in the bituminous setting bed shall be clean, hard sand with durable particles and free from adherent coatings, lumps of clay, alkali salts, and organic matter. Aggregate shall be ASTM D 1073, No. 2 or No. 3.

Fine aggregate shall be dried and shall be combined with hot asphalt cement, and the mix shall be heated to approximately 300 degrees F at the asphalt plant. The approximate proportion of materials shall be 7% asphalt cement and 93% fine aggregate.

3) Neoprene-Modified Asphalt Setting Adhesive

Neoprene modified asphalt setting adhesive shall meet paving manufacturer's standard adhesive consisting of oxidized asphalt combined with 2 percent neoprene and 10 percent long-fibered mineral fibers containing no asbestos.

4) Concrete Base Slab

Shall conform to Section 9.21 with the following additions:

- a) All concrete base slabs will receive wire mesh reinforcing 2 inches below the top of the slab. Wire mesh reinforcing shall be plain finish welded steel, W1.4 x W 1.4 wire spaced 6" x 6" both ways meeting ASTM specifications A-185-02. The mesh shall be lapped 6" and tied together with wire spaced not over 12" on center to prevent displacement set.

5) Sand for Joints

High Performance Polymeric Jointing Sand for pavers. Color to be selected by Engineer and conform to the ASTM C-144 requirements for joint sand.

- a) Mixture of polymer binders and calibrated sand.
- b) Water resistant after 90 minutes
- c) For surface exposed to heavy foot traffic
- d) Applied dry- hardens after being misted
- e) Inhibits weed growth
- f) Deters ants and other insect infestations
- g) Resists erosion – water, frost heaving, wind, power washing, etc.
- h) Stabilizes pavers – strengthens interlocking pavers

6) Pea Stone

Crushed stone conforming to CDOT Form 818, Article M.01.01, gradation No. 8.

7) Cork Expansion Joint Filler

Preformed strips complying with ASTM D 1752, Type II.

Construction Methods:

1. Delivery, Storage, and Handling

Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

Store aggregates where grading and other required characteristics can be maintained, and contamination avoided.

Store asphalt cement and other bituminous materials in tightly closed containers.

2. Project Conditions

Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

Weather Limitations for Bituminous Setting Bed:

- a) Install bituminous setting bed only when ambient temperature is above 40 deg F and when base is dry.
- b) Apply asphalt adhesive only when ambient temperature is above 50 deg F and when temperature has not been below 35 deg F for 12 hours immediately before application. Do not apply when setting bed is wet or contains excess moisture.

3. Protection of Finished Surfaces

Finished surfaces adjacent to the paving work shall be adequately protected from soiling, staining, and other damage during construction.

4. Concrete Base Slab

Concrete installation shall conform to Section 9.21. Additional requirements for concrete slab are as follows:

All concrete base slabs shall receive 6 x 6 – W1.4 x W1.4 welded wire mesh reinforcing 2 inches below the top of the slab. Wire mesh reinforcing shall be plain finish welded steel, W1.4 x W1.4 wire spaced 6" x 6" both ways meeting ASTM specifications A-185-02. The mesh shall be lapped 6" and tied together with wire spaced not over 12" on center to prevent displacement set.

5. Examination

- a) Examine areas indicated to receive paving with Installer present for compliance

with requirements for installation tolerances and other conditions affecting performance.

- b) Verify that concrete base is at the correct elevation, and that the maximum variation of the concrete base is less than plus-or-minus 3/16 of an inch when a 10-foot straightedge is laid on the surface.
- c) Verify that concrete surfaces are free of oil, grease, paint, wax, curing compounds, primer, sealers, form release agents, or any other deleterious substances and debris which may prevent or reduce bonding.
- d) Verify that concrete surfaces are cured, free from hydrostatic pressure, and have a moisture content of less than 5 percent.
- e) Proceed with installation only after unsatisfactory conditions have been corrected.

6. Preparation

Core-drill weep holes in concrete substrates at 24-inch centers at lowest elevations, and against curbs, walls, and other permanent structures. Fill holes with washed pea gravel and install temporary plugs to prevent ingress of setting bed material or neoprene adhesive during construction. Remove plugs when paving adjacent to weep holes.

Sweep, or blow with compressed air, concrete substrates to remove dirt, dust, debris, and loose particles.

7. Bituminous Setting-Bed Applications

Apply primer to concrete slab immediately before placing setting bed.

Prepare for setting bed placement by locating 3/4 -inch- deep control bars approximately 11 feet apart and parallel to one another, to serve as guides for striking board. Adjust bars to subgrades required for accurate setting of brick paving units to finished grades indicated.

Place bituminous setting bed where indicated, in panels, by spreading bituminous material between control bars. Spread mix at a minimum temperature of 250 deg F. Strike setting bed smooth, firm, even, and not less than 3/4 inch thick. Add fresh bituminous material to low, porous spots after each pass of striking board. After each panel is completed, advance first control bar to next position in readiness for striking adjacent panels. Carefully fill depressions that remain after removing depth control bars.

- 1. Roll setting bed with power roller to a minimal depth of 3/4 inch. Adjust thickness as necessary to allow accurate setting of brick unit pavers to finished grades indicated. Complete rolling before mix temperature cools to 185 deg F.
- 2. The compacted setting bed shall be 3/4 of an inch in thickness, plus-or-minus 1/8 of an inch.

Apply neoprene-modified asphalt adhesive to cold setting bed by squeegeeing or troweling to a uniform thickness of 1/16 inch. Proceed with setting of brick paving units only after

adhesive is tacky and surface is dry to touch.

8. Brick Pavers

Do not use brick pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.

Mix brick pavers from several pallets or cubes as they are placed, to produce uniform blend of colors and textures.

Cut brick pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

Refer to the construction plans for the joint patterns.

Place pavers carefully by hand in straight courses, maintaining accurate alignment and uniform top surface. Protect newly laid pavers with plywood panels on which workers can stand. Advance protective panels as work progresses, but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting alignment of pavers. If additional leveling of paving is required, and before treating joints, roll paving with power roller after sufficient heat has built up in the surface from several days of hot weather.

Pavers shall be set true to the required lines and grades in the pattern detailed on the Drawings. Lay full pavers first and adjust pavers to form straight bond lines and appropriate joint widths. Provide 1/16" to 3/16" sand filled joints between pavers. Do not exceed 1/32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.

String lines or chalk lines must be used to keep paver bond lines straight and true. The straight and true bond lines shall not deviate more than +/- 1/2" at the end of 50 feet. Establish a center line working outward setting parallel string lines or chalk lines every 2 to 6 feet, depending on the area, to continuously check and adjust paver bond lines.

Roll or compact bituminous-set pavers to achieve full bond with the setting bed, reduce lippage and improve the overall flatness of the surface. Fill the spaces between pavers in conformance with the polymeric sand producer's installation instructions and recommendations as soon as possible after the pavers have been placed. Clean joints of all debris with power air blowers or vacuums to ensure full penetration of the jointing sand. Sweep dry joint filling sand over surface of paving until all joints are completely filled. Once the initial filling of the joints is completed, roll the surface of the pavers to fully compact the pavers into place. Utilize a light rubber-tired roller with sufficient pressure to achieve a full bond to the setting bed or a 4-5000 LBF plate tamper with a protective mat attached. Do not operate the roller in a vibrating mode, as this may cause cracking of the pavers. Protect the surface with plywood or other suitable materials to prevent damage to the edges of the pavers. Perform rolling at the warmest part of the day,

but prior to final set of the adhesive, taking care to ensure that the alignment is not altered. After rolling, add dry sand to the joints as necessary to ensure that the sand has penetrated to the bottom of the joints. Do not vibrate the pavers after they or the sand have been placed on the setting bed. Roll the surface when the sand shows no sign of further settlement. Add additional sand as necessary. Mist and rinse in conformance with the polymeric sand producer's installation instructions and recommendations.

Do not permit traffic, including construction equipment, on pavers before joint filling. Disturbed areas of pavers should be taken up, the setting bed re-rolled, and pavers re-laid. Remove cracked or damaged pavers and replace with new units. Protect areas where joints have not been filled with waterproof covering overnight.

Completed brick paver areas within the path of travel of any construction equipment shall be protected with steel road plates.

Discontinue laying operations when weather conditions are such that pavement performance may be compromised. On laying operations recommencement, verify acceptable setting bed condition before further pavers are laid.

Provide for sealant-filled joints at locations and widths indicated. Install joint filler before setting pavers. Sealant materials and installation are specified in section M.04.

Method of Measurement: This work will be measured for payment as follows:

1. **Brick Paver Sidewalk:** This work will be measured by the actual number of square feet of completed and accepted brick paver sidewalk.
2. **Excavation:** Excavation below the finished grade of the brick pavers, backfilling, and disposal of surplus material will not be measured for payment, but the cost shall be included in the price bid for brick pavers. Excavation above the finished grade of the concrete pavers will be classified and paid for in accordance with section 2.02.
3. **Base Materials:** Forming subgrade and installing the granular fill, concrete base, paver bedding, and weep holes will not be measured for payment, but the cost thereof shall be included in the price bid for the brick pavers.

Basis of Payment: This work will be paid at the Contract unit price per square foot for "Brick Paver Sidewalk", complete in place, which price shall include all bricks, expansion joint material, polymeric sand, neoprene-modified asphalt setting adhesive, pea stone, saw cutting, excavation as specified above, backfill, disposal of surplus material, formation of subgrade, granular fill, concrete base (including formwork and welded wire fabric), bituminous paver bedding, weep holes, and all equipment, tools, labor and materials incidental thereto.

Pay Item
Brick Paver Sidewalk

Pay Unit
SF

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 | Extra Large |
|---|-------|------|-------|-------------|
| Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft. | 400 | 720 | 1400 | 2800 |
| Minimum number of exterior entrances. | 2 | 2 | 2 | 2 |
| Minimum number of parking spaces. | 7 | 7 | 10 | 15 |

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.

Unless otherwise approved by the Engineer, office space shall be partitioned into segregated work areas for each user as follows:

- Each work area (or cubicle) shall be a minimum of 8 feet × 8 feet, with full height walls or tall cubicle partitions (minimum 6 feet high), placed to provide a minimum of 6 feet walking space around and between each user work area (for social distancing).
- Only one user (workstation/desk) per work area.
- Desks, tables and other work surfaces shall be arranged so that adjacent users do not face each other.

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 offices sizes Large and Extra 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 municipal and will be kept in their possession while Town 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. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

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, electronics, 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 Town inspector.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient and properly operating, heating, air conditioning, and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office. The Contractor shall increase ventilation rates and increase the percentage of outdoor air that circulates into the system where possible.

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. For an Extra-Large field office this shall consist of four (4) telephone lines: three (3) lines for phone/voice service and one (1) line dedicated for facsimile machine. The Contractor shall pay all charges.

Data Communications Facility Wiring: Contractor shall install a Category 6 568B patch panel in a central wiring location and Cat 6 cable from the patch panel to each PC station, Smart Board location, Multifunction Laser Printer/Copier/Scanner/Fax, terminating in a (Category 6 568B) wall or surface mount data jack. The central wiring location shall also house either the data circuit with appropriate power requirements or a Category 6 cable run to the location of the installed data circuit.

For Small, Medium and Large field offices the Contractor shall run a CAT 6 LAN cable a minimum length of 25 feet for each municipal networked device (including but not limited to: smartboards and Multi-Function Laser Printer/Copier/Scanner/Fax) to LAN switch area leaving an additional 10 feet of cable length on each side with terminated RJ45 connectors. For an Extra-Large field office, the Contractor shall run CAT 6 LAN cables from workstations, install patch panel in data circuit demark area and terminate runs with RJ45 jacks at each device location. Terminate runs to patch panel in LAN switch area. Each run / jack shall be clearly labeled with an identifying Jack Number.

The Contractor shall supply cables to connect the Wi-Fi printer to the Contractor supplied internet router and to workstations/devices as needed. These cables shall be separate from the LAN cables and data Jacks detailed above for the municipal network.

The number of networked devices anticipated shall be at least equal to the number of personal computer tables, Multi-Function Laser Printer/Copier/Scanner/Fax, and smartboards listed below.

The Contractor shall provide the field office telephone number(s) to the Town Project Engineer within 10 calendar days after the signing of the Contract as required by Article 1.08.02. This is required to facilitate data line and computer installations.

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 | Extra 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 | 8 |
| Standard secretarial type desk and matching desk chair that has pneumatic seat height adjustment and dual wheel casters on the base. | - | - | - | 1 |
| Personal computer tables (4 ft. x 2.5 ft.). | 2 | 3 | 5 | 8 |
| Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafter's stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base. | 1 | 1 | 1 | 2 |
| Conference table, 3 ft. x 12 ft. | - | - | - | 1 |
| Table – 3 ft. x 6 ft. | - | - | - | 1 |
| Office Chairs. | 2 | 4 | 8 | 20 |
| Mail slot bin – legal size. | - | - | 1 | 1 |
| Non-fire-resistant cabinet. | - | - | 2 | 4 |
| Fire resistant cabinet (legal size/4 drawer), locking. | 1 | 1 | 2 | 3 |
| Storage racks to hold 3 ft. x 5 ft. display charts. | - | - | 1 | 2 |
| Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack. | 1 | 1 | 2 | 2 |
| Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft. | - | - | 1 | 2 |
| Case of cardboard banker boxes (Min 10 boxes/case) | 1 | 1 | 2 | 3 |
| Open bookcase – 3 shelves – 3 ft. long. | - | - | 2 | 2 |
| White Dry-Erase Board, 36" x 48" min. with markers and eraser. | 1 | 1 | 1 | 1 |
| Interior partitions – 6 ft. x 6 ft., soundproof type, portable and freestanding. | - | - | 6 | 6 |
| Coat rack with 20 coat capacity. | - | - | - | 1 |
| Wastebaskets - 30 gal., including plastic waste bags. | 1 | 1 | 1 | 2 |
| Wastebaskets - 5 gal., including plastic waste bags. | 1 | 3 | 6 | 10 |
| Electric wall clock. | - | - | - | 2 |
| Electronic Level | 1 | 1 | 1 | 2 |
| Furnishing Description | Office Size | | | |
| | Small | Med. | Large | Extra Large |
| | Quantity | | | |
| Telephone. | 1 | 2 | 3 | - |
| Full size stapler 20 (sheet capacity, with staples) | 1 | 2 | 5 | 8 |
| Desktop tape dispensers (with Tape) | 1 | 2 | 5 | 8 |
| 8 Outlet Power Strip with Surge Protection | 3 | 4 | 6 | 9 |
| Rain Gauge | 1 | 1 | 1 | 1 |
| Business telephone system for three lines with ten handsets, intercom capability, and one speaker phone for conference table. | - | - | - | 1 |

| | | | | |
|--|----|----|----|----|
| Mini refrigerator - 3.2 c.f. min. | 1 | 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 | 1 |
| Microwave, 1.2 c.f. , 1000W min. | 1 | 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 | 2 |
| Electronic office type printing calculators capable of addition, subtraction, multiplication and division with memory and a supply of printing paper. | 1 | 1 | 2 | 4 |
| 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 | 1 |
| Field Office Wi-Fi Connection as specified below under <u>Computer Related Hardware and Software</u> | 1 | 1 | 1 | 1 |
| Wi-Fi Printer as specified below under Computer Related Hardware and Software. | 1 | 1 | 1 | 1 |
| Digital Camera as specified below under Computer Related Hardware and Software. | 1 | 1 | 3 | 3 |
| Video Projector as specified below under Computer Related Hardware and Software. | - | - | - | 1 |
| Smart Board as specified below under Computer Related Hardware and Software. | - | - | - | 1 |
| Conference Room Presentation Television as specified below under Computer Related Hardware and Software. | - | - | - | - |
| Infrared Thermometer, including annual third-party certified calibration, case, and cleaning wipes. | 1 | 1 | 1 | 2 |
| Concrete Curing Box as specified below under Concrete Testing Equipment. | 1 | 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 | 1 |
| Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment. | 1 | 1 | 1 | 1 |
| First Aid Kit | 1 | 1 | 1 | 1 |
| Disinfecting wipes, sprays, and other supplies (** as specified below under Maintenance). | ** | ** | ** | ** |

| | | | | |
|---|-----|-----|-----|-----|
| Hand sanitizer stations (** maintain one full station at each entrance, restroom, and conference area). | *** | *** | *** | *** |
| Flip Phones as specified under <u>Computer Related Hardware and Software</u> . | - | - | - | - |
| Smart Phones as specified under <u>Computer Related Hardware and Software</u> . | - | - | - | - |

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 municipal will supply by its own means the actual Personal Computers for the municipal representatives. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors, and Smart Board(s), Conference Room Presentation Television, as well as associated hardware and software, meeting the requirements of this specification as well as the latest minimum specifications posted, as of the project advertising date.

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Wi-Fi Printer (separate from the Multifunction Laser Printer/Copier/Scanner/Fax), Field Office Wi-Fi, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projector(s) and Smart Board(s) as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Administering municipality for review and approval. The Wi-Fi Printer, Wi-Fi Router, Flip Phones, Smart Phones, digital cameras, Projector(s) and Smart Board(s) will be reviewed by municipal personnel. The Multifunction Laser Printer/Copier/Scanner/Fax will be reviewed by the Town. The Contractor shall not purchase the hardware, software, or services until the Administering municipality 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, and the configuration of the wireless router as directed by the Town. Installation will be coordinated with the Town and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the Town, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s), 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 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 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 rainwater 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.

Electronic Level: The Contractor shall supply and maintain in working order, for the duration of the Contract, the number of electronic levels, identified in the Additional Equipment, Facilities and Services table of this specification. The electronic levels shall meet the following requirements:

- A. 48-inch length, box beam type
- B. IP65 water and dust proof
- C. 0.1-degree accuracy
- D. Backlit display
- E. Carrying case included
- F. New or like new condition

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.

Insurance Policy: The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars (\$5,000) in order to insure all Town-owned data equipment

and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the Town shall be an additional named insured on the policy. These losses shall include, but not be limited to theft, fire, and physical damage. The Town will be responsible for all maintenance costs of Town owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current Town equipment specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, the Town may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage, the Town will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During the occupancy by the Town, 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 professional cleaning including, but not limited to, vacuuming carpet, washing & waxing floors, cleaning restrooms, removal of trash, general cleaning, etc. The general cleaning of the office shall be at least twice weekly. Restrooms, portable toilets and all other high touch areas shall be cleaned and disinfected at least every two days using CDC and Department of Health recommended and non-hazardous techniques. High touch areas to be cleaned include but are not be limited to (depending on the facilities supplied):

- A. Arms on chairs
- B. Table/Desktops
- C. Handrails
- D. Doorknobs and handles
- E. Countertops
- F. Elevator buttons
- G. Coffee pots
- H. Refrigerator / microwave / dishwasher / toaster handles
- I. Water dispensers
- J. Cabinet and file drawer knobs / handles
- K. Phones and keypads
- L. Copier / printer / fax control buttons
- M. Sinks and faucets
- N. Light switches

In addition, the Contractor shall supply appropriate (CDC and Department of Health recommended and non-hazardous), cleaning and disinfection supplies (wipes and sprays), and single use gloves for the use of the Town representatives, for disinfection of surfaces and equipment in between the 2 day interval noted above. The Contractor shall always maintain a minimum of 500 wipes and 100 pairs of disposable gloves in the field office.

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 State 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, (Type),” 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.

Pay Item

Construction Field Office, (Type)

Pay Unit

Month

ITEM #0970008A – TRAFFICPERSON (STATE POLICE OFFICER)

This work shall conform to Section 9.70 “Trafficperson” of the ConnDOT Standard Specifications, Form 818, supplemented and amended as follows:

9.70.03—Construction Methods: *Add the following:*

The following sentence shall be added to the first paragraph:

The Contractor shall provide a copy of each pertinent State Police’s billing rates for State Police Officers and their vehicles, as applicable, to the Engineer prior to the start of Project construction.

Add the following:

3. State Police Officers: Uniformed State Police Officers shall be sworn State Police Officers in the appropriate Troop to which the Project is located, who perform criminal law enforcement duties for the State of Connecticut. Law enforcement personnel shall wear the high-visibility safety garment provided by their law enforcement agency. If no high-visibility safety garment is provided by said agency, the Contractor shall provide the law enforcement personnel with a garment meeting the requirements stated below for a Uniformed Flagger’s garment.

Law Enforcement Personnel may also be used for conducting motor vehicle enforcement operations in and around work areas as directed or approved by the Engineer.

Their services will also include their use of an official State Police vehicle when so requested by the Engineer. Uniformed State Police Officers and requested State Police vehicles will be used at such locations and for such periods as the Engineer deems necessary for the control of traffic operations and for the safety of motorists passing through sites affected by Project operations.

9.70.04—Method of Measurement: *Delete the fourth paragraph and add the following:*

No travel time will be measured for payment for Uniformed Municipal Police Officers, State Police Officers or Uniformed Flaggers.

9.70.05—Basis of Payment: *Add the following:*

The Municipality will pay the Contractor its actual costs for “Trafficperson (State Police Officer)” plus an additional 5% as reimbursement for the Contractor’s administrative expense in connection with the services provided. The 5% markup will be paid when the Engineer

receives from the Contractor cancelled check(s) or receipted invoice(s) as proof of its pertinent payments.

The invoice must include a breakdown of each officer's actual hours of work and actual rate applied. Mileage fees associated with Trafficperson services are not reimbursable expenses and are not to be included in the billing invoice. The use of a State police vehicle authorized by the Engineer will be paid at the actual rate charged by the Municipality. Upon receipt of the invoice from the Municipality, the Contractor shall forward a copy of it to the Engineer. No payment on such an invoice will be made until and unless the Engineer has reviewed the invoice and approved the payment. The rate charged by the municipality for use of a Uniformed State Police Officer or a State Police vehicle shall not be greater than the rate that the Municipality normally charges others for similar services.

Pay Item

Pay Unit

Trafficperson (State Police Officer)

Est.

ITEM NO. 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 for Section 1.08 - Prosecution and Progress:

All Roadways

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width, with the following exceptions:

1. During the allowable periods and when the Contractor is actively working, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 300 feet in length, unless specified elsewhere in the Contract. There shall be no more than one alternating one-way traffic operation within the Project limits without prior approval of the Engineer.
2. The Contractor shall maintain safe pedestrian access through the site during construction.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the Project limits. The Contractor will be permitted to temporarily close affected driveways while actively working with coordination and permission from the owner or proprietor.

Intermediate Term Sidewalk Closures

The Contractor shall maintain and protect existing pedestrian accommodations, or a minimum of 4 feet in width, on all existing sidewalks, sidewalk ramps, and access to pedestrian pushbuttons, with the following exception:

- During the allowable periods and when the Contractor is actively constructing pedestrian amenities or installing signal equipment, the Contractor will be allowed to close pedestrian sidewalks and sidewalk ramps and restrict access to pedestrian pushbuttons for no more than a continuous 48 hour period of time.

No more than two corners of an intersection may be closed for an intermediate term sidewalk closure at any time. Where all four corners of an intersection have sidewalks and sidewalk ramps, diagonal corners shall not be closed at the same time.

During the intermediate term sidewalk closure, all approaches to the sidewalk shall be blocked by Construction Barricade Detectable with Sidewalk Closed signs.

The Contractor shall ensure that traffic control signals with pedestrian phases where access to the pushbuttons cannot be provided are revised at the start of the closure to automatically activate the pedestrian phase every signal cycle.

Intermediate term sidewalk closures may be extended to 72 hours with prior approval of the Engineer.

Article 9.71.03 - Construction Methods *is supplemented as follows:*

General

Unpaved travel paths will only be permitted for areas requiring full depth and full width reconstruction. The unpaved section shall be the full width of the road and shall be perpendicular to the travel lanes. The Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 10 calendar days and 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 or bridge section by the end of a work shift, 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 then install the final course of bituminous concrete pavement.

When the Contractor is excavating adjacent to the roadway, the Contractor shall provide a 3 foot shoulder between the work area and travel lanes, with traffic drums spaced every 50 feet. At the end of the work shift if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary bituminous concrete traversable slope of 4:1 or flatter that is acceptable to the Engineer.

The Contractor, during the course of any active overhead construction work, shall close the lanes directly below the work area for the entire length of time overhead work is being undertaken.

At no time shall an overhead sign be left partially removed or installed.

When an existing sign is to be relocated or replaced, the work shall be completed during the same work shift.

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

On limited-access highways, construction vehicles entering travel lanes shall not be allowed without a lane closure. The lane closure shall be of sufficient length to allow vehicles to enter or exit the work area at the posted speed limit, in order to merge with existing traffic.

Existing Signing

The Contractor shall maintain all existing overhead and side-mounted signs within the Project limits throughout the duration of the Project. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and shall install temporary sign supports if necessary and as directed by the Engineer.

Requirements for Winter

The Contractor shall schedule a meeting with representatives of the Department, including the offices of Maintenance and Traffic, and the Town/City to determine any interim traffic control measures the Contractor shall accomplish prior to winter to provide safety to 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 Roadways

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the Project.

Temporary pavement markings shall be installed on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work shift.

Permanent Epoxy Resin Pavement Markings shall be installed on the final course of bituminous concrete pavement within 10 calendar days of the final pavement installation if no Pavement Marking Grooves are proposed.

Temporary Pavement Markings

Temporary pavement markings that will be in place for less than 72 continuous hours may consist of temporary plastic pavement marking tape at the Contractor's expense. Additionally;

1. These temporary pavement markings shall include centerlines, lane lines (solid and broken), and stop bars.
2. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 inches apart, at 40 foot intervals.
3. Lane lines shall consist of 4 inch wide white markings, 2 feet in length, at 40 foot intervals.
4. No passing zones shall be posted with signs in those areas where the final centerlines have not been established on two-way roadways.
5. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side.
6. The temporary plastic pavement marking tape shall be installed in accordance with Section 12.12.
7. The Contractor shall remove and dispose of the temporary plastic pavement marking tape prior to another course of bituminous concrete pavement being installed.

Temporary pavement markings that will be in place for 72 continuous hours or more should consist of temporary painted pavement markings and shall be installed in accordance with Section 12.09. The markings shall include centerlines, edge lines, lane lines (solid and broken), 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 shift. Edge lines and lane-use arrows are not required if the next course of bituminous concrete pavement will be placed within 10 calendar days.

All temporary pavement markings exposed throughout the winter shall be Epoxy Resin Pavement Markings, unless directed otherwise by the Engineer.

Temporary pavement markings, as described above, shall be maintained until the permanent pavement markings are installed.

Final Pavement Markings

Refer to Pavement Marking Groove special provisions for pavement marking requirements. Permanent epoxy resin pavement markings shall be installed in accordance with Section 12.10 and the applicable Traffic Engineering Standard Drawings.

If Temporary Plastic Pavement Marking Tape is installed, then the Contractor shall remove and dispose of these markings during the same work shift that the permanent epoxy resin pavement markings are to be installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

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 a safer and more 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 or is within the clear zone. 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 in order to command respect from the motorist.

Lane reduction tapers should be placed so that the entire length of the taper is installed on a tangent section of roadway and the entire taper area can be seen by the motorist.

All existing conflicting signs shall be removed, covered with an opaque material, or turned so that they are not legible to oncoming traffic prior to implementing a traffic control pattern. The existing signs shall be uncovered or reinstalled once the pattern is removed.

A buffer area should be provided during installation of a traffic control pattern and maintained for the duration of the work. The buffer area shall be free of any equipment, workers, materials, and parked vehicles.

Traffic control patterns are not required for vehicles on an emergency patrol type activity or for a short duration stop of up to one hour, as long as the equipment is contained within the shoulder. Flashing lights, arrow boards, truck-mounted or trailer-mounted impact attenuators, and appropriate Trafficperson(s) shall be used when required.

In a situation not adequately covered by the Construction Traffic Control Plans, the Contractor shall contact the Engineer for assistance prior to setting up a traffic control pattern.

Placement of Signs

Signs shall be placed in a position that allows 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 Construction Traffic Control Plans

The Construction 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.

The proper application of the Construction Traffic Control Plans and installation of traffic control devices is dependent upon actual field conditions.

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.

Adjustments to the Construction Traffic Control Plans shall only be made at the direction of the Engineer.

Table 1 indicates the minimum taper lengths required for a lane closure based on the posted speed limit and lane width of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the Construction Traffic Control Plans cannot be achieved.

Table 1 – Minimum Taper Length

| POSTED SPEED LIMIT (MPH) | MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE (FEET) | |
|--------------------------------|--|-----------------|
| | FREEWAYS | SECONDARY ROADS |
| 30 OR LESS | 180 | 165 |
| 35 | 245 | 225 |
| 40 | 320 | 295 |
| 45 | 540 | 495 |
| 50 | 600 | 550 |
| 55 | 660 | 605 |
| 65 | 780 | 715 |

1. Work Zone Safety Meetings

- 1.a) Prior to the commencement of work, a Work Zone Safety Meeting shall be conducted with representatives from 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. DOT Traffic Engineering shall be invited to the Work Zone Safety Meeting. 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 shall include:
 - i. Review Project scope of work and time;
 - ii. Review Section 1.08, Prosecution and Progress;
 - iii. Review Section 9.70, Trafficpersons;
 - iv. Review Section 9.71, Maintenance and Protection of Traffic;
 - v. Review Contractor's schedule and method of operations;
 - vi. Review special concern areas: ramps, turning roadways, medians, lane drops, etc.;
 - vii. Open discussion of work zone questions and issues;
 - viii. Discussion of review and approval process for changes in Contract requirements as they relate to work zone areas.

2. General

- 2.a) Traffic control patterns shall only be installed if the required minimum number of signs, traffic cones, traffic drums, and other equipment (i.e. one Arrow Board for each lane closed, two Truck-Mounted or Trailer-Mounted Attenuators (TMAs), Changeable Message Sign, etc.) are on Site.
- 2.b) The Contractor shall have spare maintenance and protection of traffic equipment (TMAs, Arrow Board, Changeable Message Sign(s), construction signs, traffic cones, traffic drums, etc.) available at all times in case of mechanical failures, etc. Spare maintenance and protection of traffic equipment installed as a result of a sudden equipment breakdown shall be replaced by the Contractor 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 lost time.
- 2.d) In cases of differences of opinion between the Contractor and the Inspection staff, the Contractor shall follow the directions of the Engineer. 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.

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 end of the work area, or traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed within the allowable hours stated in Section 1.08.04:
 - i. For those activities stated within the Contract.
 - ii. During paving, milling operations, or similar activities 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 so traffic does not travel across the longitudinal joint or difference in roadway elevation.
 - iii. To move slow moving equipment across live traffic lanes into the work area.
- 3.d) The Contractor shall adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.e) 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 with or exiting from the mainline traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.f) Workers are prohibited from crossing the travel lanes on limited access roadways 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.

4. Implementation of Rolling Road Block (RRB)

- 4.a) Temporary road closures using a RRB may be allowed on limited access highways for operations associated with the installation and removal of temporary lane closures. RRB may be allowed for the installation and removal of lead signs and lane tapers only and shall meet the following requirements:
 - i. Refer to the Limitation of Operations Chart provided in Section 1.08.04 for the hours allowed for implementing a RRB operation. The Contractor shall only implement a RRB operation within the hours shown in the Chart.
 - ii. In areas with good sight lines and full shoulders, signs on the side of the road opposite the traffic pattern should be installed in a separate operation.
 - iii. TMAs equipped with Arrow Boards shall be used to slow traffic to implement the RRB. State Police Officers in marked vehicles may be used to support the implementation of the RRB. The RRB shall start by having all vehicles, including TMAs and police vehicles, leave the shoulder or on-ramp and accelerate to normal roadway speeds in each lane. The vehicles will then position themselves side by side and decelerate to the RRB speed on the highway.

- iv. A Pre-Warning Vehicle, as specified elsewhere in the Contract, shall be used to advise the motorists that sign pattern installation or removal is underway.
- v. The RRB duration shall not exceed 15 minutes from the start of the traffic block until all lanes are opened as designated in the Limitation of Operations chart. If the RRB duration exceeds 15 minutes on 2 successive shifts, no further RRB will be allowed until the Contractor obtains approval for a revised installation procedure from the District.
- vi. RRB shall not be used to expand a lane closure pattern to an additional lane during the shift. The workers and equipment required to implement the additional lane closure should be staged from within the closed lane. TMAs (and State Police if available) shall be used to protect the workers installing the taper in the additional lane.
- vii. Exceptions to these work procedures may be submitted to the District Office for consideration. A minimum of 2 business days shall be allowed for review and comment by the District.
- viii. The Engineer and the Contractor will review and discuss the RRB procedures (including any revisions) in advance of the work. The implementation of the agreed upon plan will be reviewed with the State Police during the Work Zone Safety Meeting held before each shift involving temporary lane closures. If the State Police determine that alternative procedures should be implemented for traffic control during the work shift, the Department and Contractor will attempt to resolve any discrepancies with the duty sergeant at the Troop. If the discrepancies are unable to be resolved prior to the start of the shift, then the work will proceed as recommended by the Department. Any unresolved issues shall be addressed the following day.

5. Use of Arrow Boards

- 5.a) On limited access roadways, one Arrow Board shall be used for each lane that is closed. The Arrow Board shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the Construction Traffic Control Plans. Additional Arrow Boards shall be deployed if sight distances are limited.
- 5.b) On non-limited access roadways, the use of an Arrow Board for lane closures is optional. The roadway geometry, sight distance, and traffic volume shall be considered in the decision to use the Arrow Board.
- 5.c) A vehicle displaying an arrow board shall be equipped with high-intensity rotating, flashing, oscillating, or strobe lights.
- 5.d) The flashing arrow mode shall be used for lane closure (merge) tapers.
- 5.e) The flashing arrow mode shall not be used for temporary alternating one-way traffic operations or to laterally shift lanes of traffic.

- 5.f) The flashing double arrow mode shall only be used for closing a center lane on a multilane roadway where adjacent left and right lanes remain open.
- 5.g) For shoulder work or roadside work near the shoulder, the Arrow Board shall be positioned in the shoulder and the flashing alternating diamond mode should be used.
- 5.h) The flashing alternating diamond caution mode should also be used when supplemental Arrow Boards are positioned in an already closed lane.

6. Use of Truck-Mounted or Trailer-Mounted Impact Attenuators (TMAs)

- 6.a) On limited access roadways, lane closures shall use a minimum of two TMAs to install and remove traffic control patterns. If two TMAs are not available, then the pattern shall not be installed.
- 6.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 shall be considered in the decision to utilize the TMAs.
- 6.c) On limited access roadways, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane to establish the advance and transition signing. The Arrow Board mounted on the TMA shall be in the arrow mode when taking the lane. The sign truck and workers shall be at sufficient distance 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 Portable Changeable Message Signs, signs, Arrow Boards, and cones/drums are installed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when traveling in the closed lane.
- 6.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 Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when in the closed lane.
- 6.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 Section 18.06. 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) shall be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 6.f) TMAs will be paid for in accordance with how the unit is used. If it is used as a TMA and is in the proper location as specified, then it will be paid for at the specified hourly rate for Truck-Mounted or Trailer-Mounted Impact Attenuator. When the TMA is used as an

Arrow Board, it will be paid for at the daily rate for Arrow Board. If a TMA is used to install and remove a pattern and is also used as an Arrow Board in the same day, then the unit will be paid for as a Truck-Mounted or Trailer-Mounted Impact Attenuator for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove). If the TMA is also used as an Arrow Board during the same day, then the unit will only be paid for at the daily rate as an Arrow Board.

7. Use of Traffic Drums and Traffic Cones

- 7.a) On limited-access highways, ramps, and turning roadways:
 - i. Traffic drums shall be used for taper channelization.
 - ii. Traffic drums shall be used to delineate raised catch basins and other hazards.
 - iii. Traffic cones with a minimum height of 42 inches may be used in place of drums in the tangent section of a closed lane or shoulder.
 - iv. Traffic cones less than 42 inches in height shall not be used.
- 7.b) On all roadways:
 - i. 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.
 - ii. Traffic cones shall not be left unattended.
 - iii. Traffic cones with a minimum height of 42 inches shall be used when the posted speed limit is 45 MPH or above.
- 7.c) Typical spacing of traffic drums and/or cones shown on the Construction Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

8. Use of Barricade Warning Lights

- 8.a) Barricade Warning Lights may be installed on channelizing devices when used in a merge taper. The Barricade Warning Lights shall flash in a sequential pattern when used in a merge taper. The successive flashing shall occur from the upstream end (beginning) of the merge taper to the downstream end (end) of the merge taper.
- 8.b) Type C Barricade Warning Lights may be used at night to delineate the edge of the travel way.
- c) Type B Barricade Warning Lights shall be used on post-mounted advanced warning signs.

9. Use of Portable Changeable Message Signs (PCMS)

- 9.a) On limited access roadways, one PCMS shall be used in advance of the traffic control pattern for all lane closures. Prior to installing the pattern, the PCMS shall be installed and in operation, displaying the appropriate lane closure information. The PCMS shall be positioned ½ to 1 mile ahead of the start of the lane closure taper. If the distance to the nearest exit ramp is greater than the specified ½ to 1 mile distance, then an additional PCMS shall be positioned a sufficient distance ahead of the

exit ramp (and before the previous on-ramp where practical) to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 9.b) On non-limited access roadways, the use of PCMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to use the PCMS.
- 9.c) PCMS should be placed off the shoulder of the roadway and behind a traffic barrier, if practical. Where a traffic barrier is not available to shield the PCMS, it should be placed off the shoulder and outside of the clear zone. If a PCMS has to be placed on the shoulder of the roadway or within the clear zone, it should be placed on the paved shoulder with a minimum of five traffic drums placed in a taper in front of it to delineate its position. The taper shall meet minimum distance requirements for a shoulder closure. The PCMS shall be protected if it is used for a continuous duration of 36 hours or more.
- 9.d) The PCMS shall be removed from the clear zone and have the display screen cleared and turned 90 degrees away from the roadway when the PCMS is no longer required.
- 9.e) The PCMS should not be used within 1,000 feet of an existing PCMS or Variable Message Sign (VMS).
- 9.f) A PCMS message shall:
 - i. consist of no more than two phases;
 - ii. contain no more than three lines of text per phase;
 - iii. have no more than eight characters per line, including spaces.
- 9.g) The PCMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs. The PCMS should not be used for generic messages (ex.: Road Work Ahead, Bump Ahead, Gravel Road, etc.) or for messages that need to be displayed for long periods of time, such as during stage construction. These types of messages should be displayed with construction signs. Special signs shall be coordinated with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 9.h) Typical messages that are allowed on the PCMS are shown below. Approval must be received from the Office of Construction for any message(s) different than the typical messages shown in Figure 1.
- 9.i) All messages shall comply with the information provided in Tables 2 and 3.

| | <u>Phase 1</u> | <u>Phase 2</u> | <u>Message No.</u> | <u>Phase 1</u> | <u>Phase 2</u> |
|--------------------|----------------|----------------|--------------------|----------------|----------------|
| <u>Message No.</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 | EXIT XX CLOSED | USE EXIT YY |
| 4 | 2 LEFT LANES CLOSED | REDUCE SPEED | 12 | EXIT XX CLOSED USE YY | FOLLOW DETOUR |
| 5 | RIGHT LANE CLOSED | MERGE LEFT | 13 | 2 LANES SHIFT AHEAD | USE CAUTION |
| 6 | 2 RIGHT LANES CLOSED | MERGE LEFT | 14 | 3 LANES SHIFT AHEAD | USE CAUTION |
| 7 | RIGHT LANE CLOSED | REDUCE SPEED | | | |
| 8 | 2 RIGHT LANES CLOSED | REDUCE SPEED | | | |

Figure 1: Typical PCMS Messages

Table 2: Acceptable Abbreviations

| Word Message | Standard Abbreviation | Word Message | Standard Abbreviation |
|------------------------------------|------------------------------|---|---|
| Access | ACCS | Minimum | MIN |
| Afternoon / Evening | PM | Minor | MNR |
| Ahead | AHD | Minute(s) | MIN |
| Alternate | ALT | Monday | MON |
| Avenue | AVE, AV | Morning / Late Night | AM |
| Bicycle | BIKE | Mount | MT |
| Blocked | BLKD | Mountain | MTN |
| Boulevard | BLVD | National | NATL |
| Bridge | BR | Normal | NORM |
| CB Radio | CB | North | N |
| Center | CTR | Northbound | NBND |
| Center | CNTR | Oversized | OVRSZ |
| Chemical | CHEM | Parking | PKING |
| Circle | CIR | Parkway | PKWY |
| Compressed Natural Gas | CNG | Pavement | PVMT |
| Condition | COND | Pedestrian | PED |
| Congested | CONG | Place | PL |
| Construction | CONST | Pounds | LBS |
| Court | CT | Prepare | PREP |
| Crossing | XING | Quality | QLTY |
| Crossing (other than highway-rail) | XING | Right | RT |
| Downtown | DWNTN | Road | RD |
| Drive | DR | Roadwork | RDWK |
| East | E | Route | RT, RTE |
| Eastbound | EBND | Saint | ST |
| Electric Vehicle | EV | Saturday | SAT |
| Emergency | EMER | Service | SERV |
| Entrance, Enter | ENT | Shoulder | SHLDR |
| Exit | EX | Slippery | SLIP |
| Express | EXP | South | S |
| Expressway | EXPWY | Southbound | SBND |
| Feet | FT | Speed | SPD |
| Freeway | FRWY, FWY | State, county, or other non-US or non-Interstate numbered route | [Route Abbreviation determined by highway agency]** |
| Friday | FRI | Street | ST |
| Frontage | FRNTG | Sunday | SUN |
| Hazardous | HAZ | Telephone | PHONE |
| Hazardous Material | HAZMAT | Temporary | TEMP |
| High Occupancy Vehicle | HOV | Terrace | TER |

| | | | |
|-----------------------------|---------|----------------------|-----------|
| Highway | HWY | Thruway | THWY |
| Highway-Rail Grade Crossing | RR XING | Thursday | THURS |
| Hospital | HOSP | Tons of Weight | T |
| Hour(s) | HR, HRS | Traffic | TRAF |
| Information | INFO | Trail | TR |
| International | INTL | Travelers | TRVLRS |
| Interstate | I- | Tuesday | TUES |
| Junction / Intersection | JCT | Turnpike | TPK |
| Lane | LN | Two-Way Intersection | 2-WAY |
| Left | LFT | Two-Wheeled Vehicles | CYCLES |
| Liquid Propane Gas | LP-GAS | Upper | UPR |
| Local | LOC | US Numbered Route | US |
| Lower | LWR | Vehicle(s) | VEH, VEHS |
| Maintenance | MAINT | Warning | WARN |
| Major | MAJ | Wednesday | WED |
| Maximum | MAX | West | W |
| Mile(s) | MI | Westbound | WBND |
| Miles Per Hour | MPH | | |

** A space and no dash shall be placed between the abbreviation and the number of the route.

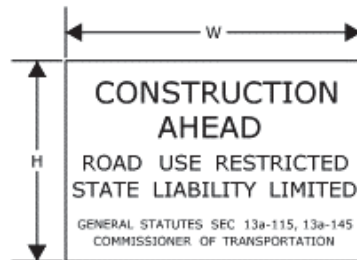
Table 3: Unacceptable Abbreviations

| Unacceptable Abbreviation | Intended Word | Common Misinterpretation |
|----------------------------------|----------------------|---------------------------------|
| ACC | Accident | Access (Road) |
| CLRS | Clears | Colors |
| DLY | Delay | Daily |
| FDR | Feeder | Federal |
| L | Left | Lane (Merge) |
| LT | Light (Traffic) | Left |
| PARK | Parking | Park |
| POLL | Pollution (Index) | Poll |
| RED | Reduce | Red |
| STAD | Stadium | Standard |
| WRNG | Warning | Wrong |

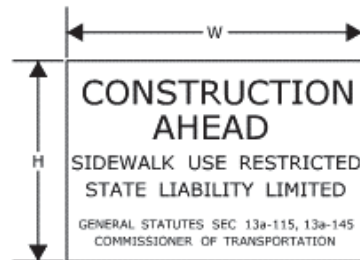
10. Use of State Police Officers

- 10.a) State Police may be used only on limited access highways and secondary roadways that are under their primary jurisdiction. A minimum of one Officer may be used per critical sign pattern; however, a State Police presence is not required. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Left lane closures may also be implemented without State Police presence in areas with only moderate traffic and wide, unobstructed medians. It may be desirable to have a State Police presence, when available, under specific situations, such as 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.
- 10.b) If a State Police presence is provided, once the pattern is in place, the State Police Officer should be positioned in a non- hazardous location in advance of the pattern to provide advance warning to the motorist. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall reposition so that they are located prior to the backup. The State Police Officer should not be located immediately behind or within the roll ahead area of any TMA or within the work zone buffer area. The State Police Officer shall not be positioned in such a way that the State Police Officer obstructs any construction warning signs or PCMS from view of the motorist.
- 10.c) Other functions of the State Police Officer(s) may include:
 - i. Assisting construction vehicles entering and exiting the work area.
 - ii. Enforcement of motor vehicle laws within the work area, if specifically requested by the Engineer.
- 10.d) State Police Officers assigned to a work site shall take direction from the Engineer.

SERIES 16 SIGNS



| | | W | H |
|------|---------|-----------|---|
| 16-E | 80-1605 | 84" x 60" | |
| 16-H | 80-1608 | 60" x 42" | |
| 16-M | 80-1613 | 30" x 24" | |



| | | W | H |
|------|---------|-----------|---|
| 16-S | 80-1619 | 48" x 30" | |

SIGN 16-S SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS. SERIES 16 SIGNS SHOULD BE LOCATED TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHOULD BE INSTALLED ON MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHOULD BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMP PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL FREEWAYS AND EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMPS, OTHER STATE ROADWAYS AND MAJOR TOWN/CITY ROADWAYS.

SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

CONSTRUCTION TRAFFIC CONTROL PLAN
SERIES 16 SIGNS

SCALE: NONE

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

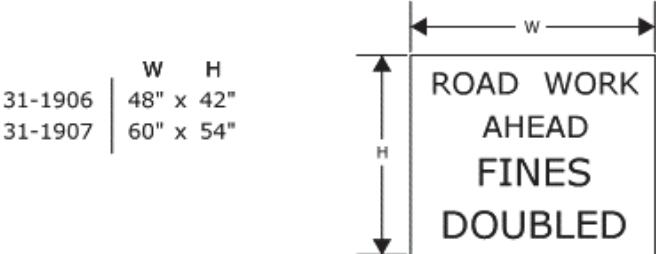
Tracy L. Fagarty
PRINCIPAL ENGINEER

Tracy L. Fagarty, P.E.
2019.10.09 16:30:32-0400

REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

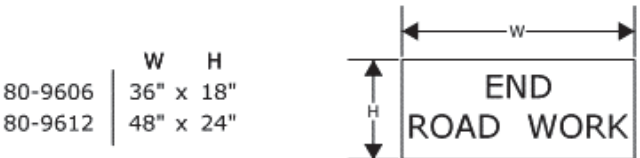
THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY AND MUNICIPAL ROAD IN CONNECTICUT WHERE THERE ARE WORKERS PRESENT ON THE HIGHWAY.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.



"END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN SHALL BE THE "END ROAD WORK" SIGN.



CONSTRUCTION TRAFFIC CONTROL PLAN
**ROAD WORK AHEAD
SIGNS**

SCALE: NONE

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 IN ADVANCE 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. TRAFFIC CONES AND PORTABLE CONSTRUCTION SIGNS SHALL NOT BE LEFT UNATTENDED.
5. ALL CONFLICTING 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 48 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 \leq 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION FROM SUNSET TO SUNRISE, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF MILE 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' |
| 35 | 245' |
| 40 | 320' |
| 45 | 540' |
| 50 | 600' |
| 55 | 660' |
| 65 | 780' |

CONSTRUCTION TRAFFIC CONTROL PLAN

NOTES

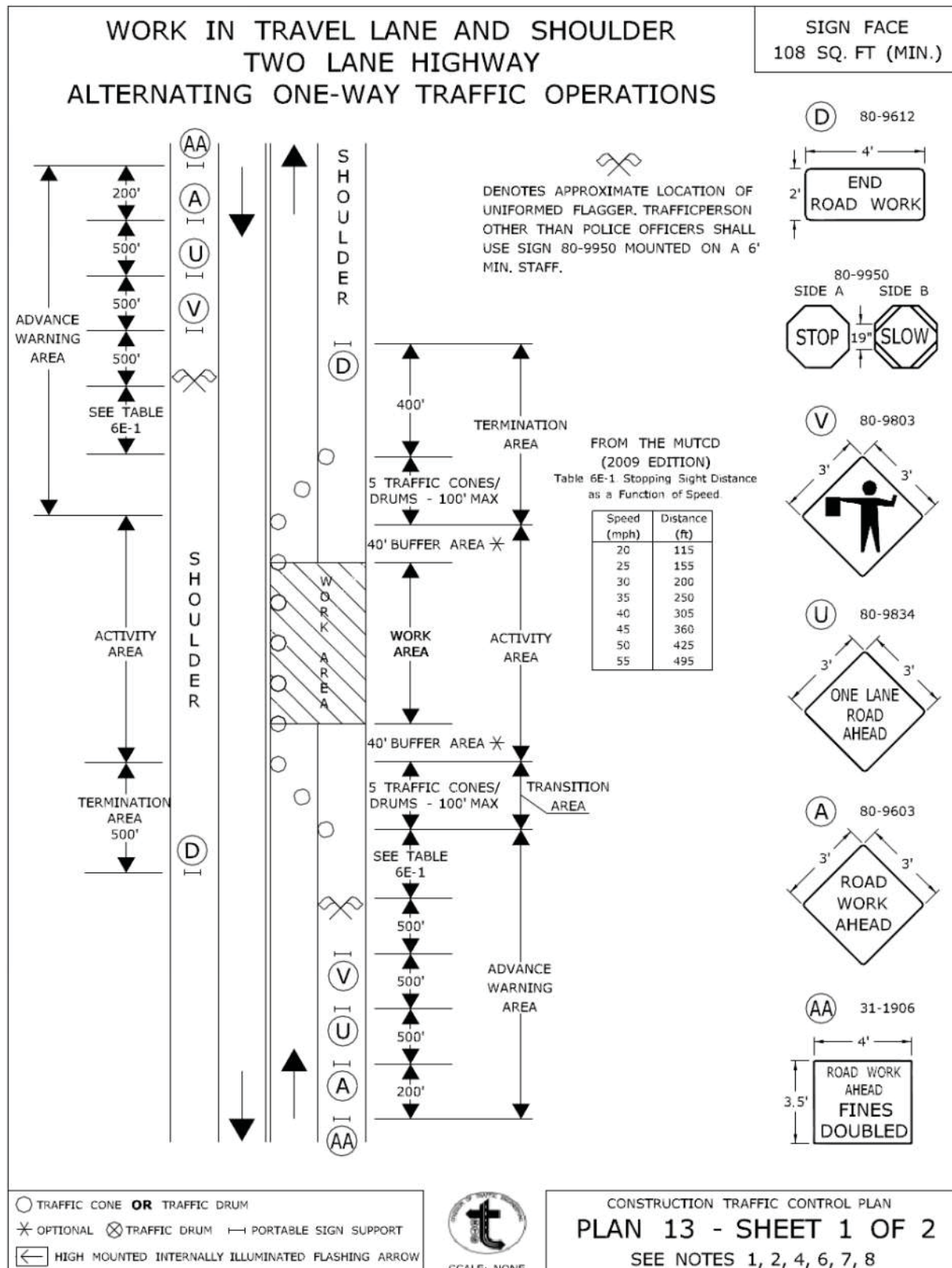
SCALE: NONE

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

Tracy L. Fogarty
PRINCIPAL ENGINEER

Tracy L. Fogarty, P.E.
2019.09.13 06:47:47-0400



CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

Charles S. Harlow
2012.06.05 15:55:23-04'00"
PRINCIPAL ENGINEER

ITEM #0971001A

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

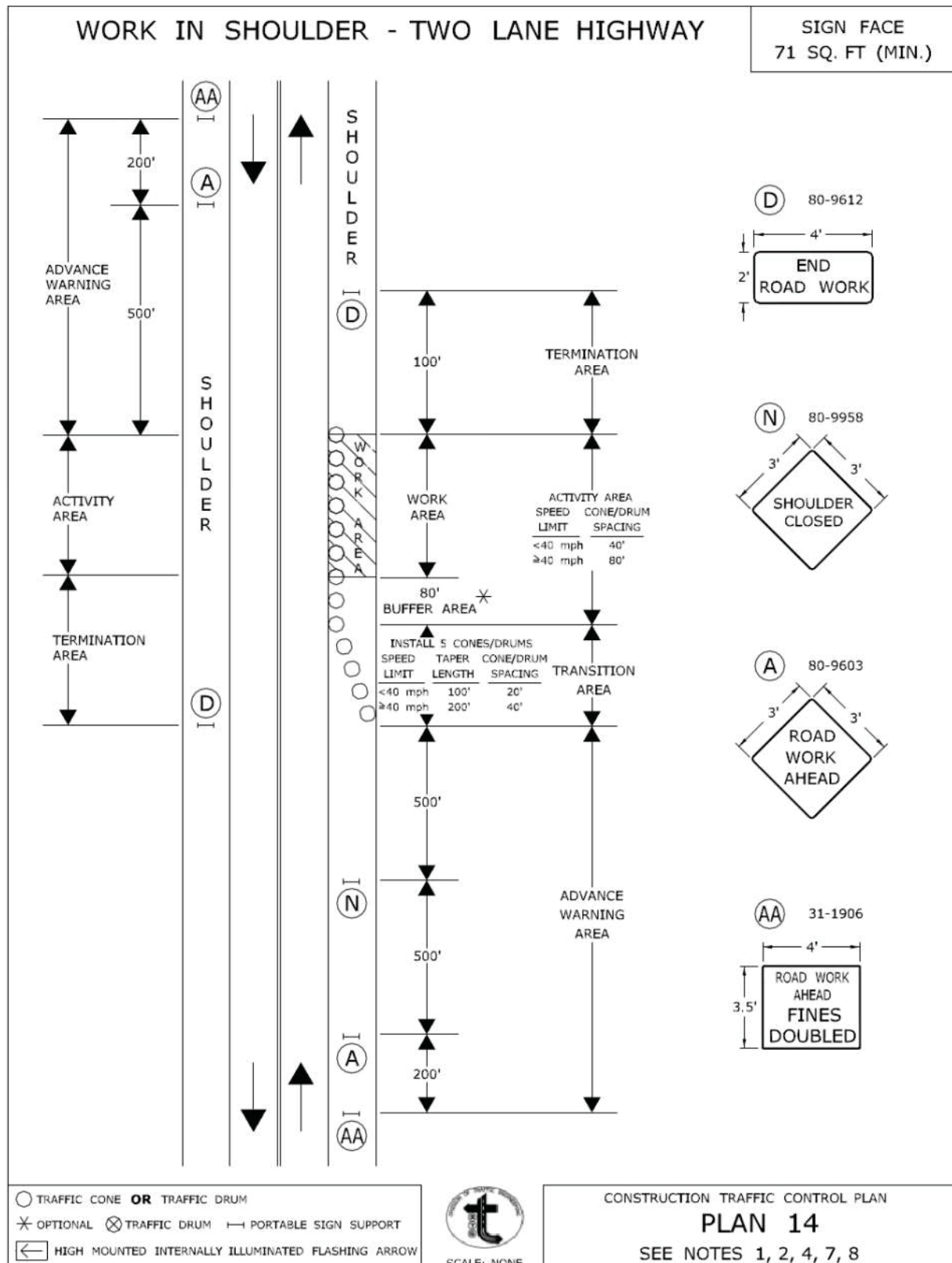
CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED

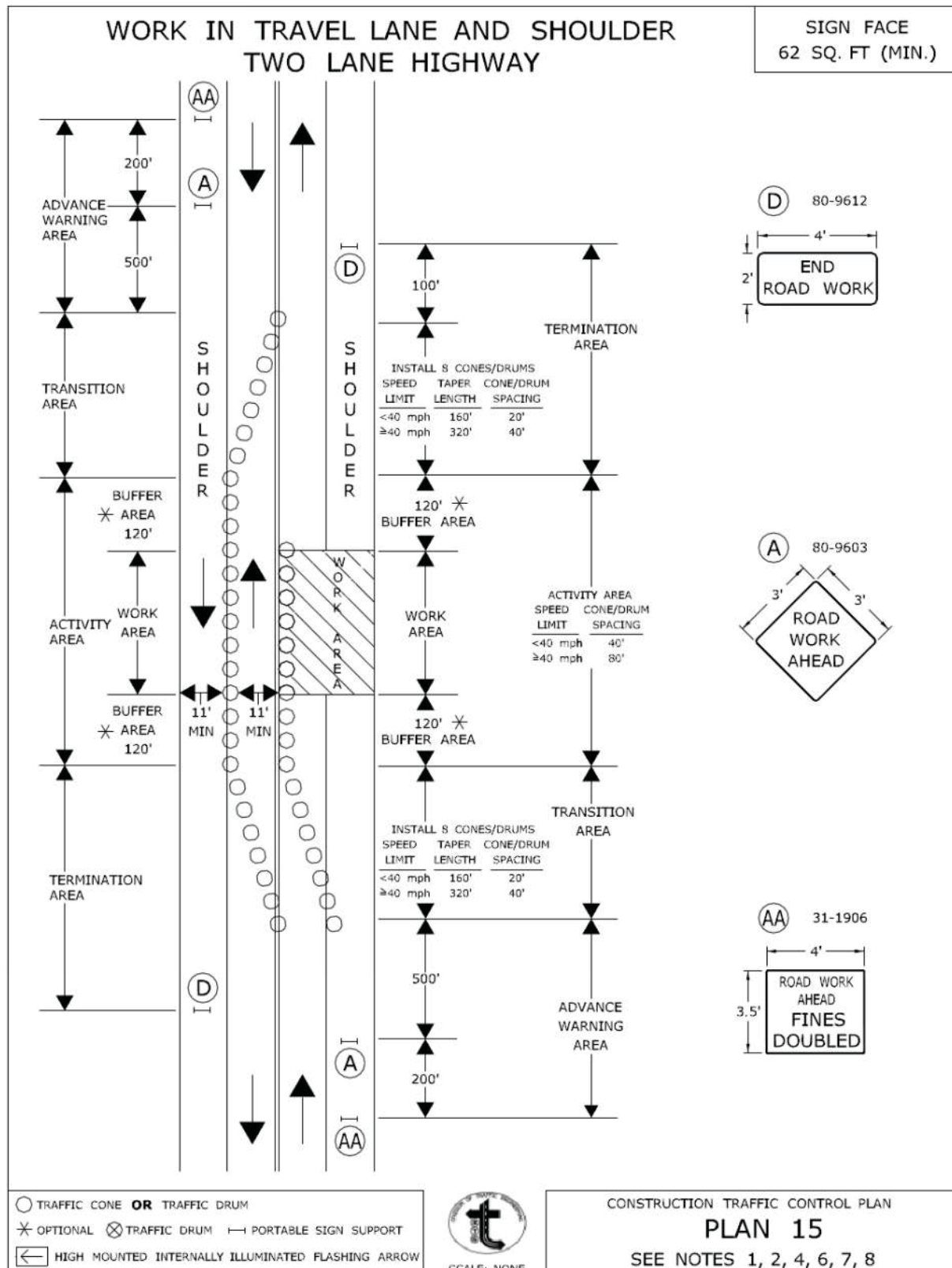
Charles S. Harlow
PRINCIPAL ENGINEER

Charles S. Harlow
2012.06.05 15:55:45-04'00'



CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
PRINCIPAL ENGINEER
2012.06.05 15:56:09-04'00'



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APPROVED

Charles S. Harlow
PRINCIPAL ENGINEER

Charles S. Harlow
2012.06.05 15:56:29-04'00"

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).

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”.

1002110A – DECORATIVE LIGHT POLE FOUNDATION

Article 10.02.01 – Description:

This item shall consist of designing, furnishing and installing a decorative light standard foundation of the type called for within this specification and as shown on the plans or as directed by the Engineer.

Contractor shall submit working drawings and design computations, in accordance with Article 1.05.02, for the concrete light pole foundation.

1. Design Computations: The Contractor is fully responsible for the design, detailing and additional specifications required. The actual designer of the concrete light pole foundation shall be a qualified Professional Engineer licensed in the State of Connecticut. The designer must have designed at least three (3) concrete light pole foundations within the last three years.
2. Designer's Liability Insurance: The Designer of the concrete light pole foundation shall secure and maintain, at no direct cost to the Department, a Professional Liability Insurance Policy for errors and omissions in accordance with Articles 1.03.07 and 1.05.02.
3. Plans & Details: The Contractor shall submit working drawings to the Engineer for review and approval. All details such as concrete mixture, formwork, subbase, reinforcement, conduit and construction methods shall be included.
4. Design Computations: Computations shall be submitted to the Engineer for approval and shall contain appropriate wind loads, gust factors, soil pressures, hydrostatic forces, moment & loading calculations.

10.02.02 – Materials: Shall conform to Articles 10.02.02 and as supplemented in these provisions:

Foundation: Concrete light pole foundation shall extend a minimum of 72” below grade and shall be precast, complete with anchor bolts, 1” rigid metal conduit sweeps, and ¾” steel conduit sleeve. Precast concrete bases shall be 4000 PSI Class “F” concrete. Concrete foundations shall have chamfered edges. Top of foundation shall be installed 3” above grade.

Anchor bolts: Galvanized “J” bolt, sized in accordance with pole manufacturer’s recommendations. Anchor bolts to be break away type. Pole shall be rated to withstand appropriate wind forces and utilize the appropriate gust factor.

10.02.03 – Construction Methods: Shall conform to Articles 10.02.0, 10.04.03 and as supplemented in these provisions:

The Contractor shall ascertain that there are no buried cables or duct banks, water lines, sewers or other utilities prior to excavating by hand digging the foundation. No augering will be permitted.

SUBMITTALS:

A detail for a typical concrete base shall be provided by the contractor, with appropriate wind loads gust factors. The Contractor shall provide drawings and details of concrete bases for use with proposed poles and luminaires, based on local field conditions, stamped by a Professional Engineer, registered in the State of Connecticut.

10.02.04 – Method of Measurement: This work shall be measured for payment by the number of decorative light pole foundations of the type called for installed and accepted.

10.02.05 – Basis of Payment: This work will be paid for at the contract unit price for each “Decorative Light Pole Foundation” of which includes a complete installation, complete in place, which price shall include all materials, labor, tools, earth excavation, concrete, formwork, reinforcement, conduit, bolts, hardware and equipment.

Pay Item

Pay Unit

Decorative Light Pole Foundation

Ea.

ITEM #1003595A – DECORATIVE LIGHT POLE & LUMINAIRE

Description: This work shall consist of furnishing and installing a Decorative Light Pole & Luminaire, according to the details, and at the locations shown on the plans or as shown below in the specification. All work in the electrical component of this project shall meet all National and Local electrical codes. Work shall include trenching for underground electrical conduit in areas where new lights are called for on the plans. It shall be noted that the lighting shall be LED. Additionally, the terms “metal halide” or “high pressure sodium” shall be replaced with LED in all cut sheets and/or specifications.

Materials: The light pole & luminaire shall be a Lumec S26A pole with an LED-frosted glass fixture that shall have a pole and cupola that are powder coated black (Color code RAL 9004 conforming to Federal Specification TT-E-489) and constructed of a 356 aluminum, or approved equal and shall be approved by the Town. The Cupola shall have a photocell that is mechanically secured. The LED module shall be composed of 32 high-performance white LED’s with the color as a neutral white (4000k). Each pole shall be fitted with GFI duplex outlet with cover model number JX30-EZA72-0275-0400.

Construction Methods: The luminaire shall be constructed to the manufacture’s specifications. The luminaire & fixture shall be attached complying to Article 10.03.03 and 10.04.03 and approved by the Engineer. The contractor shall coordinate with all appropriate parties such as the power provider and the Town before installation commences.

Method of Measurement: This work shall be measured for payment by the number of luminaire and light pole fixtures installed and accepted of the type specified.

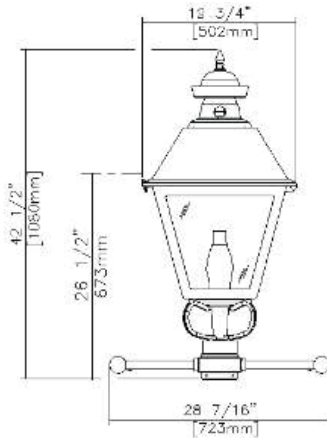
Basis of Payment: This work shall be paid for at the contract unit price each for “Decorative Light Pole & Luminaire”, complete in place, which price shall include all materials, luminaire, fixture, pole, washers, nuts, bolts, brackets, wiring, conduit, duplex outlets, components, coordination, equipment, tools, disposal of surplus material, backfilling, excavation and labor incidental thereto.

Pay Item

Decorative Light Pole & Luminaire

Pay Unit

Each



EPA: 3.33 sq ft / weight: 61 lb (27.7 kg)
 Note: 3D image may not represent color or option selected.
 Logos above include link, click to access.

| | | | |
|-----|----|-----------|--|
| Qty | 30 | Type | SL2 |
| | | Luminaire | [S26A-004]-55W32LED4K-G3-GL-[C-002]-LE5-120-DMG-PH8-BKTX |

Description of Components:

Finial: Decorative cast 356 aluminum, mechanically assembled.

Cupola: Decorative spun aluminum parts, complete with window for photocell operation, mechanically secured.

Hood: In a square tapered shape, the hood is made of a one-piece die cast injection molded A360 aluminium. Mechanically assembled to the guard.

Guard: In a square tapered shape, the guard is made of one-piece die cast injection molded A360 aluminium.

Access-Mechanism: Two integrated hinges on the hood with a stopper and a latch shall offer a tool-free access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing.

Light Engine: LEDgine composed of 4 main components: **Heat Sink / LED Module / Optical System / Driver**
 Electrical components are RoHS compliant.

Heat Sink: Made of cast aluminum optimising the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device).

Lens: Tempered glass lens having a clear lower part and a **frosted clear top part**.

LED Module: Composed of 32 high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K), CRI 70 Min. 75 Typical.

Optical System: (LE5), IES type V (symmetrical). Composed of high-performance optical grade PMMA acrylic refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Optical system is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Street side indicated.

Driver: High power factor of 90% minimum. Electronic driver, operating range 50/60 Hz. **Auto-adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class 1, THD of 20% max.** Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. **Driver comes with dimming compatible 0-10 volts.**

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built-in driver surge protection of 2.5kV (min).

Driver Options: (DMG), Dimming compatible 0-10 volts. For applicable warranty, certification and operation guide see Lumec dimmable luminaire specification document for unapproved device installed by other. To get document, click on this link: [Specification document](https://www.signify.com/b-dam/signify/en-us/brands/lumec/Lumec-un-approved-control-device-installed-by-others-7_d.pdf) or go on web site on this address: https://www.signify.com/b-dam/signify/en-us/brands/lumec/Lumec-un-approved-control-device-installed-by-others-7_d.pdf

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid-State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Fitter: Cast 356 aluminum with 4 decorative yokes c/w 4 set screws 3/8-16 UNC. The fitter comes with two 1" (25mm) outside diameter ladder rests with decorative spherical caps. Slip-fits on a 4"(102mm) outside diameter x 4" (102mm) long tenon.

Luminaire Options: (PH8), Photoelectric Cell, Twist-lock Type

ITEM #1012031A – NO. 2 SINGLE CONDUCTOR

ITEM #1012034A – NO. 4 SINGLE CONDUCTOR

ITEM #1015004A – NO. 2 BARE COPPER GROUNDING CONDUCTOR

ITEM #1015005A – NO. 4 BARE COPPER GROUNDING CONDUCTOR

Description:

Work under this item shall consist of furnishing and installing conductors at all the locations shown on the plans.

Materials:

Provide copper conductors installed in conduit for power and lighting. (NEC Type THWN) Conductors shall be 98% conductivity solid or class B concentric strand copper with 600-volt thermoplastic insulation manufactured in accordance with UL 83.

Grounding wire shall be copper conductors installed in conduit for power and lighting. (NEC Type THWN) Conductors shall be 98% conductivity solid or class B concentric strand copper.

Construction Methods:

Installation shall consist of the following:

1. Completely and thoroughly swab raceway before installing wire.
2. There shall be no splices in any conductors except where circuits are branched and located in accessible handhole, junction or outlet box.
3. Pull all conductors into raceway at same time.
4. Conductors shall be installed from handhole to fuse holder (in luminaire base) and from fuse holder up to luminaire.
5. Clean conductor surfaces before installing lugs and connectors.
6. Neatly train and lace wiring inside boxes and equipment.

Method of Measurement:

This item will be measured for payment as the linear feet of three conductors furnished, installed and accepted in place.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for "No. 2 Single Conductor" and "No. 4 Single Conductor", complete and accepted in place, which price shall include furnishing, installation, splicing to existing conductors and connection to lighting fixtures and all equipment, tools, and labor incidental thereto.

Pay Item

No. 2 Single Conductor
No. 4 Single Conductor
No. 2 Bare Copper Grounding Conductor
No. 4 Bare Copper Grounding Conductor

Pay Unit

LF
LF
LF
LF

ITEM#1012031A
ITEM#1012034A
ITEM#1015004A
ITEM#1015005A

ITEM NO. 1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS

Section 12.06 is supplemented as follows:

Article 12.06.01 – Description is supplemented with the following:

Work under this item shall consist of the removal and/or relocation of designated side-mounted extruded aluminum and sheet aluminum signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the Engineer. Work under this item shall also include furnishing and installing new sign posts and associated hardware for signs designated for relocation.

Article 12.06.03 – Construction Methods is supplemented with the following:

The Contractor shall take care during the removal and relocation of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the State.

Foundations and other materials designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for Removal of Existing Signing.

Sheet aluminum signs designated for relocation are to be re-installed on new sign posts.

Article 12.06.04 – Method of Measurement is supplemented with the following:

Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum signs, sign posts, and sign supports designated for relocation, all new sign posts and associated hardware for signs designated for relocation, all extruded aluminum signs, sheet aluminum signs, sign posts and sign supports designated for scrap, and foundations and other materials designated for removal and disposal, and all work and equipment required.

Article 12.06.05 – Basis of Payment is supplemented with the following:

This work will be paid for at the contract lump sum price for “Removal and Relocation of Existing Signs” which price shall include relocating designated extruded aluminum and sheet aluminum signs, sign posts, and sign supports, providing new posts and associated hardware for relocated signs, removing and disposing of foundations and other materials, and all equipment, material, tools and labor incidental thereto. This price shall also include removing, loading, transporting, and unloading of extruded aluminum signs, sheet aluminum signs, sign posts, and sign supports designated for scrap and all equipment, material, tools and labor incidental thereto.

| <u>Pay Item</u> |
|--|
| Removal and Relocation of Existing Signs |

| <u>Pay Unit</u> |
|-----------------|
| L.S. |

ITEM #1300007A – EXCAVATION AND DISPOSAL OF UNSUITABLE MATERIAL (WATER MAIN)

Description:

Work under this section shall include all labor, tools, and equipment necessary to excavate and legally dispose of Unsuitable Material.

Unsuitable Material under this section shall be defined as any material deemed unsatisfactory, by the Aquarion Representative, to provide a stable base below the pipe on which to install pipe. Unsuitable Material includes, but is not limited to, boney soil, clay, wet soil, organics, peat, soft or spongy soil, or any other material deemed unsatisfactory to provide a stable base below the pipe on which to install pipe.

The vertical limits of Removal of Unsuitable Material vary, and are below the pipe, as defined in the Typical Trench Detail. The vertical limits of Unsuitable Material shall be as directed by the Aquarion Representative.

Any excavated material that is deemed unsuitable material by the Aquarion Representative shall be removed from the site and properly disposed of. This refers to material throughout the entire depth of the trench. However, the payment limits for Removal of Unsuitable Material are below the pipe, as defined in the Typical Trench Detail. Unsuitable material removed from the rest of the trench to the lower vertical limit of the bedding material is included in the linear foot cost of the pipe installation.

Materials:

Work under this section shall include all materials necessary to excavate and legally dispose of unsuitable materials, including trench bracing, shoring, trench boxes, pumps and dewatering equipment.

Construction Methods:

Unsuitable Material shall be excavated, removed from the trench, and legally disposed of.

Trench bracing, sheeting and trench boxes shall be used in accordance with OSHA standards.

Method of Measurement:

Excavation and Disposal of Unsuitable Material (Water Main) will be measured for payment per cubic yard of Unsuitable Material removed from the trench below the pipe and to the limits as shown on the Typical Trench Detail or as directed by the Aquarion Representative.

Excavated material, down to the lower limit of bedding material, as defined in the Typical Trench Detail, that is deemed unsuitable material by the Aquarion Representative and removed from the

site will not be measured separately for payment, but shall be included in the linear foot cost of the pipe installation.

Backfill material furnished, installed, and compacted to replace excavated unsuitable material, to the limits shown on the Typical Trench Detail, will not be measured separately for payment, but shall be included in the linear foot cost of the pipe installation.

Basis of Payment:

Excavation and Disposal of Unsuitable Material will be paid for at the contract unit price per cubic yard of Unsuitable Material removed from the trench below the pipe and to the limits shown on the Typical Trench Detail or as directed by the Aquarion Representative.

No separate payment will be made for excavated material, down to the lower limit of bedding material, as defined in the Typical Trench Detail, that is deemed unsuitable material by the Aquarion Representative and removed from the site, but will be included in the linear foot cost of the pipe installation.

No separate payment will be made for backfill material furnished, installed, and compacted to replace excavated unsuitable material, to the limits shown on the Typical Trench Detail, but will be included in the linear foot cost of the pipe installation.

Pay Item

Pay Unit

Excavation and Disposal of Unsuitable Material

CY

ITEM #1300015A – ROCK IN TRENCH EXCAVATION 0’ – 10’ DEEP (WATER MAIN)

Description:

Work under this section shall include excavation, removal and disposal of all boulders 1/2 cubic yard or greater in volume, rock removal, drilling and controlled blasting of boulders over 1 cubic yard, ledge formations, hoe ramming, hand chipping, and cement masonry or concrete structures to be removed from within the horizontal and vertical payment limits for pipe installation, as shown on the Typical Trench Detail.

Work under this section shall include removal, by hand labor, if required, of ledge rock, boulders, masonry or concrete structures in the vicinity of existing utilities.

Work under this section shall include pre-blast surveys, permits, drilling and blasting, excavation, and disposal of the excavated rock and/or boulders.

Work under this section shall include furnishing and installing bedding material to replace excavated rock to the limits shown on the Typical Trench Detail and compaction in 12” lifts of the entire trench.

Work under this section does not include furnishing and placing of Additional Backfill Material necessary to replace the excavated rock.

Definition of Rock

Rock shall be defined as solid ledge rock or boulders that, in the opinion of the Aquarion Representative, require drilling and blasting, wedging or sledging, and barring for its removal.

The following material shall not be measured or allowed for payment as rock excavation:

- soft or disintegrated rock or boulders which can be removed with a backhoe or excavator bucket
- loose or previously blasted rock
- broken stone in rock fills, walls, or elsewhere
- concrete, asphalt, or brick pavements
- concrete, asphalt, or stone curbs
- concrete, asphalt, or brick sidewalks
- boulders one half (1/2) cu. yd. or less

Limits of Rock Excavation

Rock shall be excavated to maintain minimum clearance between the outside of the structure or barrel of the pipe to the vertical side of the excavation, as shown by the horizontal payment limits on the Typical Trench Detail. Isolated points of rock shall not come closer to the outside of the structure or pipes and at joints as shown on the Typical Trench Detail for the purpose of maintaining sufficient room for properly making the joint. Refer to the Typical Trench Detail for

the minimum distance between the bottom of the pipe, including the barrel, and rock at the bottom of the trench. This is the vertical limit of payment for rock.

Rock in miscellaneous excavations shall be excavated in accordance with the directions and to the limits directed by the Aquarion Representative.

The surface of the rock shall be stripped in sections satisfactory to the Aquarion Representative before the rock is excavated so that the proper measurements can be made.

Rock shall be removed to a depth below the pipe shown on the Typical Trench Detail. Bedding material shall be installed and compacted below the bottom of the pipe, and up to the vertical limits for bedding material as shown on the Typical Trench Detail. Replacement of excavated rock in this vertical limit for bedding material is considered bedding material, and is not considered as Additional Backfill Material.

Materials:

Materials under this section include any tools or equipment necessary to excavate, remove, and properly dispose of rock as defined in this section. Materials also include any tools or equipment necessary to backfill and compact material to replace excavated rock.

Construction Methods:

Blasting

Explosives for blasting shall be stored, handled, and used in accordance with the laws, ordinances, and regulations of the State of Connecticut and all local regulations and with such additional regulations as the Aquarion Representative may require. Blasting shall be conducted so as not to endanger persons or property and, unless otherwise permitted, shall be covered or otherwise satisfactorily confined. The Contractor shall be responsible for and shall make good for any damage caused by blasting or accidental explosions. If rock removal is required near existing utility pipes, cables, or structures, the Contractor may be required to remove such rock without blasting.

Mechanical Removal of Rock

Mechanical removal of rock shall include removal by hoe ram. The Contractor shall use mechanical means for removal of rock for the following conditions:

- due to the proximity of the pipeline route to existing structures
- due to restrictions against blasting set by federal, state, or local officials, or
- at the request of Aquarion

Frost Excavation

Frost excavation shall mean removal of frozen earth exceeding twelve (12) inches in depth, which in the opinion of Aquarion, requires for its removal, drilling and blasting or breaking with specialized power operated frost removal equipment.

Backfilling

Where pipe is laid in rock excavation, bedding material or Additional Backfill Material as specified in these specifications, shall be placed over the rock and compacted to sub grade. The minimum depth of bedding material as directed by the Owner's Representative shall be in accordance with the Typical Trench Detail. Excess rock, which cannot be used with earth to provide satisfactory backfill in the upper portions of the trench, shall be disposed of the same as excess earth excavation. No pieces of rock in excess of 12" shall be used in backfilling.

To replace excavated rock, the Contractor shall place backfill material obtained from excess material from other portions of the work or Additional Backfill Material, as specified in these specifications.

Additional Backfill Material shall be as directed by the Owner's Representative.

Method of Measurement:

Rock In Trench Excavation will be measured for payment per cubic yard of rock, as defined in this section, removed from the trench.

Bedding material furnished, installed, and compacted to replace excavated rock, to the limits shown on the Typical Trench Detail, will not be measured separately for payment, but shall be included in the linear foot cost of the pipe installation.

Additional Backfill Material furnished, installed, and compacted to replace excavated rock, to the limits shown on the Typical Trench Detail, will be measured separately for payment under the appropriate Item for Additional Backfill Material (Water Main).

Any cost beyond the unit prices for Rock Excavation for laborers and equipment that are idle during periods of rock removal will not be measured separately for payment.

Basis of Payment:

Rock in Trench Excavation will be paid for at the contract unit price per cubic yard of rock, as defined in this section, removed from the trench.

No separate payment will be made for bedding material furnished, installed, and compacted to replace excavated rock, to the bedding material limits shown on the Typical Trench Detail. Bedding material shall be included in the linear foot cost of the pipe installation.

Additional Backfill Material furnished, installed, and compacted to replace excavated rock, to the limits shown on the Typical Trench Detail, will be paid for separately at the contract unit price under the appropriate Item for Additional Backfill Material (Water Main).

No separate payment will be made for any cost beyond the unit prices for Rock Excavation for laborers and equipment that are idle during periods of rock removal.

Pay Item

Pay Unit

Rock In Trench Excavation 0' – 10' Deep

CY

ITEM #1300151A – ADDITIONAL BACKFILL MATERIAL (WATER MAIN)

Description:

Work under this section shall include furnishing, installing, placing and compacting bank run gravel, clean backfill, ¾” crushed stone, processed aggregate base, or native material as directed by the Aquarion Representative, which is not specifically included under other sections of these specifications as Additional Backfill Material.

Materials furnished and installed for backfill of rock or boulder removal, backfill of frost removal, replacement of unsuitable material, placement of bedding material, backfill, or pavement base are specified under this section. Acceptable material for backfill shall include bank run gravel, ¾” crushed stone, clean backfill, processed aggregate base, or native material.

Native material is acceptable material for Additional Backfill Material as long as it meets the requirements of these specifications.

The vertical pay limits of Additional Backfill Material are from 12” above the top of the installed pipe to the bottom of the Processed Aggregate Base or Rolled Granular Base layer (see the Typical Trench Detail) and the horizontal pay limits are as shown on the Typical Trench Detail.

All Additional Backfill Material shall be placed and compacted in 12” lifts.

Materials:

Bank Run Gravel

Bank Run Gravel shall consist of sound, tough, durable particles of crushed or uncrushed material free from soft, thin, elongated, laminated, friable, micaceous, or disintegrated pieces, mud, loam, organic matter, clay, or other deleterious material.

Bank Run Gravel shall be the product resulting from the deliberate mechanical crushing of gravel.

Bank Run Gravel shall not have stones larger than 2”.

Bank Run Gravel shall meet the following gradation requirements:

| <u>Square Mesh Sieve</u> | <u>Percent Passing By Weight</u> |
|--------------------------|----------------------------------|
| 2” | 100 |
| 1-1/2” | 90-100 |
| 1” | 20-55 |
| 3/4” | 0-15 |
| 3/8” | 0-5 |

Processed Aggregate Base

Processed Aggregate Base is acceptable for use as Additional Backfill Material and shall conform to Connecticut Department of Transportation Standard Specifications, Section 3.04 and Article M.05.01.

Processed Aggregate Base shall not have stones larger than 2-1/2".

Processed Aggregate Base shall meet the following gradation requirements:

| <u>Square Mesh Sieve</u> | <u>Percent Passing By Weight</u> |
|--------------------------|----------------------------------|
| 2-1/2" | 100 |
| 2" | 95-100 |
| 3/4" | 50-75 |
| 1/4" | 25-45 |
| No. 40 | 5-20 |
| No. 100 | 2-12 |

Clean Backfill

Clean Backfill shall be of a quality satisfactory to the Aquarion Representative and shall be free from large or frozen lumps, wood and other extraneous material. Clean Backfill shall be free from stones larger than 12 inches. Clean Backfill shall be placed in a manner acceptable to the Aquarion Representative. Unless otherwise ordered by the Aquarion Representative, the Clean Backfill shall be brought to the surface of the surrounding ground and neatly graded. Backfilling will only be performed under the supervision of the Aquarion Representative.

3/4" Crushed Stone

3/4" Crushed Stone shall consist of sound, tough, durable particles of crushed or uncrushed material free from soft, thin, elongated, laminated, friable, micaceous, or disintegrated pieces, mud, or other deleterious material.

3/4" Crushed Stone shall be the product resulting from the artificial crushing of rocks, boulders, or large cobblestones, all faces of which have resulted from the crushing operation.

3/4" Crushed Stone shall not have stones larger than 1".

3/4" Crushed Stone shall meet the following gradation requirements:

| <u>Square Mesh Sieve</u> | <u>Percent Passing By Weight</u> |
|--------------------------|----------------------------------|
| 1" | 100 |
| 3/4" | 90-100 |
| 1/2" | 20-55 |
| 3/8" | 0-15 |
| No. 4 (3/16") | 0-5 |

Native Material

Native material is acceptable for Additional Backfill Material as long as it meets the requirements of these specifications. Native material shall consist of natural material that is excavated from the trench or another portion of the job consisting of sound, tough and durable particles of soil and stone, free of clay, loam, or organic matter.

Aquarion reserves the right to require proof that the native material meets the requirements in these specifications through testing for gradation, organic content and compacted density. This testing will be at the expense of the Contractor if they wish to use the native material as backfill.

Native material shall not have stones larger than 3-1/2".

Native material shall meet the following gradation requirements:

| <u>Square Mesh Sieve</u> | <u>Percent Passing By Weight</u> |
|--------------------------|----------------------------------|
| 3-1/2" | 100 |
| 1-1/2" | 55-100 |
| 1/4" | 25-60 |
| No. 10 | 15-45 |
| No. 40 | 5-25 |
| No. 100 | 0-10 |
| No. 200 | 0-5 |

Construction Methods:

Bank run gravel, clean backfill, 3/4" crushed stone, processed aggregate base, or native material shall be placed to the lines and grades ordered. Backfill shall be placed in layers not exceeding twelve inches (12") in thickness and shall be compacted in place by hand and/or by mechanical tamping devices.

Method of Measurement:

Work under this section will be measured for payment per cubic yard of Additional Backfill Material (Water Main) (regardless of the type of material used to backfill) installed, complete in place, compacted in the trench, and accepted.

Native material as Additional Backfill Material will not be measured separately for payment, but shall be included in the linear foot cost of the pipe installation.

Basis of Payment:

Work under this section will be paid for at the contract unit price per cubic yard of Additional Backfill Material (Water Main) (regardless of the type of material used to backfill) installed, complete in place, compacted in the trench, and accepted.

No separate payment will be made for native material as Additional Backfill Material, but shall be included in the linear foot cost of the pipe installation.

Pay Item

Pay Unit

Additional Backfill Material (Water Main)

CY

ITEM #1302061A – ADJUST GATE BOX (WATER)

ITEM #1302062A – ADJUST GATE BOX (GAS)

The Contractor shall adjust to final grade, the gate boxes and covers appurtenant to the utility main as required and furnish and install extension rings, extension stems, air valve extensions, covers, and additional top or bottom sections if necessary, as shown on the Contract Drawings or as directed by the Engineer in accordance with these specifications.

Materials:

The Contractor shall furnish materials, if necessary, as needed to meet requirements of the Utility Company.

All additional materials, including any resurfacing materials and any additional fill required, shall be furnished and placed by the Contractor. Gravel shall conform to Article M.02.01.

Construction Methods:

The Contractor shall carefully excavate around the gate boxes, remove the boxes, install extension stems and air valve extensions, if necessary, reinstall the present gate box if reusable, adjust the box to final grade using extension rings if applicable, and refill the excavation. Care shall be taken to prevent material from filling the inside of the gate box.

Any damage done by the Contractor shall be repaired or replaced by the Contractor at his expense.

Method of Measurement:

The number of gate boxes adjusted, complete with extension stems, air valve extensions, gate box extension rings, covers, and additional top or bottom sections, if necessary, measured for payment shall be the actual number of each box adjusted.

Basis of Payment:

This work will be paid for at the contract unit price for “Adjust Gate Box (Water)” or “Adjust Gate Box (Gas)” complete in place, which price shall include the cost of furnishing material, including labor and equipment to incorporate them into the work. It shall also include the clearing, trenching and disposal of excavated materials, refilling trenches, furnishing the additional material for refilling, grading, sheeting, bracing, and pumping.

Pay Item

ADJUST GATE BOX (WATER)

ADJUST GATE BOX (GAS)

Pay Unit

EA.

EA.

ITEM #1303195A – REMOVE HYDRANT (WATER MAIN)

ITEM #1303202A – INSTALL FIRE HYDRANT

Description:

Work under this section shall include all labor, tools and equipment necessary for the installation of hydrants on existing mains and removal of hydrants, complete as shown on the drawings or as directed by the Aquarion representative or the local Fire Marshall.

Work under this section shall include all labor, tools, materials, and equipment necessary for:

- obtaining road opening permit
- coordination of Call Before You Dig mark outs
- saw-cutting of the roadway, sidewalks, or driveways
- furnishing and maintaining lighting
- excavation from the existing grade to the trench subgrade
- installing concrete thrust blocks
- furnishing, installing, operating and maintaining a dewatering system
- furnishing, installing and removing sheeting, bracing and trench boxes
- furnishing, stockpiling, loading, hauling, placing and compacting pipe bedding material
- backfill and compaction of excavation
- stockpiling, loading, hauling and legally disposing of surplus material
- unloading and storage of pipe, tees, fittings, tapping sleeves, valves and hydrants
- tapping existing water mains when required
- installing the pipe, tees, fittings, tapping sleeves, valves and hydrants
- painting the hydrant (when requested by Aquarion)
- furnishing and installing stone and filter fabric
- asphalt and concrete pavement removal and disposal (including necessary saw cutting) up to 6 inches thick
- removal and restoration of walls, fences, signs and any other structures which must be removed to carry out the work
- removal of topsoil and sod
- temporary pavement repairs and permanent pavement replacement
- care and protection of existing pipes, utilities, and other structures
- piling and storage of excavated materials
- removal of and stacking of the designated pipe, tees, fittings, valves and hydrants
- installing a new hydrant
- relocating an existing hydrant
- cutting and capping the existing hydrant lateral

Materials:

Materials necessary for any hydrant related work include, but are not limited to, the hydrant, tee or tapping sleeve, 6" gate valve, any necessary fittings such as bends, sleeves, or couplings, 6" ductile iron pipe, mechanical joint restraints, and hardware, all of which shall be acquired by the Town's Contractor and shall conform to the attached List of Approved Materials. The Contractor will order materials based on the List of Approved Materials. Additional materials, if required, shall be ordered by the Contractor from its material supplier. Additional materials must be approved by the Aquarion Representative at the site in order to be invoiced. All hardware shall be stainless steel.

Tees

Tees shall be provided by the Town's Contractor, shall have a 6" outlet, and shall be ductile iron with mechanical joint ends. Tees can be swivel or anchor or hydrant tees onto which the 6" gate valve is directly installed or they can be a standard "X" x 6" reducing tee. If a standard "X" x 6" reducing tee is used, then a short piece of 6" ductile iron pipe will need to be installed between the reducing tee and the 6" gate valve.

Tapping Sleeves and Valves

All Tapping Sleeves and Valves, valve box tops, bottoms and covers, and hardware shall conform to the List of Approved Materials. Stainless steel tapping sleeves shall be in accordance with AWWA C223-13 Standards, latest revision, stainless steel with a mechanical joint outlet. The Contractor will acquire the tapping sleeve, valve, valve box top, bottom and cover, and hardware for this installation. All other materials and expertise required for tapping the existing water main and completing this work shall be furnished by the Contractor. Hardware shall be stainless steel and shall also be supplied by the Contractor. Stainless steel tapping sleeves shall be furnished with a mechanical joint connection for the valve and a standard gate valve shall be used (See the Aquarion List of Approved Materials). Tapping valves shall be in accordance with ANSI/AWWA C515 Standards, latest revision and shall be ductile iron, epoxy coated and with a flange x mechanical joint connection.

6-inch Gate Valves

Gate valves shall be provided by the Town's Contractor, in conformance with these specifications, and as shown in the table "Valves and Hydrants By Town".

6-inch Pipe

The 6" pipe shall be provided by the Town's Contractor, shall be cement lined ductile iron pipe, and shall conform to the List of Approved Materials.

Fittings

All fittings shall be provided by the Town's Contractor, shall be ductile iron, and shall conform to the List of Approved Materials. Fittings include, but are not limited to, bends, sleeves or couplings.

Hydrants

Hydrants shall be acquired by the Town's Contractor and shall conform to the List of Approved Materials and the attached "Valves and Hydrants By Town". Hydrants shall be suitable for five-foot (5') burial.

Connection to the main shall be via a swivel, anchor or hydrant tee, a reducing tee, or a tapping sleeve, 6" ductile iron pipe (restrained as needed), a 6" gate valve, and 6" mechanical joint restraints and hardware.

Mechanical Joint Restraints

Mechanical joint restraints and all hardware shall be provided by the Town's Contractor and shall conform to the List of Approved Materials. All hardware shall be stainless steel.

Construction Methods:

Hydrant installation and relocations shall conform to the Aquarion Standard Details.

After excavation and grade is determined, the proper buried depth hydrant should be used. This is the time to make the decision if an offset is needed. Prior to cutting the hydrant lateral, the hydrant control valve shall be restrained. Once the valve is restrained, proceed with cutting the hydrant lateral. Use the necessary sleeve or coupling along with the necessary length of pipe needed to connect the hydrant at the proposed location. The pipe lateral, offset, and valve should be supported with blocks. The pipe lateral is now connected to hydrant with mechanical joint restraints. After the hydrant is plumb, level and supported with blocks on the bottom, check the weep/drain holes on sides to make sure they are clean and clear of any obstructions. Next, dig back to good virgin soil for blocking the bottom ball with solid cement blocks (as many as needed), oak blocks and wedges to get a tight fit. Backfill the ball of the hydrant with 1 3/4" or 1 1/4" stone 1' above the bottom flange. Place a layer of filter fabric or silt cloth on top of the stone. With filter fabric or silt cloth on top of the stone, vent fill and flush hydrant (Make sure the hydrant drains). Backfill with approved bedding and backfill material, and compact in 12" lifts. Make sure operating nut for valve is in the center of the valve box and set the valve box top to finished grade. The area must be restored to its original condition.

The tap is to be made with drilling/tapping machine specially designed for the intended work, which must be in good working condition. The Contractor is responsible to obtain the actual outside diameter of the existing water pipe to be tapped to ensure proper sizing of tapping sleeve. The tapping sleeve and valve are to be installed in conformance with the manufacturer's instructions and specifications. Before tapping the main, the pipe exterior, tapping sleeve and valve, and drilling/cutting tools are to be cleaned and disinfected using a chlorine solution and the tapping sleeve and valve are to be visually inspected. The tapping sleeve and valve shall be hydrostatically pressure tested with water after installation at 150 psi for a minimum of 15 minutes to ensure that the tapping sleeve and valve are not leaking. The Contractor shall carefully place and compact bedding material, as specified in these specifications, under and around the tapping sleeve and valve. To prevent any deflection of the tapping sleeve installation due to thrust pressure,

a cast-in-place concrete thrust block is to be constructed between tapping sleeve and undisturbed soil to brace and support the tapping sleeve independently of the water main. Proper alignment and the height of the valve box is to be maintained until completion of the project.

All hydrant relocations shall be completed in accordance with the Aquarion Standard Details.

Method of Measurement:

Remove Hydrant (Water Main) shall be measured by the unit, each, complete in place and accepted for the satisfactory removal and abandonment of the existing hydrant and restoration of the disturbed area.

Install Fire Hydrant shall be measured by the unit, each, complete in place and accepted for the installation of a new fire hydrant and restoration of the disturbed area.

Installation of pipe, bends, valves, reducers, sleeves, couplings, tees, caps, plugs, mechanical joint restraints, thrust blocks and hardware shall not be measured separately for payment, but shall be included in the cost per each hydrant relocation completed.

Any tapping sleeve and valve installed, of the size specified, including the gate valve, valve box top, bottom and cover, complete in place, and accepted, shall not be measured for payment, but shall be included in the cost per each hydrant relocation completed.

Bedding material furnished, installed, and compacted, to the bedding material limits shown on the Typical Trench Detail, shall not be measured separately for payment, but shall be included in the cost per each hydrant relocation completed.

Rock In Trench, Excavation and Disposal of Unsuitable Material, Additional Backfill Material, Temporary Pavement Repairs and Permanent Pavement replacement, and Restoration associated with hydrant relocations shall not be measured separately for payment, but shall be included in the cost per each hydrant relocation completed.

Cutting and capping of the existing hydrant lateral shall not be measured separately for payment, but shall be included in the cost per each hydrant relocation completed.

Basis of Payment:

Remove Hydrant (Water Main) shall be paid for by the unit, each, complete in place and accepted for the satisfactory removal and abandonment of the existing hydrant and restoration of the disturbed area.

Install Fire Hydrant shall be paid for by the unit, each, complete in place and accepted for the installation of a new fire hydrant and restoration of the disturbed area.

No separate payment will be made for furnishing and installing pipe, bends, valves, reducers, sleeves, couplings, tees, caps, plugs, mechanical joint restraints, thrust blocks and hardware, but will be included in the cost per each hydrant relocation completed.

No separate payment will be made for any Tapping Sleeve and Valve installed, of the size specified, including the gate valve, valve box top, bottom and cover, complete in place, and accepted, but will be included in the cost per each hydrant relocation completed.

No separate payment will be made for bedding material furnished, installed, and compacted, to the bedding material limits shown on the Typical Trench Detail, but will be included in the cost per each hydrant relocation completed.

Rock In Trench, Excavation and Disposal of Unsuitable Material, Additional Backfill Material, Temporary Pavement Repair and Permanent Pavement Replacement, and restoration associated with hydrant relocations shall not be paid for separately, but shall be included in the cost per each hydrant installation or relocation completed.

Cutting and capping of the existing hydrant lateral shall not be paid for separately, but shall be included in the cost per each hydrant relocation completed.

In the communities of Bridgeport, Stamford and Simsbury, payment for the acquisition and installation of pipe, restraints and hydrants beyond the 6" gate valve will be the responsibility of the community.

Pav Item

Pav Unit

Remove Hydrant
Install Fire Hydrant

EA
EA

FOR INFORMATION ONLY

| AQUARIUM WATER COMPANY LIST OF APPROVED MATERIALS | | |
|--|--------------------------------------|---------------------------|
| Notes: | | |
| Materials Must Be Manufactured in the USA or Canada. | | |
| If an ARRA Project Materials Must Be Manufactured in the USA. | | |
| All Stainless Steel hardware shall be Grade 304 or 316. | | |
| The materials described in this list shall supercede any materials specified elsewhere. | | |
| Revised December, 2020. | | |
| Material Specification | Approved Manufacturer | Mfr. Part # |
| SECTION #1: DUCTILE IRON PIPE | | |
| ANSI/AWWA C151-09/A21.5, Ductile Iron Pipe | McWane Pipe Company | Class 52 / 54 Tyton Joint |
| ANSI/AWWA C104-08/A21.4, Cement Mortar | American Cast Iron Pipe Company | Class 52 / 54 Tyton Joint |
| ANSI/AWWA C111-12/A21.22, Rubber-Gasket | Crow Pipe Company | Class 52 / 54 Tyton Joint |
| Nitrile Gasket | Griffin Pipe Company | Class 52 / 54 Tyton Joint |
| Joints for Ductile-Iron Pressure Pipe | United States Pipe & Foundry Company | Class 52 / 54 Tyton Joint |
| Class 52 / 54 Tyton Joint | | |
| Pipe Shall be marked with Class, Manufacturer, Weight & Date of Manufacture | | |
| SECTION #2: GATE VALVES: DUCTILE IRON | | |
| ANSI/AWWA C509 ULPM | Crow Valve | 2639-F6100 |
| 250 PSIG Max Working Pressure standard | Kennedy | 8571D1 |
| Full body, ductile iron | Mueller | A2362/A2361 |
| Fusion Epoxy Coated | U.S. Valve & Hydrant Company | AUSP02 |
| All hardware shall be Stainless Steel | | |
| Mechanical Joint Connections | | |
| See Table "Valves & Hydrants by Town" | | |
| SECTION #3: BUTTERFLY VALVES | | |
| ANSI/AWWA C504-10 Class 150B for Buried Service Only | Mueller | B3211 Uniseal III |
| Mechanical Joint Connections | Pratt | Groundhog |
| Fusion Epoxy Coated Inside & Out | Valmatic | Series 2100 |
| Stainless Steel Shaft Type 304 | M&H Valve | Series 4500 |
| With 304 SS Fasteners | | |
| See Table "Valves & Hydrants by Town" | | |
| SECTION #4: VALVE BOXES | | |
| ASTM A-48 Cast with 35B Class Cast Iron | Bibby St. Croix | 700 Series |
| AASHTO H20 Wheel Load | Tyler Union | 6850 Series |
| Type: 2 Piece Slip | Pioneer | S Series |
| Cover to read: "WATER" | | |
| Top Section 26" with Bottom Flange | | |
| Bottom Section 36" | | |
| SECTION #5: MJ FITTINGS | | |
| ANSI/AWWA C153-11/A21.53-08 and NFPA 3"-18" Listed (EX2111) | Tyler Union | C153 or C110 |
| 2" - 24" rated @ 350 psi; 30" - 48" & all fittings with Flanged branches rated @ 250 psi | United States Pipe & Foundry Company | C153 or C110 |
| Asphalt Coating ANSI/AWWA C104-08/A21.4-08 - ANSI/AWWA C153 | | |
| Cement Lining ANSI/AWWA C104-08/A21.4-08 | | |
| Ductile Iron | | |
| ANSI/AWWA C110-12/A21.10-08 and NFPA 3"-12" up Listed (EX2111) | | |
| 2" - 24" rated @ 350 psi; 30" - 48" all fittings with Flanged branches rated @ 250 psi | | |
| Asphalt Coating ANSI/AWWA C104-08/A21.4-08 - ANSI/AWWA C153 | | |
| Cement Lining ANSI/AWWA C104-08/A21.4-08 | | |
| Ductile Iron | | |
| Ductile Iron tapped tees | | |
| As available Compact C-153 MJ Fittings are preferred over C-110 | | |
| SECTION #6: SERVICE (CURB) BOXES | | |
| ASTM A-48 Cast with 35B Class Cast Iron | Bibby | 94E |
| Type: 2 Piece Slip Buffalo Style 94E | Ford | 94E |
| Cover to read: "WATER" | McDonald | 94E |
| Top Section 24" | Mueller Canada | 94E |
| Bottom Section 39" | Tyler Union | 94E |
| Enlarged Base Required for 2" Services | | |
| SECTION #7: MJ & TYTON JOINT RESTRAINT | | |
| | EBAA Iron, Inc. | MJ: 1100 Series Megalug |
| | EBAA Iron, Inc. | Tyton: 1700 Bell Harness |
| Design | | |
| 1. Restraint devices for nominal pipe sizes 3 inch through 48 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirement of ANSI/AWWA C110/A21.20. | | |
| 2. The devices shall be working pressure rating of 350 psi for 3-16 inch and 250 psi for 18-48 inch. ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes | | |
| Material | | |
| 1. Gland body, wedges, and wedge actuating components shall be cast from grade 65-45 12 ductile iron material in accordance with ASTM A536. | | |
| 2. Ductile iron gripping wedges shall be heat treated within a range of 370 to 470 BHN. | | |

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| 3. Three(3) test bars shall be incrementally poured per production shift as per underwriter's Laboratory (U.L.) specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8. | | |
| 4. Chemical and nodularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis. | | |
| Traceability | | |
| 1. An identification number consisting of year, day, plant and shift & YDOD (plant designation) (shift number), shall be cast into each gland body. | | |
| 2. All physical and chemical test results shall be recorded such that they can be accessed via the identification number on the casting. These Material Traceability Record (MTR's) are to be made available, in hard copy, to the purchaser that requests such documentation and submits his gland body identification number. | | |
| 3. Production pieces that are too small to accommodate individual numbering, such as fasteners, shall be controlled in segregate inventory until such time as all quality control tests are passed. These component parts may then be released to a general inventory for final assembly and packaging. | | |
| 4. All components shall be manufactured and assembled in the United States. The purchaser shall, with reasonable notice, have the right to plant visitation at his/her expense. | | |
| Coatings: | | |
| The coating system shall be MEGA-BOND by EBBA Iron, Inc. | | |
| Zinc coating. | | |
| SECTION #8: FIELD LOK GASKETS | | |
| ANSI/AWWA C111-12/A21.11 Standard for Rubber Gasket joints for Ductile Iron Pressure Pipe and Fittings | McWane Company United States Pipe & Foundry Company | Sure Stop 350 Field Lok/Field Lok 350 |
| SECTION #9: MJ ACCESSORY SETS (LESS GLANDS) | | |
| Standard T-Bolts & Anti-Rotation T-Bolts | EBBA Iron, Inc. | ANSI/AWWA C111/A21.11 |
| Corrosion Resistant, High Strength, Low-Alloy Steel in accordance with ANSI/AWWA C111/A21.11 | Star Pipe Products Tyler Union United States Pipe & Foundry Company | ANSI/AWWA C111/A21.11 ANSI/AWWA C111/A21.11 ANSI/AWWA C111/A21.11 |
| MECHANICAL JOINT GASKETS | | |
| ANSI/AWWA C111-12/A21.11 | | |
| SECTION #10: TAPPING SLEEVES | | |
| Stainless Steel Type AWWA C223-13 with MJ outlet | Mueller Company SS | H304MJ |
| The tapping sleeve body and neck shall be made of heavy 18-8 Type 304 stainless steel | Powerseal SS Smith Blair SS | 3490 MJ 663 MJ |
| The Flange shall be 18-8 Type 304 stainless steel, AWWA C207 Class D (ANSI 150# drilling) and recessed to accommodate tapping valves. The bolts shall be 18-8 type 304 stainless steel with NC threads and epoxy coated. The nuts shall be 304 stainless steel, fluoropolymer includes stainless steel full seal tapping valves when tapping size on size. | | |
| Steel Type AWWA C223-13 with MJ or Flanged Outlet | Powerseal CS Smith Blair CS Mueller | 3460/3460MJ 622/622MU |
| The tapping sleeve shall have a body made of carbon steel per ASTM A283 C. The neck shall be carbon steel per ASTM A53. The flange shall be carbon steel A36. The flange drilling shall be per AWWA C111 Ductile Fusion bonded Flexi-Coat epoxy per AWWA C213. Average of 12-mil thick, all fasteners must be stainless steel. | | |
| SECTION #11: TAPPING VALVES | | |
| ANSI/AWWA C515 ULFM (4"-12" Valves) 250 PSIG Max Working Pressure Full Body - Ductile Iron Fusion Epoxy Coated All hardware shall be Stainless Steel MJxFLG Connection ANSI/AWWA C515 for 12"-18" Valves Only See Table "Valves & Hydrants by Town" ***NO PAPER GASKET MATERIALS SHOULD BE USED | Clow Valve Kennedy Mueller company U.S. Valve & Hydrant Co. | 2639-F6134 R590D DI T2362/2361 TUSP02 |
| SECTION #12: REPAIR CLAMPS | | |
| Certified to NSF/ANSI 61-G The full circle repair clamp shall have an 18-8 Type 304 stainless steel band. Tapped sleeves are to be 1" CC thread All hardware shall be Stainless Steel | Ford Mueller Company Powerseal Smith Blair Smith Blair | F1 CC4 500/504 3121/3412AS 226/238 227/239 |
| SECTION #13: CAST BOLT ON COUPLINGS AND END CAPS | | |
| Certified to NSF/ANSI 61-G Meets applicable AWWA C219 Standards 16" & Up must be Wide Type Band All hardware shall be Stainless Steel Inymax Grip: AWWA C219, NSF-61, NSF-372 | Ford Powerseal Mueller Smith Blair Krausz | FC2A 3501 MFC 411/413/441/442 |
| SECTION #14: SERVICE SADDLES | | |
| Certified to NSF/ANSI 61-G Meets applicable AWWA C800 Standards Double Strapped with CC thread Fusion Bonded, Epoxy Coated Ductile Iron Body per ASTM A536 | Ford Mueller Powerseal Smith Blair New Hampshire | F202 DR2A 3413 313 317 SS |

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| Must have Stainless Steel nuts, bolts and bands | | |
| SECTION #15: FIRE HYDRANTS (CONNECTICUT) | | |
| ANSI/AWWA C502 - ULFM Approved | Kennedy | K&ID |
| 5-3/4" Valve Opening | Mueller | Super Centurion 250 |
| 6" MJ D-150 Shoe Connection | | |
| Connecticut Town Hydrants Open LEFT (See Table "Valves & Hydrants By Town") | | |
| 3 Way Design (Pumper & (2) Hose Nozzles) with Chains | | |
| Hydrant fasteners are to be Stainless Steel | | |
| Upper Section finish to be Factory Painted Coating Only | | |
| Lower barrel to be Stenciled with: | | |
| AQUARIUM WATER as well as with "SPEC ONE" or "SPEC TWO" and Distributor ID# for | | |
| For Exact Town Spec and Color see Table "Valves & Hydrants by Town" | | |
| SECTION #16: FIRE HYDRANTS (MASSACHUSETTS & NEW HAMPSHIRE) | | |
| ANSI/AWWA C502 - ULFM Approved | Mueller | Super Centurion 250 |
| 5-3/4" Valve Opening | | |
| 6" MJ D-150 Shoe Connection | | |
| For Direction of Opening see "Hydrants by Town" T-28 Revised 6/1/12 | | |
| 3 Way Design (Pumper & (2) Hose Nozzles) with Chains | | |
| Hydrant fasteners are to be Stainless Steel | | |
| Upper Section finish to be Factory Painted Coating Only | | |
| Lower barrel to be Stenciled with: | | |
| AQUARIUM WATER as well as with "SPEC ONE" or "SPEC TWO" and Distributor ID# for | | |
| For Exact Town Spec and Color see Table "Valves & Hydrants by Town" | | |
| SECTION #17: AIR VENT & BLOW-OFF ASSEMBLIES | | |
| 2" James Jones Reduced Port ULB Blowoff Valve with Rectangular Operating Nut | James Jones Company | F1998 L/C |
| Ductile iron tapped tees | Ford Meter Box Company | BLA18-777-TA-NL |
| | | |
| | | |
| SECTION #18: METER PITS | | |
| 1" Meter Pits: | Ford | PS BHC 488-20-48 |
| Depth of bury = 52" as per Standard Detail | Mueller | 330RS1854FFBN |
| Pit Size = 20" | McDonald | 80-448WWPP 44 x 24 |
| Meter Size: 1" or can be plumbed to reduce and accommodate 3/4", 5/8" x 3/4" or 5/8" x 1/2" meter | | |
| Pit Material: | | |
| Co-molded wall with insulated middle section. Black exterior with white interior. | | |
| UV degradation protected. Nominal wall thickness (min.) = 1/2". | | |
| Meter Box Cover is Ductile Iron with 15" non-recessed DI lid. | | |
| Solid lids or lids with 1-3/4" hole are available for Reader "Touch Pads" | | |
| Smooth wall interior/exterior. Vertical crush exceeds 20,000 lbs. | | |
| 360 degree anti-settling lip and thermal insulating pack internal shelf. | | |
| | | |
| 2" Meter Pits: | Ford | PM BHC 788-36-48 |
| Depth of bury = 52" as per Standard Detail | | |
| Pit Size = 30" | | |
| Meter Size: 2" x 17" typical meter or can be plumbed for 1-1/2" meter | | |
| Pit Material: | | |
| Co-Extruded PE Pit. Black exterior with white interior. UV degradation protected. | | |
| Nominal wall thickness (min.) = 1/2". | | |
| Meter Box Cover is Ductile Iron, 77 lb. | | |
| Smooth wall interior/exterior. Vertical crush exceeds 20,000 lbs. | | |
| Molded-in internal Anti-settling flange | | |
| SECTION #19: BELL JOINT LEAK CLAMPS | | |
| Ductile Iron Per ASTM 536 | Ford | FBC |
| Pressure rated - 150 PSI (water) | Powerseal | 3232 |
| Fusion Epoxy Coated | Smith Blair | 274 |
| All hardware shall be Stainless Steel | | |
| SECTION #20: SERVICE BRASS | | |
| ANSI/AWWA C800 | Cambridge Brass | Compression Type |
| Compression Joints | Ford | Compression Type |
| 300 PSIG Max Working Pressure | McDonald | Compression Type |
| Corporations & Curb Stops are to be "Bell Type" | Mueller Company | Compression Type |
| Corporation Thread is to be CC (for DIP) | | |
| SECTION #21: PRESSURE REDUCING VALVES & BACKFLOW PREVENTORS | | |
| | Felco | |
| | Watts | |
| | Ames | |
| | Wilkins | |
| | Hersey | |
| | Clu-Val | |
| | | |
| SECTION #22: IPS BRASS FITTINGS | | |
| ANSI/ASME B36.15 & W/W-P-860 | Mertt | Domestic Only |
| Fittings must be made from STM B584 Copper Alloy C84400 | Mueller Industries | Domestic Only |
| | Lee Brass | Domestic Only |
| | SA | Domestic Only |
| SECTION #23: COPPER TUBING | | |
| | Cambridge Lee | Type K- Soft |
| Copper Tubing to be Type "K" Soft | Cerro | Type K- Soft |

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| ASTM 888 - USA & Canada Only | Halstead | Type K- Soft |
| | Howell | Type K- Soft |
| | Mueller Industries | Type K- Soft |
| SECTION #24: HYDROSTATIC TESTING | Great Lakes | Type K - Soft |
| Hydrostatic Testing per AWWA C600-05 Section 5.2, latest revision | | |
| Please refer to Notice on Illegal Use of fire Hydrants | | |
| Tester must be Certified and Comply with all OSHA Regulations | | |
| State of CT DCP Licensing Required (P1, P6 or P7) | | |
| SECTION #25: INSERTION VALVES | Team Industrial Services | Insert Valve |
| Material must be AWWA Specifications | Advanced Valve Technologies | E2-2 |
| Installer must be Licensed, Certified and Comply with all OSHA Regulations | | |
| State of CT DCP Licensing Required (P1, P6 or P7) | | |
| See Table "Valves & Hydrants by Town" | | |
| All hardware shall be Stainless Steel | | |
| Prior approval from Aquarion needed before any Contractor installs E2-2 (Easy Valve) | | |
| SECTION 26: M3 x M3 DI CONNECTOR (Foster Adapters) | Infact Corporation | |
| Ductile Iron 350PSI USA | | |
| SECTION #27: MISC | | |
| Portland Cement Type I - 94 lbs. Bags | Any | |
| Inverted Tip Marking Spray Paint - All Colors | Rustoleum | 17oz |
| | Krylon | 17oz |
| | Aerovse | 17oz |
| Underground Marking Tape 2x1000' Detectable to read "WATER" in Blue | Any | |
| Traffic Cones are to be 28" orange with two (2) reflective bands | Any | |
| SECTION #28: HDPE PIPE | National Pipe and Plastics | |
| AWWA C906-15, ASTM D3350, ASTM F2620, ASTM F714, DR11, DIPS, Black with 2 or more Blue Stripes | Performance Pipe | |
| Resin Code PE4710, minimum cell classification of 445574C | JM Eagle | |
| | Flying W Plastics | |
| SECTION #29: HDPE FITTINGS | | |
| Tees, Bends, Reducers, Solid Caps: butt fused directly onto HDPE pipe with electro fusion as an option. | Central Plastics (Georg Fischer) | |
| For service taps: Electrofused service saddles (2" with a 2" x 1" brass bushing), with IP corp. thread | Integrity Plastics (Div. of Brentwood Ind.) | |
| Mechanical stainless steel spring loaded saddles are allowable with AWC approval only. | HD Supply | |
| HDPE to Mechanical Joint Adapters with accessories. | Harrington Corporation | |
| Restraint rings for HDPE adapters shall be epoxy coated or stainless steel. | Tega | |
| For air vents/blowoffs: no tapped tees, 2" saddles (with 2" x 1" bushing as needed) | Specified Fittings | |
| electrofused directly onto HDPE pipe | | |
| For tapping sleeves: electrofused directly onto HDPE pipe (stainless steel with MI outlet as an option) | | |
| For gate valves: AWWA C509 with HDPE to mechanical joint adapters | | |
| For restraints: 2000 PV Series HDPE Restraints with stainless steel inserts as an option | EBAA Iron, Inc. | 2000 PV Series |
| SECTION #30: TRACER WIRE | Agave Wire | |
| 12 AWG or thicker, insulated copper, UL approved for direct burial | | |
| Waterproof connectors | Dryconn or equal | |
| SECTION #31: POLYETHYLENE ENCASEMENT | United States Pipe & Foundry Company | V-BIO |
| SECTION #32: HDPE MARKING DEVICES | | |
| Electronic Marking System (EMS) Caution Tape | 3M | 7613-XR |
| Marker Balls | 3M | 1403-XR Extended Range |

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AQUARIUM WATER COMPANY VALVES & HYDRANTS BY TOWN

| State | Town | Valve Direction of Opening | Hydrant Thread Spec | Hydrant Direction of Opening | Hydrant Color Spec. | Hydrant Thread Specification & Designs |
|-------|---------------|-------------------------------|------------------------|---------------------------------|---------------------------------------|--|
| CT | Beacon Falls | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Bethel | OTL | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Bridgeport | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Brookfield | OTR | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Canaan | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Cornwall | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Danbury | OTR | DANBURY SPECIAL | OTL | Valdura Yellow W/Silver Bonnet | DANSURY: Pumper Special 4" NST & Side Nozzles are all NST |
| CT | Darien | OTL | DARIEN SPECIAL | OTL | Valdura Yellow W/Silver Bonnet & Caps | DARIEN: Pumper Mueller 143122-40494 - Nozzles Mueller 143116-80297 |
| CT | East Granby | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | East Hampton | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Easton | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Fairfield | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Georgetown | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Goshen | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Granby | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Greenwich | OTR | GREENWICH SPECIAL | OTL | Valdura Yellow W/Silver Bonnet & Caps | GREENWICH: Pumper Mueller 143122-40500 - Nozzles: NST |
| CT | Groton | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| NH | Hampton | OTL | SPEC 2-NST | OTL | Valdura Yellow | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| MA | Hingham | OTR | SPEC 2-NST | OTR | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| MA | Hull | OTR | SPEC 2-NST | OTR | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Kent | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Lebanon | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Litchfield | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| MA | Millbury | OTR | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Monroe | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | New Canaan | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | New Fairfield | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | New Milford | OTL | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Newtown | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Norfolk | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | North Canaan | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| NH | North Hampton | OTL | SPEC 2-NST | OTL | Valdura Yellow | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Norwalk | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Oxford | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| MA | Oxford | OTL | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Ridgefield | OTR | SPEC 2-NST | OTL | Valdura Yellow | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| NH | Rye | OTL | SPEC 2-NST | OTL | Valdura Yellow | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Salisbury | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Seymour | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Sharon | OTL | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Shelton | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Sherman | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Simsbury | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Southbury | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Stamford | OTR | STAMFORD - SPECIAL | OTL | Valdura Yellow | STAMFORD: Pumper 4" x 5.110" x 4 TPI - Nozzles: NST |
| CT | Stamford | OTL | SPEC 2-NST | OTL | Valdura Yellow | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Stratford | OTR | SPEC 1 - SPECIAL | OTL | Valdura Yellow | SPEC 1: Pumper Mueller 143122-40490 - Nozzles Mueller 143116-80307 |
| CT | Torrington | OTL | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Trumbull | OTR | SPEC 1 - SPECIAL | OTL | Valdura Yellow | SPEC 1: Pumper Mueller 143122-40490 - Nozzles Mueller 143116-80307 |
| CT | Weston | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Westport | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Willton | OTR | SPEC 2-NST | OTL | Valdura Yellow W/Silver Bonnet | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |
| CT | Woodbury | OTL | SPEC 2-NST | OTL | Red | SPEC 2 - Pumper (Steamer) & Side Nozzles are all NST |

ITEM #1304059A – PERMANENT PAVEMENT REPLACEMENT (WATER MAIN)

ITEM #1304060A – TEMPORARY PAVEMENT REPAIRS (WATER MAIN)

Description:

Work under this section shall include all labor, tools, materials, and equipment necessary for:

- furnishing and installing bituminous concrete pavement as specified in this section
- maintaining the temporary pavement for up to one year after installation
- furnishing and applying tack coat
- saw-cutting or keying of the pavement
- saw-cutting of the roadway, sidewalks, or driveways
- traffic control equipment (signs, barriers, etc.)
- traffic control coordination, including scheduling of police and flaggers
- furnishing and maintaining lighting
- mobilization and demobilization
- compacting pavement
- removal of and resetting all manhole frames, catch basins, valve boxes, and air vent/blow-off boxes, etc.
- repairing of traffic loop detectors
- re-striping of traffic pavement markings

The Contractor who installed the pipeline and temporary paving will be responsible for maintaining the temporary paving for the period specified herein.

Work under this section shall include furnishing all labor, materials, tools, and equipment necessary for installing pavement on Town and State roads disturbed by the Contractor's operations.

Materials and Construction Methods:

Temporary/Permanent Pavement

Refer to the following table for the horizontal limits of Temporary Pavement, Permanent Pavement, Processed Aggregate Base and Rolled Granular Base. The Permanent Pavement widths reflect a 1' cut back on either side of the trench.

Add 2 feet to each width below if a trench box is used.

**PAVEMENT, PROCESSED AGGREGATE BASE AND
ROLLED GRANULAR BASE LIMITS**

| <u>Pipe Size</u> | <u>Temporary Pavement Width Limit</u> | <u>Permanent Pavement Width Limit</u> |
|----------------------|---|---|
| 6" | 4.00 feet | 6.00 feet |
| 8" | 4.00 feet | 6.00 feet |
| 10" | 4.00 feet | 6.00 feet |
| 12" | 4.00 feet | 6.00 feet |
| 16" | 4.00 feet | 6.00 feet |
| 20" | 5.00 feet | 7.00 feet |
| 24" | 5.00 feet | 7.50 feet |
| 30" | 6.00 feet | 8.00 feet |
| 36" | 6.00 feet | 8.50 feet |

In pavement, the Contractor shall, immediately after backfilling, place temporary or permanent pavement as directed by Aquarion's Representative, unless directed otherwise by the Town or State. In town roads, the Processed Aggregate Base or Rolled Granular Base thickness shall be 12". The Processed Aggregate Base shall meet the requirements of the State of Connecticut Department of Transportation Standard Specifications, Section 3.04 and the Rolled Granular Base shall meet the requirements of the State of Connecticut Department of Transportation Standard Specifications, Section 3.02. In State Highways, the Processed Aggregate Base or Rolled Granular Base thickness shall be 12". At the commencement of the project, Aquarion, the Town, or the State will determine whether the trench repair will be temporary or permanent.

Aquarion will determine the type of material to be used as temporary/permanent pavement. The temporary material will be either "cold patch" or "hot patch". Cold patch shall only be used on extreme cold weather conditions. No additional payment will be made to remove cold patch and replace with hot patch if required by Town or State officials.

Hot patch shall be a HMA S0.5 material as per the requirements of the Connecticut Department of Transportation Standard Specifications, Section 4.06, and Section M.04, Bituminous Concrete. The permanent material under this Section will be a HMA S1.0 Binder as per the requirements of the Connecticut Department of Transportation Standard Specifications, Section 4.06, and Section M.04, Bituminous Concrete Mix. During the progress of the work and until construction of the final surface, the Contractor shall maintain the surface of the streets in good and safe condition. The Contractor shall frequently inspect and promptly fill all depressions adjacent to trenches caused by settlements to existing grade. The Contractor shall be responsible for maintaining the trench paving for a period of 1 year at their own cost, from the date of installation of the temporary or permanent hot patch. Any leveling course required will not be reimbursed.

Generally, in town roads, the pavement shall consist of a two (2) to three (3) inches HMA S0.5 binder courses and a two (2) to three (3) inch HMA S0.5 or HMA S0.375 wearing course as directed by Aquarion. In State roads the pavement shall consist of a six inch (6") HMA S1.0 binder

course and a three inch (3") HMA S0.5 wearing course placed in one and a half inch (1 1/2") lifts. However, thicknesses may vary depending on more specific Town or State requirements. All stated pavement thickness refer to compacted and rolled thicknesses. On State construction projects the paving materials shall conform to those specified for use by the Contract Documents.

All bituminous concrete pavement shall meet the requirements of the State of Connecticut Department of Transportation Standard Specifications, Section 4.06, and Section M.04, Bituminous Concrete, or the Contract Documents.

Where existing pavement is disturbed at the intersection of driveways and street lines, replacement of permanent pavement shall be "lipped".

Pavement in State highways shall meet the approval of the Connecticut Department of Transportation.

Processed Aggregate Base and Rolled Granular Base

The Contractor shall prepare the subgrade by constructing a processed aggregate base or rolled granular base course, in conformity with the line, grade, dimensions and compacted thickness shown on the drawings, or as directed by the Owner's Representative. Rolled granular base shall consist of one or more courses constructed on the prepared subbase in conformity with the lines, grades, compacted thickness and typical cross-section as shown on the plans or as determined by the Engineer. The materials for rolled granular base shall conform to the requirements of Article M.02.03.

Bases of 6 inches or less in specified depth may be constructed in one course; bases over 6 inches in specified depth shall be constructed in two courses of equal depth.

Gravel or reclaimed miscellaneous aggregate shall be spread upon the prepared subbase to such depth that this course will be of the specified depth after final compaction. If, after the material has been spread and shaped, it is found that additional binder is necessary, it shall be furnished and applied in an amount directed by the Engineer. Such binder material shall be carefully and uniformly incorporated with the material in place by scarifying, harrowing, brooming or other approved methods. The material shall then be shaped, wetted and compacted with a power roller with a mass of not less than 10 tons or an equivalent vibratory roller or compactor until thoroughly compacted. All areas of segregated coarse or fine material shall be corrected or removed and replaced with well-graded material, as directed by the Engineer. The compacting and wetting shall be continued until all voids are filled, after which this portion may be left to dry. The compacting shall be continued until the course is thoroughly compacted to a firm and uniform surface satisfactory to the Engineer. The material shall be re-compacted and wetted on succeeding days. The rate and extent of the compacting and the quantity and method of applying water shall be as directed by the Engineer.

After the first course has been compacted and bound as specified herein, the succeeding course, if necessary in order to achieve the specified base depth, shall be similarly placed.

Permanent Pavement

The Contractor shall be responsible for coordinating with local and/or State authorities to define when permanent paving can be performed and the bituminous materials to be utilized. Upon completion of the water main installation, the Contractor shall inform Aquarion, in writing, of the anticipated date of paving.

In preparation for the permanent pavement, the remaining edges of the existing pavement shall be cut back (saw cut) a minimum of twelve inches (12") from the original edges of the trench. If required, the temporary pavement shall be removed and the subgrade formed to the required line, grade, and cross-section and properly compacted.

The Contractor shall exercise care so as not to damage the cut edge of the existing pavement.

After the base has been properly prepared, subject to the approval of Aquarion's Representative, the final courses of bituminous concrete pavement shall be constructed. Immediately prior to laying the binder and wearing courses, the trimmed edges shall be stable and unyielding, free of loose or broken pieces and edges and shall be thoroughly swept and coated with an approved tack coat. The binder course shall be tack coated prior to placing the wearing course.

Bituminous Concrete Resurfacing Course

If required for the project, the Contractor shall construct a 2" (compacted thickness) course of bituminous concrete pavement. This work shall be performed in conformity with the line, grade and dimensions as shown on the drawings or as directed by Aquarion's Representative.

Materials and method of construction shall conform to applicable provisions of Connecticut Department of Transportation Standard Specifications, Section 4.06, HMA S0.375.

All edges of pavement along the existing roadway shall be cut straight, vertically, in a neat and workmanlike manner, and shall receive an approved tack coat prior to constructing the new pavement.

Paving Equipment

Paving equipment shall be of the self-powered type with an adapter to provide guidance of the screeding action. The screed or strike-off member shall be adjustable to the shape of the cross-section of the finished pavement. The screed shall be tilted while in operation to secure the proper "drag" and to provide the compressive screeded surface required. The machine shall have a sufficient number of driving wheels so there will be no undue amount of slippage. Whenever the design of the equipment and plan of operation are such that the driving wheels travel on the finished surface of a completed pavement, said wheels shall be equipped with rubber tires or other means to protect the finished surface. Screeding members shall be preheated, and means shall be

provided for heating the screeding members by some method that will prevent accumulation of bituminous material.

Automatic Grade and Slope Control

All paving equipment used on divided highways of four or more lanes in excess of one thousand feet long, shall be equipped with automatic grade and slope screed controls with sensors for either or both sides of the paver. These systems shall be capable of overriding the normal function of the self-leveling screed and maintain screed deviation relative to an external reference. This reference may be an existing grade, mat, slab, or curb.

The grade sensor shall react from a reference line or a floating beam or shoe (ski) traveling over the reference plans.

The transverse slope controller shall be capable of maintaining the screed at the desired slope within +/- 0.1 percent.

Method of Measurement:

Work under this section shall be measured for payment per square yard of paving related work performed and installed, complete in place, including all materials and accepted.

Furnishing, installing and compacting the base for the roadway shall not be measured separately for payment.

Processed Aggregate Base, Rolled Granular Base, Asphalt and concrete shall not be measured for payment.

Basis of Payment:

Work under this section will be paid for at the contract unit price per square yard of paving related work defined herein, performed and installed, including all materials, complete in place, and accepted.

No separate payment will be made for Processed Aggregate Base, Rolled Granular Base, or HMA.

Pav Item

Pav Unit

Permanent Pavement Replacement (Water Main)
Temporary Pavement Repairs (Water Main)

S.Y.
S.Y.

State of Connecticut
Department of Transportation

SUPPLEMENTAL SPECIFICATIONS
TO
STANDARD SPECIFICATIONS
FOR ROADS, BRIDGES, FACILITIES
AND INCIDENTAL CONSTRUCTION

FORM 818
2020

JULY 2021

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| Section or Article | Please make the following Corrections: | Rev. Date |
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| Division I GENERAL REQUIREMENTS AND COVENANTS | | |
| 1.01.02 | <ol style="list-style-type: none"> after the abbreviation for ADSC add “AFBMA—Anti-Friction Bearing Manufacturer’s Association” after the abbreviation for AGC add “AGMA—American Gear Manufacturer’s Association” after the abbreviation for AMRL add “AMS—Aerospace Material Specification” after the abbreviation for AWWA add “BGFMA—Bridge Grid Flooring Manufacturer’s Association” | July20 |
| 1.01.02 | <ol style="list-style-type: none"> after the abbreviation for AMCA add “AMPP—The Association for Materials Protection and Performance [formerly NACE and SSPC]” after the abbreviation for EPA add “ETL—Edison Testing Laboratories” after the abbreviation for IAS add “IBC—International Building Code” revise the abbreviation for NACE to “NACE—National Association of Corrosion Engineers see AMPP” after the abbreviation for NTMA add “NTPEP —National Transportation Product Evaluation” after the abbreviation for RCSA add “RCSC—Research Council on Structural Connections” revise the abbreviation for SSPC to “SSPC—The Society for Protective Coatings (formerly The Steel Structures Painting Council) see AMPP” but keep the NOTE | Jan21 |
| 1.01.02 | <ol style="list-style-type: none"> after the abbreviation for ACI add “ACMA—American Composites Manufacturers’ Association” After the abbreviation for NOAA add “NPCA—National Precast Concrete Association” after the abbreviation for TIA/EIA add “TMS—the Masonry Society” change the entry for USACOE to “USACE—United States Army Corps of Engineers” | July21 |
| 1.01.03 | <ol style="list-style-type: none"> after the abbreviation for pfmd. add “PQR—procedure qualification record” after the abbreviation for surf. add “TBD—to be determined” after the abbreviation for W add “WPS—weld procedure specification” | July20 |
| 1.01.03 | after the abbreviation for CMS add “ CMU—concrete masonry unit ” | July21 |
| 1.05.12 | in the first sentence of the paragraph that begins “Each such payroll shall include...” replace “... and, if applicable, ...” with “... or ...” | July20 |
| 1.09.02 | <ol style="list-style-type: none"> change the first sentence to “These Value Engineering Change Proposal (VECP) provisions apply as encouragement to the Contractor to initiate, develop, and present to the Department for consideration cost-reduction proposals conceived by the Contractor, involving changes to the drawings, designs, specifications or other requirements of the Contract.” under the Subarticle “Payment for accepted VECs,” delete “5. The cost savings from a VECP that is exclusively time reduction shall be calculated as the number of Contract days reduced multiplied by the amount of liquidated damages for 1 day under the Contract.” <p>(VECPs based on time savings only will not be accepted)</p> | July20 |

| Division I GENERAL REQUIREMENTS AND COVENANTS, GENERAL CLAUSES FOR FACILITIES CONSTRUCTION | | |
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| 1.20-1.01.02 | 1. <i>after the abbreviation for ADSC add “AFBMA—Anti-Friction Bearing Manufacturer’s Association”</i> 2. <i>after the abbreviation for AGC add “AGMA—American Gear Manufacturer’s Association”</i> 3. <i>after the abbreviation for AMRL add “AMS—Aerospace Material Specification”</i> 4. <i>after the abbreviation for AWWA add “BGFMA—Bridge Grid Flooring Manufacturer’s Association”</i> | July20 |
| 1.20-1.01.02 | 1. <i>after the abbreviation for AMCA add “AMPP—The Association for Materials Protection and Performance [formerly NACE and SSPC]”</i> 2. <i>after the abbreviation for EPA add “ETL—Edison Testing Laboratories”</i> 3. <i>after the abbreviation for IAS add “IBC—International Building Code”</i> 4. <i>revise the abbreviation for NACE to “NACE—National Association of Corrosion Engineers see AMPP”</i> 5. <i>after the abbreviation for NTMA add “NTPEP —National Transportation Product Evaluation ”</i> 6. <i>after the abbreviation for RCSA add “RCSC—Research Council on Structural Connections”</i> 7. <i>revise the abbreviation for SSPC to “SSPC—The Society for Protective Coatings (formerly The Steel Structures Painting Council) see AMPP” but keep the NOTE</i> | Jan21 |
| 1.20-1.01.02 | 1. <i>after the abbreviation for ACI add “ACMA—American Composites Manufacturers’ Association”</i> 2. <i>After the abbreviation for NOAA add “NPCA—National Precast Concrete Association”</i> 3. <i>after the abbreviation for TIA/EIA add “TMS—the Masonry Society”</i> 4. <i>change the entry for USACOE to “USACE—United States Army Corps of Engineers”</i> | July21 |
| 1.20-1.01.03 | 1. <i>after the abbreviation for pfmd. add “PQR—procedure qualification record”</i> 2. <i>after the abbreviation for surf. add “TBD—to be determined”</i> 3. <i>after the abbreviation for W add “WPS—weld procedure specification”</i> | July20 |
| 1.20-1.01.03 | <i>after the abbreviation for CMS add “CMU—concrete masonry unit”</i> | July21 |
| 1.20-1.05.12 | <i>in the first sentence of the paragraph that begins “Each such payroll shall include...” replace “... and, if applicable, ...” with “... or ...”</i> | July20 |
| 1.20-1.05.19 | <i>change “1.20-1.05.19—Facilities Construction - Field Erector Prequalification” to “1.20-1.05.19—Facilities Construction - Field Erector Certification”</i> | Jan21 |
| 1.20-1.09.02 | 1. <i>change the first sentence to “These Value Engineering Change Proposal (VECP) provisions apply as encouragement to the Contractor to initiate, develop, and present to the Department for consideration cost-reduction proposals conceived by the Contractor, involving changes to the drawings, designs, specifications or other requirements of the Contract.”</i> 2. <i>under the Subarticle “Payment for accepted VECs,” delete “5. The cost savings from a VECP that is exclusively time reduction shall be calculated as the number of Contract days reduced multiplied by the amount of liquidated damages for 1 day under the Contract.”</i> <i>(VECPs based on time savings only will not be accepted)</i> | July20 |

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| 2.02.03 | <i>in the third paragraph of subarticle 5. Placement of Embankment Material replace "... slopes steeper than 1:3 ..." with "... slopes 1 vertical to 3 horizontal or steeper ..."</i> | July20 |
| 2.06.01 | <i>change the first sentence of the only paragraph as follows "...necessary for the construction of drainage ditches and paved leak-offs..."</i> | July20 |
| 2.06.04 | <i>change subarticle 2. Paved Leak-offs and Paved Ditches to "2. Paved Leak-offs"</i> | July20 |
| 6.01.03 | <ol style="list-style-type: none"> <i>in the eighth paragraph of subarticle 6.01.03-II-1(g) Stay-In-Place Metal Forms for Bridge Decks, replace "FS No. TT-P-641d, Type II" with "MIL-DTL-24441"</i> <i>in the eleventh paragraph of subarticle 6.01.03-II-1(g) Stay-In-Place Metal Forms for Bridge Decks, replace "the Welding subarticle in 6.03" with "1.05.17, Welding."</i> <i>in the fourth sentence of subarticle 6.01.03-II-10(b) Rubbed Finish, replace "stripping" with "striping"</i> | July20 |
| 6.01.03 | <i>in the last paragraph of subarticle 6.01.03-II-5 Progression Cylinders and Compressive Strength Specimens, change the first sentence as follows "A Certified Test Report in accordance with 1.06.07 or 1.20-1.06.07 shall be..."</i> | July21 |
| 6.01.05 | <i>in Table 6.01.05-2b Permeability Pay Factors, change the heading to read "Permeability Pay Factors (PCCXXXX2 mix classifications only)"</i> | Jan21 |
| 6.03.03 | <i>in the second paragraph of subarticle 6.03.03-4(e) Inspection, change the third sentence as follows "A Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 may be used..."</i> | July21 |
| 8.13.04 | <i>change the only sentence as follows "... will be measured for payment along the top arris line of the curb ..."</i> | July20 |
| 8.22.02 | <i>change the first sentence as follows "The materials for this work shall meet the requirements of 8.21.02, except the reinforcing steel does not need to be galvanized."</i> | Jan21 |
| 9.10.02 | <i>Change subarticle 1. "Chemical anchoring material ..." as follows "Adhesive anchoring material ..."</i> | July21 |
| 9.10.05 | <i>change the second sentence of subarticle 9.10.05-3 (Type) Attachment as follows "The price shall include all materials, drilling and bonding including anchor bolts ..."</i> | July21 |
| 9.21.03 | <i>in the last sentence of 6. Curing change "6.01.03-9" to "6.01.03-II-9"</i> | July20 |
| 9.70.03 | <i>in the first sentence of paragraph 5, insert "the" before "MUTCD"</i> | July20 |
| 9.76.03 | <i>change the last paragraph to "... in accordance with the ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be ..."</i> | July20 |
| 10.00.10 | <i>in the first sentence of the second paragraph under 10.00.10-2(b)-1, change "push button" to "pushbutton"</i> | Jan21 |
| 10.02.02 | <i>in the second line of the list, change "PCC03340" to "PCC04461"</i> | Jan21 |
| 10.02.05 | <i>in the first sentence, change "PCC03340" to "PCC04461"</i> | Jan21 |
| 10.10.02 | <i>in the third line of the list, change "PCC03360" to "PCC04461"</i> | Jan21 |
| 11.07 | <i>change "push button" to "pushbutton" everywhere it appears</i> | Jan21 |
| 11.16.02 | <i>in the only sentence, change "M.16.18" to "M.16.17"</i> | July21 |
| 11.30.02 | <i>in the first paragraph, insert "the" before "MUTCD"</i> | July20 |
| 11.30.03 | <i>change the second paragraph to "... in accordance with the ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features."</i> | July20 |
| 11.31.02 | <i>in the first paragraph, insert "the" before "MUTCD"</i> | July20 |

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| 12.10.03 | <i>in the first paragraph of subarticle 12.10.03-3 Initial Performance, change the second sentence as follows “A Certified Test Report (CTR), in accordance with 1.06.07 or 1.20-1.06.07, must be submitted...”</i> | July21 |
| 12.12.05 | <i>change the second to last paragraph to “... in accordance with the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features,” shall be ...”</i> | July20 |
| 12.20.03 | <i>change the second to last paragraph to “... in accordance with the ATSSA “Quality Guidelines for Temporary Traffic Control Devices and Features,” shall be ...”</i> | July20 |
| 18.06.02 | <i>change the first sentence of Article 18.06.02 as follows “... a Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 for each...”</i> | July21 |
| Division III MATERIALS SECTION | | |
| M.04.01 | <i>in the only paragraph of subarticle M.04.01-8 Joint Seal Material, change the second sentence as follows “... a Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 certifying that...”</i> | July21 |
| M.06.01 | <i>in the second paragraph of subarticle M.06.01-8 Reports and Certification, change the only sentence as follows “Materials Certificates shall be submitted in accordance with 1.06.07 or 1.20-1.06.07 for all...”</i> | July21 |
| M.06.02 | <ol style="list-style-type: none"> 1. <i>change the first sentence of Article M.06.02 as follows “... shall be submitted in accordance with 1.06.07 or 1.20-1.06.07.”</i> 2. <i>change the first sentence of subarticle M.06.02-2(b) Anchor Bolts as follows “... Certified Test Reports in accordance with 1.06.07 or 1.20-1.06.07.”</i> 3. <i>change the first sentence of subarticle M.06.02-3(f) Certified Test Reports and Materials Certificates as follows “... Certified Test Reports and Materials Certificates in accordance with 1.06.07 or 1.20-1.06.07...”</i> 4. <i>in subarticle M.06.02-4(d) Certified Test Reports and Materials Certificates change the first sentence as follows “... quality control test report in conformance with 1.06.07 or 1.20-1.06.07.” and change the second sentence as follows “... Materials Certificate in conformance with 1.06.07 or 1.20-1.06.07 ...”</i> | July21 |
| M.08.01 | <i>change the only sentence in the first paragraph as follows “... metal coupling bands in accordance with 1.06.07 or 1.20-1.06.07.”</i> | July21 |
| M.09.02 | <i>change the last sentence of subarticle M.09.02-2 Treatment of Timber Piles as follows “... Materials Certificate, in accordance with 1.06.07 or 1.20-1.06.07, certifying...”</i> | July21 |
| M.10.02 | <i>change the last sentence of subarticle M.10.02-9 Plastic Blockouts as follows “... Materials Certificate for blockouts in conformance with 1.06.07 or 1.20-1.06.07.”</i> | July21 |
| M.10.05 | <i>in the second paragraph of subarticle M.10.05-2 Metal Posts and Rails, change the first sentence as follows “... Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 for all...”</i> | July21 |
| M.12.13 | <i>change the only sentence in the second paragraph as follows “... Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07.”</i> | July21 |
| M.13.06 | <i>change the last sentence in the first paragraph as follows “... Materials Certificate and Certified Test Report in accordance with Section 1.06.07 or 1.20-1.06.07.”</i> | July21 |
| M.13.07 | <i>change subarticle “14. Miscellaneous” as follows “11. Miscellaneous”</i> | July21 |
| M.15.15-5 | <i>in the first sentence, change “PCC03340” to “PCC04461”</i> | Jan21 |
| M.15.15-6 | <i>in the first sentence, change “PCC03340” to “PCC04461”</i> | Jan21 |
| M.16.08 | <i>change “push button” to “pushbutton” everywhere it appears</i> | Jan21 |

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| M.17.01 | <ol style="list-style-type: none"> 1. <i>change the last sentence of subarticle M.17.01-3(c) as follows “... for each lot in accordance with the requirements of 1.06.07 or 1.20-1.06.07.”</i> 2. <i>change the first sentence of subarticle M.17.01-4(c) as follows “... for each batch in accordance with the requirements of 1.06.07 or 1.20-1.06.07.”</i> | July21 |
| M.17.02 | <ol style="list-style-type: none"> 1. <i>change the last sentence of the second paragraph as follows “... for each lot in accordance with the requirements of 1.06.07 or 1.20-1.06.07.”</i> 2. <i>change the last sentence in the last paragraph as follows “... for each batch in accordance with the requirements of 1.06.07 or 1.20-1.06.07.”</i> | July21 |
| M.18.10 | <i>change the only sentence of subarticle M.18.10-3(M) Quality Assurance as follows “... Certified Test Report in accordance with 1.06.07 or 1.20-1.06.07 shall be submitted.”</i> | July21 |
| LIST OF STANDARD PAY ITEMS, ENGLISH/METRIC CONVERSION CHARTS, INDEX | | |
| N/A | <ol style="list-style-type: none"> 1. <i>delete “4.09, Micro-Milling of Bituminous Concrete (0” to 3”), s.y.”</i> 2. <i>change “4.09, Standard Milling of Bituminous Concrete (Greater Than 4” up to 8”), s.y.” to “4.09, Coarse Milling of Bituminous Concrete (Greater Than 4” Up To 8”), s.y.”</i> 3. <i>change “4.09, Standard Milling of Bituminous Concrete (Greater Than 8”), s.y.” to “4.09, Coarse Milling of Bituminous Concrete (Greater Than 8”), s.y.”</i> 4. <i>delete “8.03, Paved Ditch, s.y.”</i> 5. <i>delete “8.03, Paved Channel, s.y.”</i> 6. <i>delete “8.18, Protective Compound for Bridges, s.y.”</i> | July20 |
| N/A | <ol style="list-style-type: none"> 1. <i>add “4.07, Rumble Strips – Automated, l.f.”</i> 2. <i>add “4.07, Rumble Strips – Manual, l.f.”</i> 3. <i>add “4.07, Removal of Rumble Strips, l.f.”</i> 4. <i>delete “10.18, Navigation Light, ea.”</i> 5. <i>change “11.07, Pedestrian Push Button and Sign (Type), ea.” to “11.07, Pedestrian Pushbutton and Sign (Type), ea.”</i> 6. <i>delete “11.12, Magnetic Vehicle Detector (Type), ea.”</i> | Jan21 |
| N/A | <ol style="list-style-type: none"> 1. <i>delete “7.07, Membrane Waterproofing (Woven Glass Fabric)”</i> 2. <i>change “9.21, Detectable Warning Strip, ea.” to “9.21, Detectable Warning Surface, s.f.”</i> | July21 |

**SECTION 1.05
CONTROL OF THE WORK**

In the list of Articles, add the following:

1.05.19—Field Erector Certification

Replace Article 1.05.12 with the following:

1.05.12—Payrolls: For each week of the Project from the first week during which an employee of the Contractor does Project work to which prevailing wage requirements apply, until the last week on which such an employee does such work, the Contractor shall furnish to the Engineer certified copies of payrolls showing

- (a) the names of the employees who worked on the Project and whose work is subject to prevailing wage requirements,
- (b) the specific days and hours and numbers of hours that each such employee worked on the Project, and
- (c) the amount of money paid to each such employee for Project work.

Each such payroll shall include the statement(s) of compliance with prevailing wage laws required by the State of Connecticut ~~or~~ by the Federal government. Said payrolls must contain all information required by CGS 31-53 (as it may be revised). For contracts subject to Federal prevailing wage requirements, each payroll shall also contain the information required by the Davis Bacon and Related Acts (DBR). All of the payroll requirements in this Article shall also apply to the work of any subcontractor or other party that performs work on the Project site, and the Contractor shall be responsible for ensuring that each such party meets said requirements. **No Social Security Numbers (in whole or in part) shall appear on any certified payrolls.**

Every Contractor or subcontractor performing Project work is required to post the relevant prevailing wage rates as determined by the State Labor Commissioner and, on federal aid projects, those 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.

After 1.05.18, add the following:

1.05.19—Field Erector Certification: Contractors and subcontractors are required to possess AISC Certified Steel Erector (CSE) Certification with a Bridge Erection Endorsement for the following work:

1. Field erection of steel bridge girders, beams or trusses.
2. Field erection of fabricated steel sign supports (overhead and cantilever).

Contractors and subcontractors are required to possess an AISC Certified Steel Erector (CSE) Certification for Steel-Framed Buildings for the field erection of steel frames on Facilities Construction projects.

**SECTION 1.20-1.05
CONTROL OF THE WORK FOR
FACILITIES CONSTRUCTION**

Replace Article 1.20-1.05.12 with the following:

1.20-1.05.12—Facilities Construction - Payrolls: For each week of the Project from the first week during which an employee of the Contractor does Project work to which prevailing wage requirements apply, until the last week on which such an employee does such work, the Contractor shall furnish to the Engineer certified copies of payrolls showing the names of the employees who worked on the Project and whose work is subject to prevailing wage requirements,

- (a) the specific days and hours and numbers of hours that each such employee worked on the Project, and
- (b) the amount of money paid to each such employee for Project work.

Each such payroll shall include the statement(s) of compliance with prevailing wage laws required by the State of Connecticut **or** by the Federal government. Said payrolls must contain all information required by CGS Section 31-53 (as it may be revised). For contracts subject to Federal prevailing wage requirements, each payroll shall also contain the information required by the Davis Bacon and Related Acts (DBR). All of the payroll requirements in this Article shall also apply to the work of any subcontractor or other party that performs work on the Project site, and the Contractor shall be responsible for ensuring that each such party meets said requirements. **No Social Security Numbers (in whole or in part) shall appear on any certified payrolls.**

Every Contractor or subcontractor performing Project work is required to post the relevant prevailing wage rates as determined by the State Labor Commissioner and, on federal aid projects, those 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.

After Section 1.20-9.75, add the following New Section 1.20-9.80:

**SECTION 1.20-9.80
CONSTRUCTION SURVEYING FOR
FACILITIES CONSTRUCTION**

1.20-9.80.01—Facilities Construction - Description

1.20-9.80.02—Facilities Construction - Materials

1.20-9.80.03—Facilities Construction - Construction Methods

1.20-9.80.04—Facilities Construction - Method of Measurement

1.20-9.80.05—Facilities Construction - Basis of Payment

1.20-9.80.01—Facilities Construction - Description: Work under this item shall consist of furnishing labor, equipment, tools and materials to perform surveying, staking, verification, recording of data and calculations as necessary to construct the Project, from existing layout to acceptance of the work according to the plans. Work under this item shall conform to Section 20-300b-1 to 20-300b-20 inclusive of the Department of Consumer Protection, Regulations of CT State Agencies and as supplemented herein.

1.20-9.80.02—Facilities Construction - Materials: Stakes used for control staking shall be a minimum of 1 inch × 1 inch wide and a minimum length of 36 inches. Stakes shall be legibly marked and shall be visible at all times. The stakes shall be durable enough to last for the duration of the Contract. In areas where traditional staking cannot be established, the Contractor may use other materials or methods to mark critical locations, as approved or directed by the Engineer.

1.20-9.80.03—Facilities Construction - Construction Methods:

I Submittals:

1. The Contractor shall provide technically qualified survey crews experienced in construction surveying. All Project surveying and staking shall be performed by or under the supervision of either a Connecticut Licensed Land Surveyor or a Level III Survey Technician certified by the National Society of Professional Surveyors.

The name, authority, relevant experience, and qualifications of the person with overall responsibility for construction surveying and staking shall be submitted to the Engineer ten (10) days prior to any physical work.

The Contractor shall submit Project Record Drawings as required under 1.20-1.08.14. Project Record Drawings shall be the appropriate scale, reproducible final drawings meeting the accuracy requirements of an "Improvement Location Survey," Class A-2.

2. If using Automated Machine Guidance (AMG) methods, the following information shall also be submitted to the Engineer ten (10) days prior to any physical work:
 - A. A written technology statement that includes:
 - i. The manufacturer, model, and software version of the AMG equipment.
 - ii. Verification that the final 3D data which is provided in the Plans is compatible with the AMG equipment.
 - B. Personnel qualifications:
 - i. The name, authority, relevant experience, and qualifications of the person with overall responsibility for the AMG system.
 - ii. The name, authority, and relevant experience of personnel directly responsible for operating the AMG equipment.
 - C. A Quality Control Plan for mechanical calibration and maintenance of both surveying and AMG controlled construction equipment. Include the frequency and types of checks performed.

II Equipment Requirements:

1. The Contractor's survey instruments and supporting equipment shall be capable of achieving the specified tolerances in Table 1.20-9.80-1.
2. All instrumentation used on the Project shall have been serviced and calibrated within six (6) months prior to use on the Project, and then every year thereafter.
3. The Contractor shall obtain the Engineer's concurrence prior to using construction equipment equipped with Global Navigation Satellite System (GNSS) or Robotic Total Station (RTS) controlled by an AMG system in the construction of subgrade, subbase and base course aggregate courses, or other construction operations.
4. Tools and supplies shall be of the type and quality suitable for survey work.
5. Stakes and hubs shall be of a sufficient length to provide a solid set in the ground, with sufficient

surface area above ground for necessary legible and durable markings.

III General Requirements:

1. The Contractor's Construction Schedule shall include dates and sequences of major surveying activities in accordance with 1.20-1.05.08 for Facilities Construction.
2. The Department will furnish the initial horizontal control points, vertical control points and data for use in establishing control for completion of the work. The Contractor shall recover and preserve the initial reference and control points and shall notify the Engineer of missing control points.
3. The Department will furnish data relating to horizontal and vertical alignments, theoretical slope staking catch points, and other design data. The Contractor is responsible for reformatting and any additional calculations that may be required for the convenient use of the State-furnished data. The Contractor shall provide immediate notification of apparent errors or omissions in the initial staking or in the State-furnished data.
4. The Contractor shall provide survey data and measurements in the format(s) acceptable to the Engineer and submit on a schedule determined by the Engineer. Field data and supporting documentation will become the property of the Department upon completion of the work.
5. Prior to major surveying activities, a survey coordination meeting shall be held, and the following agenda items shall be discussed and coordinated with the Engineer:
 - A. Surveying and staking methods;
 - B. Stake marking;
 - C. Grade control for courses of material;
 - D. Referencing;
 - E. Structure control;
 - F. Field staking data;
 - G. Localization of the GNSS systems to the Department-established control points;
 - H. Protection of existing survey markers; and
 - I. Other procedures and controls necessary for the work.
6. The Contractor shall not start the physical work until the required survey or three-dimensional (3D) verification data for the affected work has been reviewed by the Engineer. Review of the construction survey does not relieve the Contractor of responsibility for correcting errors and omissions discovered during the work and for bearing additional costs associated with the error or omission.
7. The Contractor shall maintain legibility of survey markings for the duration of the Project or until notified by the Engineer.
8. Upon completion of the Project, the Contractor shall remove and dispose of all staking material used on the Project.
9. Should the establishment or re-establishment of property acquisition lines, highway lines, or non-access lines be required, the Contractor shall notify the Engineer at least two (2) weeks in advance of need.
10. The Contractor shall provide and maintain safe facilities for convenient access by Department forces to all survey stakes, control points, batter boards, and references.

IV Specific Requirements:

1. **Control points:** The Contractor shall
 - A. Relocate initial horizontal and vertical control points in conflict with construction to areas that will not be disturbed by construction operations.
 - B. Furnish the coordinates, elevations, and support documentation for the relocated points before the initial points are disturbed.
 - C. Set durable markers for survey control that uniquely identifies the points.
 - D. Furnish the GNSS localization results at least seven (7) days before beginning construction layout survey work. If necessary, the GNSS localization calibration and associated 3D model shall be broken into two or more zones to maintain the localized relationship between control points and original ground.
2. **Centerline establishment:** The Contractor shall establish or reestablish centerline at roadway design cross-section locations as necessary to construct the work.
3. **Original ground topographic verification:** In areas where the plan existing ground elevation and the actual ground elevation are not within a tolerance of ± 0.25 feet, the Contractor shall immediately notify the Engineer.
4. **Horizontal Slope Limits and Reference Stakes:** The Contractor shall

- A. At a minimum, set stakes on both sides of centerline at the horizontal slope limit at cross-section intervals.
- B. When the slope is designed with a roll at the top and toe, two stakes shall be set on each side of the roadway, one to mark the intersection of the normal cut or fill with existing ground and the other to determine the limit of the roll.
- 5. **Clearing and Grubbing Limits:** The Contractor shall set clearing and grubbing limits on both sides of centerline.
- 6. **Finish-grade stakes:** The Contractor shall
 - A. Set finish-grade stakes for grade elevations and horizontal alignment, on centerline and on each shoulder at design roadway cross-section intervals.
 - B. Reset finish-grade stakes as many times as necessary for construction of the roadway.
 - C. When the centerline curve radius is less than or equal to 250 feet, use a maximum spacing between stakes of 25 feet.
 - D. When the centerline curve radius is greater than 250 feet, use a maximum spacing between stakes of 50 feet.
- 7. **Structures:** The Contractor shall provide survey and staking data in accordance with the above requirements for Structures as follows:
 - A. **Culverts:** Verify and set culvert locations at the inlet, outlet, and inlet basin points according to the plans. If the proposed culvert design does not fit field conditions, notify the Engineer and provide the following:
 - i. Surveyed ground profile along the culvert centerline;
 - ii. Slope catch points at the inlet and outlet.
 - B. **Bridges:** Set adequate horizontal, vertical, reference and Working Points for bridge substructure and superstructure components. Field verify the girders, bridge chord, bridge tangent, or control lines are as specified on the bridge plans. Also establish and reference the centerline of each pier, bent, and abutment.

The Contractor shall establish the center line of bearings for all bridge abutments and piers, by setting offset hubs or reference points, so located and protected to ensure they remain undisturbed until such time as they are no longer needed. The Contractor shall mark the location of anchor bolts to be installed, establish the elevation of bearing surfaces and check bearing plates to ensure installation at their proper elevation. Before the erection of structural steel or concrete beams the Contractor shall verify the locations, both vertically and horizontally, of all bearings and the distances between associated bearings.

The Contractor shall be responsible for conducting all surveys to verify the structural steel profile and alignment are as specified. The Contractor must submit survey and verification in a form acceptable to the Engineer a minimum of 7 days prior to installing the falsework and forms.
 - C. **Retaining walls and Reinforced Soil Slopes:** The Contractor shall set adequate horizontal, vertical, reference and Working Points to perform the work.
- 8. **Borrow and Waste sites:** The Contractor shall
 - A. Perform field work necessary for initial layout and measurement of borrow or waste sites.
 - B. Establish site limits and clearing limits.
 - C. Measure both original and final ground conditions and submit cross-sections as directed by the Engineer.
- 9. **Utility Relocations:** The Contractor shall provide additional reference stakes to assist the Engineer and public utility personnel to accurately identify the proposed locations for utility facilities to be relocated. At least 2 weeks prior to the scheduled relocation of public utilities, the Contractor shall stake out the following features throughout the limits of utility relocations at a maximum spacing of 25 feet, unless directed otherwise by the Engineer:
 - A. Edge of road on the side adjacent to the proposed utility relocations.
 - B. Both edges of sidewalks, where shown on the plans.
 - C. Proposed drainage location(s) and invert elevation(s) at proposed utility locations.
 - D. Finished grade where existing utility facilities will be reset or relocated.
- 10. **Regulated Areas:** The Contractor shall install and maintain reference stakes at 25 foot spacing, or as directed by the Engineer, along the permitted permanent or temporary regulated impacted areas depicted in the permit applications. Each stake shall be legibly marked identifying the baseline station and offset, and the feature it represents.

- 11. Pavement Markings:** Prior to any resurfacing or obliteration of existing pavement markings, the Contractor and a representative of the Engineer shall establish and document pavement marking control points from the existing markings within the limits of the proposed pavement markings or pavement marking grooves. These control points shall be used to reestablish the positions of the lanes, the beginnings and endings of tapers, channelization lines for on- and off-ramps, lane-use arrows, stop bars, driveways, private drives, road entrances, and any lane transitions in the Project area, including all line striping grooving. The Contractor shall use these control points to provide appropriate pre-marking prior to the installation of final markings, including grooves.

The Contractor shall provide and maintain reference stakes or markings immediately off the edge of pavement, at 100 foot intervals and at any point where there is a change in pavement markings. If the Contractor proposes an alternative method to establish and document pavement marking control points, it must be approved by the Engineer.

For roadways where the existing pavement markings need to be reestablished or pavement marking grooves are to be installed on non-limited access roadways, the markings shall be adjusted as directed by the Engineer. These adjustments are to provide wider shoulders to accommodate pedestrian and bicycle traffic while maintaining through travel lane widths of no less than 11 feet.

Unless otherwise noted in the Project documents, lane and shoulder widths for commonly encountered half sections shall be established as shown in the table below:

| Centerline to curb or edge of road | Lane width | Shoulder width |
|------------------------------------|------------|--------------------|
| 12 to 16 feet | 11 feet | Remaining Pavement |
| 17 to 20 feet | 12 feet | Remaining Pavement |

For Projects that only consist of removal and replacement of pavement markings, the requirement for a licensed land surveyor to supervise the staking is waived.

- 12. Miscellaneous survey and staking:** The Contractor shall survey and stake other work such as guiderail, curb and gutter, turf establishment, regulated areas, watercourses and excavation limits for structures. When staking increments are not specified, the Contractor shall propose increments for the Engineer's review. The Contractor shall maintain or replace these stakes until the Engineer approves their removal.

**Table 1.20-9.80-1
Construction Survey Staking Tolerances¹**

| Staking Phase | Horizontal | Vertical |
|---|------------|-----------------|
| Control points set from existing control points. ² | ±0.03 feet | ±0.01 feet × √N |
| Centerline points including all points of curvature and references. | ±0.06 feet | ±0.03 feet |
| Slope-stake and slope-stake references. ³ | ±0.25 feet | ±0.25 feet |
| Culverts, ditches, and minor drainage structures stakes. | ±0.25 feet | ±0.06 feet |
| Retaining walls stakes. | ±0.06 feet | ±0.03 feet |
| Bridge substructures and superstructure stakes. ⁴ | ±0.03 feet | ±0.03 feet |
| Pavement markings stakes. ⁵ | ±0.50 feet | N/A |
| Curb and gutter stakes. | ±0.06 feet | ±0.03 feet |
| Working Points. ⁴ | ±0.03 feet | N/A |
| Clearing and grubbing limit stakes. | ±1.00 feet | N/A |
| Roadway subgrade finish stakes. | ±0.16 feet | ±0.03 feet |
| Roadway finish grade stakes. | ±0.16 feet | ±0.03 feet |

¹ At statistical 95% confidence level. Tolerances are relative to existing control points.

² N is the number of instrument setups.

³ Take the cross-sections normal to the centerline ±1 degree.

⁴ Bridge control is established as a local network and the tolerances are relative to that network.

⁵ This tolerance also applies to alternative methods of establishing and documenting pavement marking control points from the existing markings, such as GPS recording.

13. For Facilities Construction: Existing survey is not guaranteed. The Contractor shall:

- A. Investigate and verify the existence and location of underground utilities and other elements affecting the contract work before beginning site work.
- B. Furnish information that is necessary to adjust, move or relocate existing structures, utility poles, lines, services, or other utility appurtenances affected by construction. Coordinate with authorities performing work and/ or having jurisdiction.
- C. Verify layout information shown on the plans, in relation to the control points and existing benchmarks before proceeding to layout the Project work. Notify the Engineer if discrepancies are discovered. Preserve and protect permanent benchmarks and control points during construction operations. Do not change or relocate benchmarks or control points without the Engineer's prior written approval. Promptly report lost or destroyed control points, or the need to relocate permanent benchmarks or control points because of necessary changes in grades or locations. Promptly replace lost or destroyed benchmarks and control points. Base replacements on the original survey control points.
- D. Establish and maintain a minimum of (2) permanent benchmarks on the Project Site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark. Record benchmark locations, with horizontal and vertical data, on Project Record Documents. Provide temporary reference points sufficient to locate the work where the actual location or elevation of layout points cannot be marked. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- E. Work from lines and levels established by the control survey. Establish benchmarks and control points to set lines and levels at each area of construction as needed to locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale plans to determine dimensions. Advise entities engaged in construction activities, of marked lines and levels provided for their use. As construction proceeds, check every major element for line, level and plumb.
- F. Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means. The Contractor shall identify and document by survey the extent, elevation, and location of all foundations and capped utilities to be left in place and backfilled. Appropriate scaled marked up drawings shall be furnished to the Engineer PRIOR to backfilling.
- G. Locate and lay out control lines and levels for structures, building foundations, column grids and locations, floor levels including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from (2) or more locations.
- H. Maintain a surveyor's log of control and other survey work. Make this log available to the Engineer for reference. Record deviations from required lines and levels, and advise the Engineer when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted by the Engineer and not corrected. Record the location of utilities at the time of installation in the log as well as on the As-Built drawings for permanent record. The recording Land Surveyor shall place its registration seal and accuracy statement regarding location of exterior underground utility lines on the utility plans of As-Built drawings.

1.20-9.80.04—Facilities Construction - Method of Measurement: Construction Surveying, being paid on a lump sum basis, will not be measured for payment. Prior to beginning the work, the Contractor shall submit a proposed schedule of values for review and concurrence by the Engineer.

1.20-9.80.05—Facilities Construction - Basis of Payment: Construction Surveying will be paid for at the Contract lump sum price for "Construction Surveying," based on completed portions of the work. This price shall include all labor, submittals, maintenance, materials, tools, equipment, removal of materials and all work incidental thereto.

| | |
|------------------------|----------|
| Pay Item | Pay Unit |
| Construction Surveying | l.s. |

SECTION 2.86
DRAINAGE TRENCH EXCAVATION,
ROCK IN DRAINAGE TRENCH EXCAVATION

Replace Subarticle 2.86.03-4 with the following:

- (4) **Backfill:** Suitable material excavated from the drainage trench shall be used as backfill material prior to consideration of using any other source of backfill. Backfill material used shall be of a quality satisfactory to the Engineer and shall be free from large or frozen lumps, wood and other extraneous material. Rock fill or stones larger than 5 inches shall not be placed within 1 foot of the drainage structure or pipe. The grading shall be completed to the lines shown on the plans, or as ordered, by refilling to the required elevation with approved material, placed in layers not to exceed 6 inches in depth after compaction, which shall be thoroughly compacted with equipment approved by the Engineer. **Material placed around pipes shall be deposited on both sides to approximately the same elevation at the same time.**

All surplus or unsuitable material shall be removed and disposed of as directed. Should additional material be required for backfilling, it may be obtained from the Project surplus excavation in accordance with 2.02.03-8 or from borrow pits, gravel pits, or elsewhere as directed by the Engineer.

SECTION 4.06 BITUMINOUS CONCRETE

After “Job Mix Formula (JMF)” in Article 4.06.01 add the following:

Leveling Course: A thin lift of HMA placed at an average consistent thickness, usually about an inch, as indicated on the plans to correct minor variations in the contour of the existing pavement surface.

After “Warm Mix Asphalt (WMA) Technology” in Article 4.06.01 add the following

Wedge Course: A lift or multiple lifts of HMA placed at a varying thickness as indicated on the plans to increase or decrease the cross slope of the existing pavement surface.

Replace 4.06.03-6 with the following:

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.

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 gal./s.y. for a non-milled surface and an application rate of 0.05 to 0.07 gal./s.y. for a milled surface. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall be heated to 160°F ± 10°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 upper and lower surfaces 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 is completed, including quality control, sampling for density testing, and inspection activities.

The mixture temperature will be verified using three infrared thermometers supplied by the Contractor and acceptable to the Engineer. The placement temperature range shall be listed in the Quality Control Plan (QCP) for placement and shall meet the requirements of Table M.04.03-4. Any HMA material that falls outside the specified temperature range as measured by two of the three thermometers may be rejected.

The Contractor shall inspect the newly placed pavement for defects in 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 impracticable 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 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 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 Section.

- 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 4.06.04.
- c) Delivered Weight of Mixture: When the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with 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 4.06.04 for any lift placed with a thickness of 1 1/2 inches or greater, and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage. This shall include wedge courses when the wedge thickness is 1 1/2 inches or greater within a single paver pass.

When placing a lift with a specified thickness less than 1 1/2 inches the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. This shall include wedge courses when the wedge or any portion of the wedge thickness is less than 1 1/2 inches within a single paver pass. 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.

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 1/4 inch from a Contractor-supplied 10 foot straightedge. For all other lifts of bituminous concrete, the tolerance shall be 3/8 inch. Such tolerance will apply to all paved areas.

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

Replace "Method II – Butt Joint" under Subarticle 4.06.03-7 with the following:

Method II - Butt Joint:

When adjoining passes are placed, the Contractor shall use the end gate to create 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). During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inch from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

When using this method, the Contractor must complete full width "curb to curb" paving when the vertical edge exposed to traffic would be greater than one inch, unless otherwise allowed by the Engineer.

Replace paragraphs 10, 11 and 12 under Subarticle 4.06.03-8 with the following:

Approval of any QCP does not relieve the Contractor of its responsibility to comply with the Project specifications. The Contractor may propose modifications to the QCPs as work progresses and must document the changes in writing prior to resuming operations. These modifications include changes in quality control procedures, equipment, or personnel.

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

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided on the [Advisory Team web page](#).

Replace Subarticle 4.06.03-9 with the following:

9. Temperature and Seasonal Requirements: Paving, including placement of temporary pavements, shall be divided into 2 seasons, “In-Season” and “Extended-Season.” In-Season paving occurs from May 1 to October 14, and Extended Season paving occurs from October 15 to April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or subbase 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 and meets the requirements of Table M.04.03-4. The Plan shall also include if WMA, PMA, or other additives are being used; 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.

Replace paragraphs 1 and 2 under Subarticle 4.06.03-10 with the following:

10. Field Density: The Contractor shall obtain cores in accordance with AASHTO R 67 for the determination of mat and longitudinal joint density of bituminous concrete pavements. The Contractor’s representative obtaining samples must be a certified NETTCP HMA Paving Inspector, NETTCP HMA Plant Technician, or has successfully completed the HMA Field Sampling Course administered by The Connecticut Advanced Pavement Laboratory (CAP Lab). Within three (3) calendar days of placement, mat and joint cores shall be extracted on each lift with a specified thickness of 1 1/2 inches or more. That time frame may be extended to a maximum of five (5) days due to inclement weather, State holidays or other access restrictions beyond the control of the Contractor. Joint cores shall not be extracted on HMA S1.0 lifts.

The Contractor shall extract cores from random locations determined by the Engineer in accordance with ASTM D3665. Six (6) inch diameter cores shall be extracted for all mixes. The Contractor shall coordinate with the Engineer to witness the extraction, labeling of cores, and filling of the core holes.

Replace the last sentence in Subarticle 4.06.04-2(b)i with the following:

Additionally, any subplot with a density result below 87% is subject to evaluation under 1.06.04.

Replace the last sentence in Subarticle 4.06.04-2(b)ii with the following:

Additionally, any subplot with a density result below 87% is subject to evaluation under 1.06.04.

Replace the last sentence in Subarticle 4.06.04-2(b)iii with the following:

Additionally, any subplot with a density result below 87% is subject to evaluation under 1.06.04.

After Section 4.06, add the following New Section 4.07:

**SECTION 4.07
RUMBLE STRIPS,
REMOVAL OF RUMBLE STRIPS**

4.07.01—Description

4.07.02—Materials

4.07.03—Construction Methods

4.07.04—Method of Measurement

4.07.05—Basis of Payment

4.07.01—Description: Work under this item shall consist of installing rumble strips on asphalt highway shoulders where shown on the plans or where directed by the Engineer.

Work under this item shall also consist of removing rumble strips by milling the pavement to a depth of 2 1/4 inches, disposing of pavement millings, sweeping and cleaning, applying tack coat on all surfaces within the milled area, and placing Hot-Mix Asphalt (HMA) or an equivalent Polymer Modified Asphalt (PMA) to match the elevation of the surrounding pavement.

4.07.02—Materials: Materials for the removal of rumble strips shall meet the requirements of Section M.04 and shall consist of the following:

1. HMA S0.375 or an equivalent PMA. All HMA or PMA shall be Traffic Level 2 unless indicated otherwise on the plans.
2. Material for Tack Coat.

4.07.03—Construction Methods:

I. Installation of Rumble Strips:

The Contractor shall pre-mark the location of the edge of the cut, and the beginning and ending points of the sections, prior to the installation of the rumble strips. The Engineer will review and approve the locations.

The Contractor shall arrange for a technical representative, from the company which produces the milling machine to be used on the Project, who will be required to be on Site at the beginning of the operation in order to ensure results that meet the requirements of the Contract to the satisfaction of the Engineer.

Rumble strips shall not be installed on bridge decks, in acceleration and deceleration lanes, at drainage structures, at loop detector sawcut locations, or in other areas identified by the Engineer.

- a. **Automated (Wide Shoulders):** The equipment shall be able to install the rumble strips in sections where the shoulder width from the edge line to an obstruction is greater than or equal to 4 feet. Where there are no obstructions, the equipment shall be used in sections where the shoulder width from the edge line is a minimum of 3 feet. The equipment shall consist of a rotary type cutting head with a maximum outside diameter of 24 inches and shall be a minimum of 16 inches long. The cutting head(s) shall have the cutting tips arranged in such a pattern as to provide a relatively smooth cut (approximately 1/16 of an inch between peaks and valleys) in one pass. The cutting head(s) shall be on independent suspension from that of the power unit to allow the tool to self-align with the slope of the shoulder or any irregularities in the shoulder surface. The equipment shall include suitable provisions for the application of water to prevent dust. The Contractor shall use a machine capable of creating the finished pattern at a minimum output of 60 rumble strips per minute.
- b. **Manual (Narrow Shoulders):** The equipment shall be able to install the rumble strips in sections where the shoulder width from the edge line to an obstruction is between 3 feet and 4 feet. The cutting head(s) shall have the cutting tips arranged in such a pattern as to provide a relatively smooth cut (approximately 1/16 of an inch between peaks and valleys) in one pass. The equipment shall include suitable provisions for the application of water to prevent dust.
- c. **Finished Cut (Automated or Manual):** The rumble strips shall have finished dimensions of 7 inches (+/- 1/2 inch) wide in the direction of travel and shall be 16 inches (+/- 1/2 inch) long measured perpendicular to the direction of travel. The depressions shall have a concave circular shape with a minimum 1/2 inch depth at center (maximum allowable depth is 5/8 inch measured to a valley). The rumble strips shall be placed in relation to the roadway according

to the patterns shown in the plans or in Figure 4.07-1. Alignment of the edge of the cut shall be checked and verified by the Engineer.

The cutting tool shall be equipped with guides to provide consistent alignment of each cut in relation to the roadway.

The Contractor shall pick up any waste material resulting from the operation in a manner acceptable to the Engineer. This waste material shall be disposed of in accordance with Article 1.10.03.

The work area shall be returned to a debris-free state prior to re-opening to traffic.

The Contractor shall provide all traffic control as specified in the item "Maintenance and Protection of Traffic" included elsewhere in the Contract.

II. Removal of Rumble Strips:

Equipment for this work shall include the following:

1. Milling machine: A milling machine designed and built for milling flexible pavements. It shall be self-propelled with sufficient power, traction, and stability to maintain depth and slope and shall be capable of removing the existing bituminous concrete pavement.
The rotary drum of the machine shall use carbide or diamond-tipped tools. A tooth spacing of 8 mm is preferred, but up to 15 mm will be allowed. The forward speed of the milling machine shall be a maximum of 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 milled material from the surface of the roadway and discharge the millings into a truck 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 Contractor may be permitted to use a lesser-equipped milling machine, if approved by the Engineer. It shall be capable of milling a minimum width of 20 inches to completely remove the existing rumble strip. A wider milling width may be used in cases where two rumble strips are located near and parallel to each other, as may occur in a median area.
2. 10-foot straight edge.
3. Sweeper: A sweeper, equipped with a water tank, capable of remove millings and loose debris from the surface. Other sweeping or vacuum type equipment may be provided in lieu of the sweeper where acceptable by the Engineer. A hand broom may be used for smaller areas when approved by the Engineer.
4. Air compressor: An air compressor capable of producing 100 psi oil free compressed air for cleaning the milled pavement surface.
5. Hot air lance: A hot air lance that can deliver 100 psi oil free heated air to clean and dry the pavement surface. The compressed air emitted from the tip of the lance shall achieve a temperature of at least 1500°F.
6. Paving and compaction equipment: Paving and compaction equipment meeting the requirements of Section 4.06. It is expected that much of the placement will require hand work or a mixture of equipment and hand tools to achieve the required results. Smaller compaction equipment, including vibratory plate compactors, will be allowed by the Engineer to achieve the required results. At all times the Contractor is required to meet the density and compaction and all other requirements specified in Sections 4.06 and M.04.
7. Portable lighting equipment: If the work is performed at night a truck-towed light tower and driver shall be provided for use by the Engineer for all marking, installation, and inspection of the patches.
8. Tack Coat Distributor: A minimum 150-gallon capacity tank that is trailer mounted or self-propelled and capable of applying tack coat meeting the requirements of Section 4.06.

The Contractor shall mark the location of the beginning and ending points of the sections for milling and paving, prior to the removal of the rumble strips. The Engineer will review and approve the limits of removal.

The width of milling shall be as specified on the Plans or other specifications. If no other width specification exists, the minimum width of milling for freeway shoulders shall be 20 inches, and for all other rumble strips the minimum width of milling shall be 14 inches in order to completely remove

the existing rumble strip to the satisfaction of the Engineer. If there are two rumble strips located near and parallel to one another, as may occur in median areas, and if they both can be removed by a single pass of a wider milling machine without adversely affecting drainage, safety, or quality of results, then a wider milling machine may be used. In this case the length measured for payment will be the sum of the lengths of the two individual rumble strips. Milling widths wider than specified above may be used with the written permission of the Engineer.

The depth of removal shall be 2 1/4 inches. The Engineer may alter the milling depth, either up or down, based on deterioration or scabbing discovered as work is in progress. This adjustment will not exceed 1/2 inch. It is expected that the milling depth of 2 1/4 inches is appropriate for most cases. The milled surface shall be swept clean (by hand if necessary). Once all millings are removed by sweeping, the milled areas shall be allowed to dry. Any moisture in or on the milled areas must be allowed to evaporate or be removed with the assistance of a hot air lance as specified above. When the milled area is dry to the satisfaction of the Engineer, it shall be blown clean of any residual dust or debris using compressed air.

Once deemed clean and dry by the Engineer, the entire milled area, including the sides/walls of the milled area, shall receive an application of tack coat as specified above and in Section 4.06.

After the tack coat has had sufficient time to cure or break, HMA S0.375 (Traffic Level 2) or an equivalent PMA shall be placed and compacted to the requirements above and in Section 4.06. The Contractor shall confirm that the surface elevation of the finished patch matches the elevation of the surrounding pavement surface to within 1/4 inch using the 10-foot straightedge. The Contractor shall confirm that all patch material placed is uniform in appearance without segregation.

The Contractor shall resurface the milled area prior to opening the roadway to traffic. The milled area shall be swept, cleaned, tacked, and repaved in the same work shift.

Precautions shall be taken to avoid damage to the existing roadway materials that are to remain in place. If damage occurs, it must be repaired by the Contractor at no additional cost to the State. The methods employed in performing the work and all equipment, tools, machinery and plant used in handling material and executing any part of the work shall be subject to the approval of the Engineer before the work is started; and whenever found unsatisfactory, it shall be changed and improved as required by the Engineer.

The Contractor shall remove and dispose of any waste material resulting from the operation in a manner acceptable to the Engineer. This waste material shall be disposed of in accordance with Article 1.10.03.

4.07.04—Method of Measurement: The work for installing and removing rumble strips will be measured for payment by the actual number of linear feet of rumble strips installed or removed, as applicable. Removal distance shall be measured longitudinally along the edge of pavement with deductions for bridge decks, acceleration and deceleration lanes, drainage structures, loop detector sawcut locations, and other sections where the rumble strips were not previously installed.

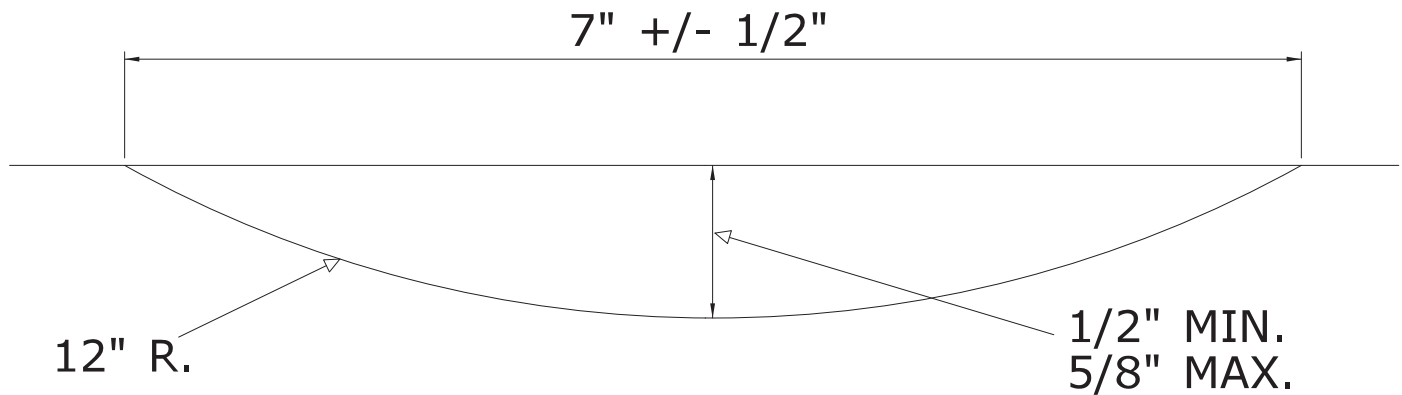
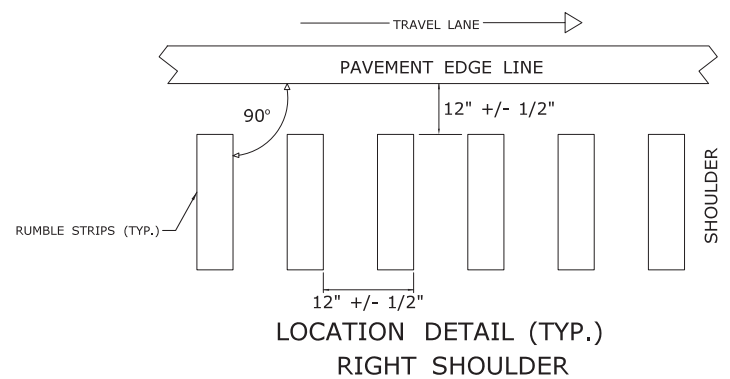
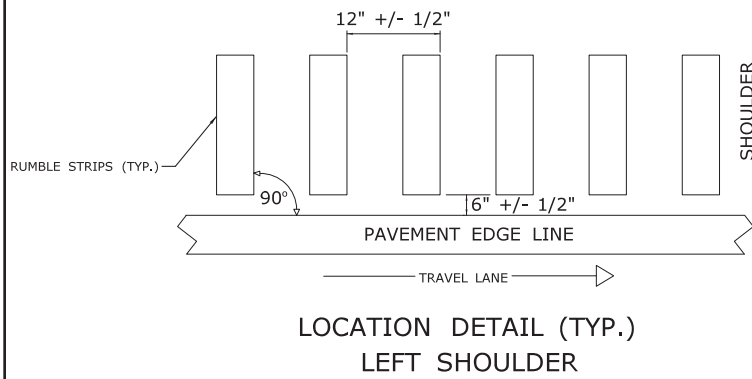
If two rumble strips are near one another and are removed by a single milling machine pass, the length measured for payment will be the sum of the lengths of the two rumble strips.

4.07.05—Basis of Payment: The work for installing rumble strips will be paid for at the Contract unit price per linear foot for "Rumble Strips—Automated" or "Rumble Strips—Manual." The price shall include furnishing all equipment, tools, labor, a technical representative and work incidental thereto and also disposal of any waste material resulting from the operation. The Contractor will not be paid under the item "Rumble Strips - Manual" if the field conditions allow for the use of the "Rumble Strips - Automated" item, even if the manual method was used.

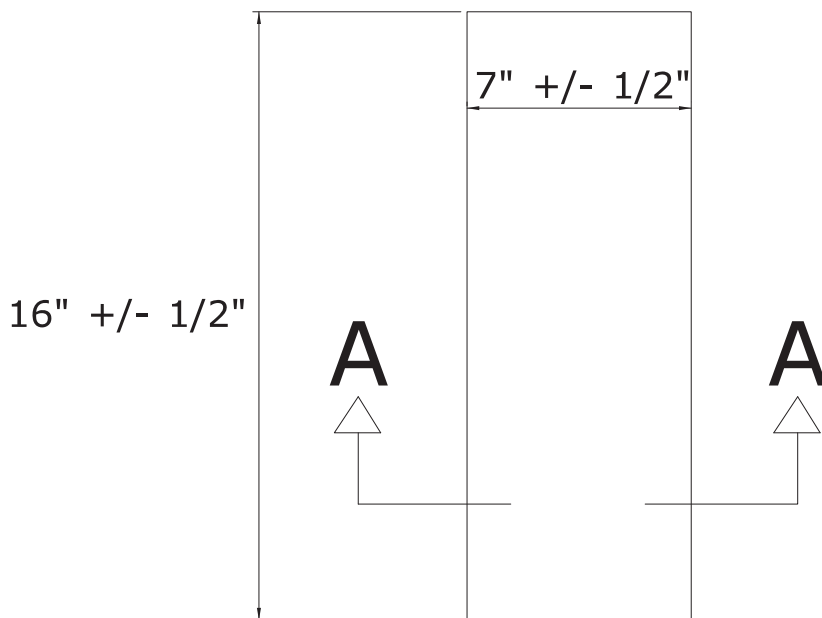
The work for removing rumble strips will be paid for at the Contract unit price per linear foot for "Removal of Rumble Strips." The price shall include the removal of the existing rumble strips by milling, sweeping, cleaning, and drying of the milled area, furnishing all materials, application of tack coat, placement and compaction of the HMA or PMA, and equipment, tools, labor, and work incidental thereto, as well as removal and disposal of any waste material resulting from the operation.

| Pay Item | Pay Unit |
|--------------------------|----------|
| Rumble Strips—Automated | l.f. |
| Rumble Strips—Manual | l.f. |
| Removal of Rumble Strips | l.f. |

Figure 4.07-1: DETAILS AND SECTIONS OF RUMBLE STRIPS



SECTION A-A

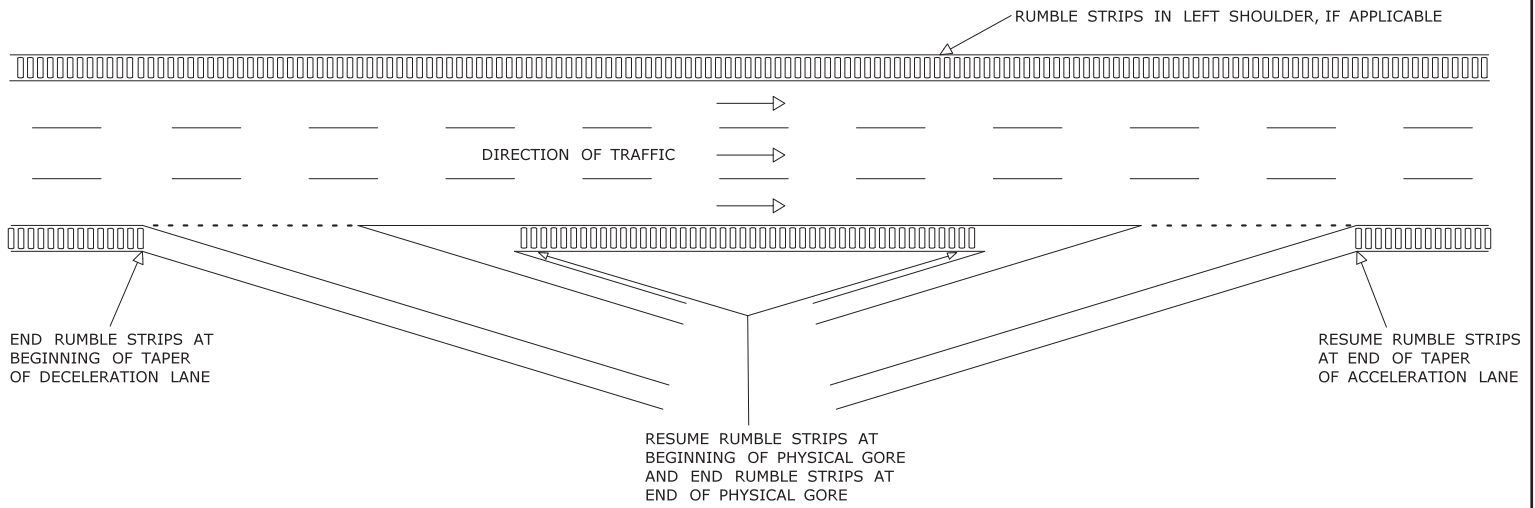


NOTES:

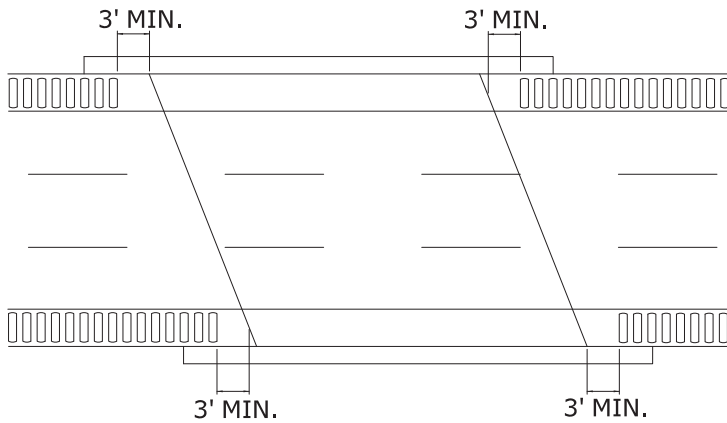
RUMBLE STRIP ALIGNMENT SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 6" IN THE LEFT SHOULDER AND 12" IN THE RIGHT SHOULDER FROM THE OUTER EDGE OF THE EDGE LINE, AND SHALL BE AT LEAST 12" FROM THE LONGITUDINAL JOINT IN COMPOSITE PAVEMENTS. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AND THE SHOULDER WIDTH.

PLAN DETAIL

Figure 4.07-2: TYPICAL TREATMENTS FOR INSTALLING RUMBLE STRIPS

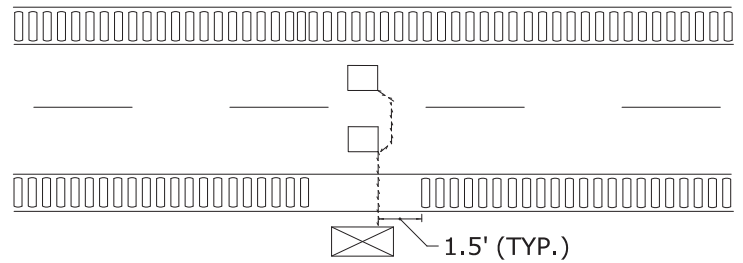


TYPICAL TREATMENT FOR RAMPS

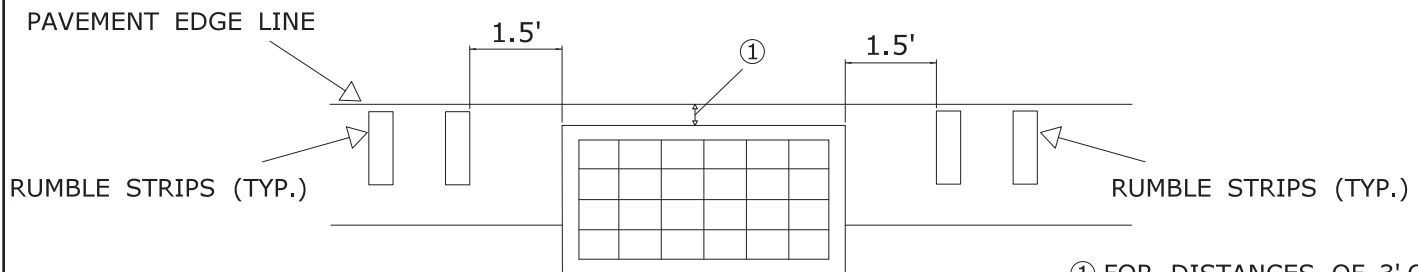


TYPICAL TREATMENT FOR BRIDGES

NOTE: REVISE DISTANCE FROM EXPANSION JOINT AS NEEDED FOR NARROW SHOULDERS APPROACHING BRIDGES



TYPICAL TREATMENT FOR LOOP DETECTOR SAWCUT LOCATIONS



① FOR DISTANCES OF 3' OR MORE, CONTINUE RUMBLE STRIPS ALONG SHOULDER

TYPICAL TREATMENT FOR OBSTRUCTIONS (I.E. CATCH BASINS OR MANHOLES)

**SECTION 4.09
MILLING,
REMOVAL OF EXISTING WEARING SURFACE**

Replace Section 4.09 in its entirety with the following:

**SECTION 4.09
MILLING,
REMOVAL OF EXISTING WEARING SURFACE**

4.09.01—Description: This work shall consist of the milling, removal, and disposal of existing bituminous concrete pavement. It shall also include the complete removal and disposal of the existing bituminous concrete wearing surface, membrane waterproofing and bond breaker covering the reinforced concrete bridge deck(s) as shown on the plans or as ordered by the Engineer. The types of milling shall include the following:

1. **Coarse** Milling shall be used for the removal of bituminous concrete in excess of 4 inch depth.
2. Fine Milling shall be used to remove bituminous concrete from 0 to 4 inches. It may also be used to remove bituminous concrete greater than 4 inches in limited areas or where required.
3. Removal of Existing Wearing Surface shall be used where shown on the plans.

4.09.03—Construction Methods:

A. Milling:

1. General: The Contractor shall remove the bituminous concrete material using the milling type specified on the Plans. 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 14 calendar days unless otherwise stated in the Contract.

2. Equipment: 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, **mobile reference beam** (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 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.

The rotary drum of the milling machine shall have carbide or diamond-tipped teeth with the following maximum spacing and minimum milling depth:

| Milling Type | Maximum Tooth Spacing* | Minimum Depth Capability (single pass) |
|-----------------------|---------------------------|--|
| Coarse Milling | 15 mm | 4 inches |
| Fine Milling | 8 mm | 4 inches |

* Industry standard **units**

The forward speed of any milling machine shall be limited to no more than 45 feet/minute.

The teeth on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture, as outlined in 4.09.03-C, Surface Tolerance.

3. Protection: Protection shall be provided around **visible** 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 falls into inlet openings or inlet grates shall be removed at the Contractor's expense.

B. Removal of Existing Wearing Surface: The bituminous concrete wearing surface, membrane waterproofing and bond breaker shall be removed from the structure(s) using means acceptable to the Engineer to completely expose the concrete bridge deck(s).

Prior to removal of bituminous concrete wearing surface, the Contractor shall field verify the depth of the existing bituminous concrete by obtaining depth measurements (maximum 4 inch diameter holes) at intervals no greater than 25 feet apart in each lane. Depth verification holes shall be filled with bituminous material **and compacted** if the removal of wearing surface operation will not be completed within 5 days.

The existing bituminous concrete wearing surface and membrane waterproofing shall be removed in their entireties to the limits shown on the plans. The removal operations shall not begin until the Contractor is prepared to perform the permanent patching or repair to the underlying concrete within 5 working days. If this is in conflict with "Prosecution and Progress," "Maintenance and Protection of Traffic," or other Contract requirements, the more stringent specification shall apply.

Methods for removal of existing wearing surfaces **shall be** fine milling and shall include as many passes or amount of effort required to completely expose the concrete deck(s). Any membrane not completely removed by the milling process shall be removed by scarifying or other means as approved by the Engineer.

Alternate methods for the removal of a bituminous concrete surface may be submitted to the Engineer for review. Demonstration of the alternate removal methods may be required prior to consideration.

The existing bituminous concrete wearing surface, membrane waterproofing, bond breaker, and any other products being removed shall be disposed of offsite by the Contractor unless otherwise noted in the Contract or as directed by the Engineer.

If membrane waterproofing, as specified elsewhere in the Contract, is to be re-installed on the existing deck(s), the surface profile following removal shall be suitable for such reinstallation. The profile of the cleaned concrete surface shall meet the membrane waterproofing manufacturer's recommendations, and have no gouges greater than 1/2 inch in depth. Any deficiencies that could, in the Engineer's opinion, cause failure of, or puncture the new membrane shall be removed as part of this work.

C. Surface Tolerance:

1. General: The 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, poor workmanship, or inadequate field verification. Any unsatisfactory surfaces caused by the removal operations are the Contractor's responsibility and shall be corrected at the Contractor's expense and to the satisfaction of the Engineer prior to opening the surface to traffic.

Any raised structures shall be delineated with traffic control devices, as directed by the Engineer.

2. Tolerances: All milling types shall provide a satisfactory riding surface with a uniform textured appearance. The Contractor shall perform random spot-checks at a minimum of 5 locations per working shift with a Contractor-supplied 10 foot straight edge to verify the surface tolerances listed below. Random spot-checks (minimum of 5 checks per shift) shall occur at a maximum of 250 feet per pass of the milling machine and shall be performed with the Engineer present. The following tolerances shall apply:

(a) **Coarse Milling:** The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed 3/8 inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed 3/8 inch.

(b) **Fine Milling:** The variation of the top of two ridges from the testing edge of the straightedge, between any two ridge contact points, shall not exceed 1/4 inch. The variation of the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed 1/4 inch.

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 +/- 1/2 inch to eliminate the condition. When removing bituminous concrete pavement entirely from an underlying Portland cement concrete pavement, all 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.

D. Transitions:

1. Construction Joints: No transverse vertical face shall be left exposed to traffic. No longitudinal vertical face greater than 1 inch shall be left exposed to traffic. Any other vertical face created by milling shall have a bituminous concrete taper constructed to the temporary transition requirements as described below.

2. Roadway Structures: Roadway structures shall not have a vertical face of greater than 1 inch exposed to traffic as a result of milling. 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.

All structures within the roadway that are exposed to traffic and greater than 1 inch above the milled surface shall receive a transition meeting the following requirements:

(a) For roadways with a posted speed limit of 35 mph or less:

- (i) Round structures with an exposed vertical face between 1 inch and 2.5 inches shall be transitioned with a hard rubber tapered protection ring designed for that purpose of the appropriate inside diameter designed specifically to protect roadway structures. Bituminous concrete tapers at a minimum 12 to 1 (12:1) taper in all directions may be substituted for the protection rings if approved by the Engineer.
- (ii) Round structures with an exposed vertical face greater than 2.5 inches shall receive a transition of bituminous concrete formed at a minimum 12 to 1 (12:1) taper in all directions.
- (iii) All rectangular structures shall receive a transition of bituminous concrete formed at a minimum 12 to 1 (12:1) taper in all directions.

(b) For roadways with a posted speed limit of 40, 45 or 50 mph: All structures shall receive a transition of bituminous concrete formed at a minimum 24 to 1 (24:1) taper in all directions of travel. Direction of travel shall include both the leading and trailing sides of a structure. The minimum taper shall be 12 to 1 (12:1) in all other directions.

(c) For roadways with a posted speed limit of greater than 50 mph: 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 shall include both the leading and trailing sides of a structure. The minimum taper shall be 12 to 1 (12:1) in all other directions.

3. Temporary Transitions: 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 or in accordance with 4.06.03-5, "Transitions for Roadway Surface." If a milling machine is used to form a temporary transition, the length of the temporary transition shall be in accordance with 4.06.03-5, the requirements shown on the plans, or shall be as directed by the Engineer. A clean vertical face shall be established by saw cutting at all final termini limits of the Project.

4. Milling for Permanent Pavement Transitions: When called for on the plans, milling a tapered "keyway" to transition the top course of a bituminous concrete overlay to an existing

pavement shall be performed as specified elsewhere in the Contract.

E. Sweeping: 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 speed that allows for the maximum pickup of millings from the roadway surface. Other sweeping equipment may be provided in lieu of the sweeper 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.

4.09.04—Method of Measurement:

Milling of bituminous concrete will be measured for payment by the number of square yards of area from which the particular type of milling has been completed and the work accepted. Deductions will not be made for minor unmilled areas such as catch basin inlets, manholes, utility boxes and any similar structures.

The removal of wearing surface will be measured for payment by the number of square yards of bituminous concrete wearing surface removed to expose the underlying concrete deck(s). No area deductions will be made for scuppers, joints, and any similar areas.

There will be no measurement for marking roadway structures, transitions for roadway structures and sweeping of any surface that has been milled.

4.09.05—Basis of Payment: Milling work will be paid for at the Contract unit price per square yard for “Fine Milling of Bituminous Concrete (0” to 4”),” “**Coarse** Milling of Bituminous Concrete (Greater Than 4” Up To 8”),” and “**Coarse** Milling of Bituminous Concrete (Greater Than 8”).” 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(s).**

Work for the removal of wearing surface will be paid for at the Contract unit price per square yard for “Removal of Existing Wearing Surface,” complete and accepted, which price shall include the field verification, removal of wearing surface, removal of membrane waterproofing and bond breaker, saw cutting, and all equipment, tools and labor. No additional payments will be made for multiple passes with the milling machine(s) to remove the wearing surface.

No separate payments will be made for cleaning the pavement prior to paving; providing protection and doing handwork to remove bituminous concrete around catch basin inlets, bridge scuppers, manholes, utility valve boxes, median barriers, parapets, joints and any similar structures; repairing surface defects as a result of Contractor negligence; providing protection to underground utilities from the vibration of the milling operation; removal of any temporary milled transition; removal and disposal of millings; sweeping and all associated work.

Milling for Pavement Transitions, where identified on the plans, will be paid under a separate item specified elsewhere.

Installation of traffic control devices shall be included under the costs for “Maintenance and Protection of Traffic,” payment for the devices will be under the applicable items.

| Pay Item | Pay Unit |
|---|----------|
| Fine Milling of Bituminous Concrete (0” to 4”) | s.y. |
| Coarse Milling of Bituminous Concrete (Greater Than 4” Up To 8”) | s.y. |
| Coarse Milling of Bituminous Concrete (Greater Than 8”) | s.y. |
| Removal of Existing Wearing Surface | s.y. |

SECTION 6.02 REINFORCING STEEL

Replace Subarticle 6.02.03-4b with the following:

(b) Support Systems: Reinforcing steel shall be supported in its proper position by use of precast mortar blocks, wire bar supports, supplementary bars (tie-down bars), side form spacers or other approved devices. Such devices shall be sufficiently strong and properly placed at frequent intervals so as to maintain the cover between the reinforcing and the surface of the concrete. *When non-galvanized steel forms are proposed to be used adjacent to galvanized reinforcing bars, non-conductive materials shall be used for bar supports, side form spacers and any other device that could electrically connect the reinforcing to the forms. Metal devices must be properly insulated to protect against electrical conduction.*

The reinforcing steel cover shall be no less than that shown on the plans and no greater than that shown plus 1/4 inch.

Platforms for the support of workers and equipment during concrete placement shall be supported directly on the forms and not on the reinforcing steel.

Replace Subarticle 6.02.03-4d with the following:

(d) Wire Supports: Wire bar supports, such as ferrous metal chairs and bolsters, shall conform to industry practice as described in the CRSI "Manual of Standard Practice of the Concrete Reinforcing Steel Institute." All bolsters or chairs which bear against the forms for exposed surfaces shall be equipped with snug fitting, high density, polyethylene tips which provide 1/2-inch minimum clearance between the metal and any exposed surface. For epoxy-coated reinforcement, all wire bar supports and bar clips shall be epoxy or plastic coated. For galvanized reinforcement, chair and bar supports shall be hot-dip galvanized, after fabrication, in accordance with ASTM A123. *Chair and bar supports between galvanized reinforcing and non-galvanized metal forms shall be made of non-conductive materials. Metal devices must be properly insulated to protect against electrical conduction.*

The maximum spacing of slab bolster rows and high chair rows for concrete deck slabs shall be 4 feet unless otherwise directed by the Engineer.

SECTION 6.03
STRUCTURAL STEEL

Replace Subarticle 6.03.03-4(b) with the following:

- (b) **Camber:** All members shall be cambered prior to heat curving and painting. Rolled beams shall be either heat or cold cambered by methods approved by the Engineer. Cold cambering shall not be performed on fracture critical rolled sections, such as beams spaced more than 12 feet on center. For beams with excessive camber requirements (more than 1 1/2 inches per 20 feet of length), cold cambering is prohibited. Plate girders shall be cambered by cutting the web to the prescribed shape with allowances for shrinkage due to cutting, welding, and heat curving. The fabricator is responsible to determine what allowances should be made. Rolled, plate-rolled, or fabricated sections shall be cambered to the total amount shown on the plans and within the camber deviation tolerances permitted for welded beams and girders, as indicated in the ANSI/AASHTO/AWS D1.5 Bridge Welding Code. The Contractor must submit to the Engineer for approval, a cambering procedure that includes a plan for corrective action if the actual camber is not within tolerance.

SECTION 6.86
DRAINAGE PIPES, DRAINAGE PIPE ENDS

Add the following after the last paragraph of Subarticle 6.86.03-3:

Material placed around pipes shall be deposited on both sides to approximately the same elevation at the same time, in accordance with 2.86.03.

**SECTION 7.07
MEMBRANE WATERPROOFING
(WOVEN GLASS FABRIC)**

Replace Section 7.07 with the following:

**SECTION 7.07
MEMBRANE WATERPROOFING
(WOVEN GLASS FABRIC)**

(Vacant)

**SECTION 8.03
PAVED DITCHES, PAVED APRONS AND
PAVED CHANNELS**

Replace Section 8.03 in its entirety with the following:

**SECTION 8.03
PAVED APRONS**

8.03.01—Description**8.03.02—Materials****8.03.03—Construction Methods****8.03.04—Method of Measurement****8.03.05—Basis of Payment**

8.03.01—Description: The work under this item includes placing and compacting of a bituminous concrete course on a pre-excavated foundation forming paved aprons in accordance with the line, grade, compacted final thickness and typical cross-section shown on the plans.

8.03.02—Materials: The materials for this work shall meet the following requirements:

Bituminous Concrete Curb Mix shall meet the requirements of 4.06 and M.04.01.

Processed Aggregate Base shall meet the requirements of M.05.01.

8.03.03—Construction Methods: The processed aggregate base course shall be placed in a single course, 4 inches compacted thickness, in accordance with 3.04.03. The surface shall be a 2 inch course of bituminous concrete curb mix. The bituminous concrete shall be placed and thoroughly compacted with compaction equipment suitable for small areas.

8.03.04—Method of Measurement: The quantity to be measured for this item will be the surface area in square yards of paved apron constructed and accepted.

Formation of Subgrade and Processed Aggregate Base will not be measured for payment.

8.03.05—Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Paved Apron." The price shall include all materials, tools, equipment and work incidental thereto.

Pay Item

Pay Unit

Paved Apron

s.y.

**SECTION 8.18
PROTECTIVE COMPOUND FOR BRIDGES**

Delete Section 8.18 in its entirety.

**SECTION 9.21
CONCRETE SIDEWALKS AND RAMPS**

Replace the last paragraph of Article 9.21.02 with the following:

Detectable warning **surfaces** shall be prefabricated detectable warning tile(s) chosen from the Department's [Qualified Products List](#) for retrofit or cast in place applications

Replace Subarticle 9.21.03-8 with the following:

8. Detectable Warning Surface: The detectable warning **surface** for new construction shall be set directly in plastic concrete and each tile shall be weighed down to prevent the tile from floating after placement in wet concrete in accordance with curing procedures. Install detectable warning **surface** according to the plans and the manufacturer's specifications, or as directed by the Engineer.

The detectable warning **surface** for retrofit construction shall be installed according to the plans in the direction of pedestrian route and contained wholly within painted crosswalk when present. Its installation shall meet all manufacturer's requirements.

Replace Subarticle 9.21.04-4 with the following:

4. Detectable Warning Surface: For new construction (cast in place), the detectable warning **surface** will be measured for payment by the actual number of **square feet of** detectable warning **surface** installed and accepted.

Replace the 2nd paragraph of Article 9.21.05 with the following:

A new detectable warning **surface** will be paid for at the Contract unit price **per square foot of** "Detectable Warning **Surface**" installed **and** complete in place. This price shall include all tiles, materials, equipment, tools and labor incidental thereto.

In the Pay Item – Pay Unit table, change "Detectable Warning Strip, ea." as follows:

| | |
|-----------------------------------|------|
| Detectable Warning Surface | s.f. |
|-----------------------------------|------|

SECTION 9.24 CONCRETE DRIVEWAY RAMP

Replace Section 9.24 in its entirety with the following:

SECTION 9.24 CONCRETE DRIVEWAY RAMP

9.24.01—Description: This item shall consist of concrete driveway ramps constructed on a granular fill base in accordance with the Contract.

9.24.02—Materials: Materials for this work shall meet the following requirements:

1. **Portland Cement:** Concrete shall meet the requirements of M.03 for Class PCC03340 Concrete.
2. **Granular Fill Base:** Granular fill shall meet the requirements of M.02.01.
3. **Reinforcement:** Shall meet the requirements of M.06.01.

9.24.03—Construction Methods: Construction methods shall meet the requirements of 9.21.03. The surface shall be finished and marked off as directed by the Engineer.

The Contractor shall protect the driveway ramp from damage until it is opened to traffic. The ramp shall not be opened to traffic until the attainment of a compressive strength of 3,000 psi. Any damage occurring prior to the Department opening the driveway ramp to traffic shall be repaired or replaced at the Contractor's expense.

9.24.04—Method of Measurement: This work will be measured for payment as follows:

1. **Concrete Driveway Ramp:** This work will be measured for payment by the actual number of cubic yards of completed and accepted concrete driveway ramps.
2. **Excavation:** Excavation below the finished grade of each ramp, backfilling and disposal of surplus material will not be measured for payment; but the cost shall be included in the Contract price for Concrete Driveway Ramp.

Excavation above the finished grade of each ramp will be classified and paid for in accordance with 2.02.

3. **Granular Fill Base:** This work will not be measured for payment, but the cost shall be included in the Contract price for Concrete Driveway Ramp.

4. **Reinforcement:** This material will not be measured for payment, but the cost shall be included in the Contract price for Concrete Driveway Ramp.

9.24.05—Basis of Payment: This work will be paid for at the Contract unit price per cubic yard for "Concrete Driveway Ramp," complete in place, which price shall include all excavation as specified above, backfill, disposal of surplus materials, and all materials, equipment, tools and labor incidental thereto.

| | |
|------------------------|----------|
| Pay Item | Pay Unit |
| Concrete Driveway Ramp | c.y. |

**SECTION 9.71
MAINTENANCE AND PROTECTION OF TRAFFIC**

Replace Section 9.71 in its entirety with the following:

**SECTION 9.71
MAINTENANCE AND PROTECTION OF TRAFFIC**

9.71.01—Description: Unless other provisions are made on the plans or in the special provisions of the Contract, the Contractor shall keep the roadway under construction open to traffic for the full length of the Project and shall provide a sufficient number of travel lanes and pedestrian passways to move that traffic ordinarily using the roadway. The travel lanes and pedestrian passways shall be drained and kept reasonably smooth and in suitable condition at all times in order to provide minimum interference to traffic consistent with the proper prosecution of the work.

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

When a scheme for maintenance of traffic, which may include detours, is shown on the plans or described in the special provisions of the Contract, this shall govern unless an alternate scheme acceptable to the Engineer is offered by the Contractor at no additional cost. If no scheme is shown on the plans or described in the special provisions of the Contract, and the Contractor wishes to deviate from the provisions of maintaining traffic as described in this Section, the Contractor may submit and the Engineer may approve a schedule showing a proposed sequence of operations and a compatible method of maintaining traffic.

The Contractor shall provide to the Engineer the name of the person who shall be responsible for installing and maintaining all temporary traffic control devices in work zones on limited access highways. This person shall be certified as a Traffic Control Supervisor by [ATSSA](#). This certification shall be maintained and valid throughout the duration of the Contract.

9.71.03—Construction Methods: The Contractor shall furnish and erect signs legally closing the highway to traffic, as shown on the plans or directed by the Engineer, prior to commencing any work on the Project.

The Contractor shall furnish a sufficient number of signs, barricades, drums, traffic cones and delineators to forewarn traffic of the construction as shown on the traffic control plans contained within or as directed by the Engineer.

The Contractor shall also provide such safety measures, pavement markings, warning devices and signs as deemed necessary to safeguard and guide the traveling public through detours ordered by the Engineer, included in the approved scheme for maintenance of traffic, or as shown on the plans. The Contractor shall erect, maintain, move, adjust, clean, relocate and store these signs, barricades, drums, traffic cones and delineators when, where and as directed by the Engineer, and in accordance with the ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features."

The use of unauthorized or unapproved signs, barricades, drums, traffic cones or delineators will not be permitted.

All signs in any one signing pattern shall be mounted the same height above the traveled surface. The Contractor shall keep all signs in proper position, clean and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials or equipment, and soil, are not allowed to obscure any sign, light, or barricade. Signs that do not apply to existing conditions shall be removed or adjusted so that the legend is not visible to approaching traffic.

The Contractor, when ordered by the Engineer, shall remove snow and take care of icy conditions on temporary, new and existing sidewalks on any part of the right-of-way within the limits of the Project. Payment for the cost thereof, will be made as extra work.

Snow removal and correction of icy conditions, other than those resulting from the Contractor's operations, on uncompleted contracts under traffic, will remain an obligation of the State or others.

Should the Contractor fail to perform any of the work required under this section, the State may perform or arrange for others to perform such work. In such cases, the State will deduct from money due or to become due the Contractor all expenses connected therewith which are found to be greater than the cost to the State had the Contractor performed the specified work.

9.71.04—Method of Measurement: This item, being paid on a lump sum basis, will not be measured for payment.

9.71.05—Basis of Payment: This work will be paid for at the Contract lump sum price for "Maintenance and Protection of Traffic." This price shall include all costs for labor, **training**, equipment and services involved in the erection, maintenance, moving, adjusting, cleaning, relocating and storing of signs, barricades, drums, traffic cones and delineators furnished by the Contractor, as well as all costs of labor and equipment involved in the maintenance of traffic lanes and detours, except for pavement markings, ordered or included in the approved scheme for maintenance of traffic. **This price shall also include furnishing and services of a trained Traffic Control Supervisor for work on limited access highways.**

"Maintenance and Protection of Traffic" does not include the cost of signs, barricades, drums, traffic cones, delineators, or the furnishing and placing of materials such as borrow, gravel, crushed stone, bituminous concrete for patching and pipe. These items will be paid for at **their respective** Contract unit prices, or in the absence of applicable Contract unit prices, as extra work. If the Engineer requires the Contractor to provide facilities in excess of the requirements of the adopted scheme for maintenance and protection of traffic, the Contractor shall perform the required work, and payment for the cost thereof will be made at applicable Contract unit prices, or in the absence of applicable Contract unit prices, as extra work.

| Pay Item | Pay Unit |
|---------------------------------------|----------|
| Maintenance and Protection of Traffic | l.s. |

SECTION 9.77 TRAFFIC CONE

Replace Section 9.77 in its entirety with the following:

SECTION 9.77 TRAFFIC CONE

9.77.01—Description: Under this item the Contractor shall furnish all reflectorized orange traffic cones required on the Project to meet the requirements as stated in the item "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

The Contractor shall have, available on the Project, a sufficient number of traffic cones to fulfill all the requirements as specified in the Contract and to replace those traffic cones which have become damaged.

9.77.02—Materials: Traffic cones shall be constructed of materials to a thickness to withstand impact without damage to cones or to vehicles. The traffic cones shall be of sufficient mass or have bases to which ballast may be added to assure that they will not be blown over or displaced by wind from passing vehicles. Traffic cones used at night shall be reflectorized by utilizing Retroreflective Sheeting in accordance with M.18.09.

The following documentation shall be submitted by the Contractor prior to using traffic cones on the Project:

1. For traffic cones manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the manufacturer's self-certification that the traffic cones comply with the requirements of the AASHTO Manual for Assessing Safety Hardware (MASH) or the NCHRP Report 350 is required.
2. For traffic cones manufactured after December 31, 2019, a copy of the manufacturer's self-certification that the traffic cones comply with the requirements of the 2016 edition of the AASHTO MASH is required.

9.77.04—Method of Measurement: This item will be measured for payment by the number of traffic cones used on the Project.

9.77.05—Basis of Payment: This item will be paid for at the Contract unit price each for "Traffic Cone" used on the Project. Each cone will be paid for once, regardless of the number of times it is used on the Project.

Any traffic cones that are missing, damaged or defaced so that they are not effective, as determined by the Engineer in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor at no cost to the State.

When the traffic cones are no longer required on the Project they shall remain the property of the Contractor.

| | |
|--------------|----------|
| Pay Item | Pay Unit |
| Traffic Cone | ea. |

SECTION 9.78 TRAFFIC DRUM

Replace Section 9.78 in its entirety with the following:

SECTION 9.78 TRAFFIC DRUM

9.78.01—Description

9.78.02—Materials

9.78.03—Construction Methods

9.78.04—Method of Measurement

9.78.05—Basis of Payment

9.78.01—Description: Under this item the Contractor shall furnish all traffic drums required on the Project to correspond to the traffic patterns, as indicated in the Contract for "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

9.78.02—Materials: Traffic Drums shall be manufactured plastic or rubber devices designed in accordance with the latest edition of the MUTCD. The design of the device will allow for the installation of barricade warning lights. The device shall be stabilized with the use of sandbags or other approved means.

Retroreflective Sheeting, in accordance with M.18.09, shall be used on traffic drums. Only one type sheeting shall be used on a drum and all drums furnished on a construction project shall be manufactured with the same type retroreflective sheeting.

The following documentation shall be submitted by the Contractor prior to using traffic drums on the Project:

1. For traffic drums manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the manufacturer's self-certification that the traffic drums comply with the requirements of the AASHTO MASH or the NCHRP Report 350 is required.
2. For traffic drums manufactured after December 31, 2019 and used without attachments, a copy of the manufacturer's self-certification that the traffic drums comply with the requirements of the 2016 edition of the AASHTO MASH is required.
3. For traffic drums manufactured after December 31, 2019 and used with attachments such as warning lights, a copy of the Federal-Aid Eligibility Letter issued by the FHWA to the manufacturer documenting that the traffic drums with the proposed attachments meet the crash test and evaluation criteria of the 2016 AASHTO MASH is required.

9.78.03—Construction Methods:

The Contractor shall have, available on the Project, a sufficient number of traffic drums to fulfill all the requirements, as specified in the Contract, to provide adequate traffic control during periods of unforeseen circumstances or emergencies.

Traffic drums shall be designed and installed in accordance with the plans, the MUTCD latest edition, and as directed by the Engineer.

Any traffic drum that is missing, damaged or defaced so that it is not effective, as determined by the Engineer and in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor.

When the traffic drums are no longer required on the Project, they shall remain the property of the Contractor.

9.78.04—Method of Measurement: This work will be measured for payment by the number of traffic drums used on the Project.

9.78.05—Basis of Payment: This item will be paid for at the Contract unit price each for "Traffic Drum" used on the Project. Each drum will be paid for once, regardless of the number of times it is used on the Project.

Pay Item
Traffic Drum

Pay Unit
ea.

SECTION 9.79 CONSTRUCTION BARRICADE

Replace Section 9.79 in its entirety with the following:

SECTION 9.79 CONSTRUCTION BARRICADE

9.79.01—Description: Under this item the Contractor shall furnish all construction barricades of the specified type required on the Project to comply with the requirements of NCHRP Report 350 (TL-3), or the AASHTO MASH, and the requirements stated in the item "Maintenance and Protection of Traffic," as shown on the plans and as directed by the Engineer.

9.79.02—Materials: Construction barricades shall consist of the following materials:

The frame shall be of polyvinyl chloride pipe meeting the requirements of ASTM D2241 for PVC 1120 or 1220, SDR 21 (pressure rating 200 psi), ASTM D3034, SDR 35 or an approved equal. All straight members shall be the color white.

Wyes, tees and elbows for joint connections shall be polyvinyl chloride of suitable size and strength for the purpose intended.

Joints shall not be glued and a 3/16 inch nylon rope (or equivalent) shall be threaded loosely through the pipe to keep sections from flying if hit by a vehicle.

Face panels used as horizontal members shall be constructed of a suitable plastic material, 0.060 inch high-impact styrene, anodized aluminum of no less than 0.025 inch thickness or a comparable substitute approved by the Engineer.

All hardware shall be in accordance with standard commercial specifications and shall be approved by the Engineer.

Alternate stripes of white and **fluorescent** orange retroreflective sheeting shall be applied to the horizontal members as shown on the plans. Only one type sheeting shall be used on a barricade and all barricades on a construction project shall be constructed with the same type of retroreflective sheeting. Retroreflective sheeting shall meet the requirements of M.18.09.

Construction barricades shall be designed and fabricated so as to prevent them from being blown over or displaced by wind. Construction barricades shall be approved by the Engineer before they are placed into service.

Materials Certificates shall be required confirming compliance with the requirements set forth in the plans and specifications for these barricades.

The following documentation shall be submitted by the Contractor prior to using barricades on the Project:

1. For barricades manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the Federal-Aid Eligibility Letter issued by the FHWA to the manufacturer documenting that the barricades meet the crash test and evaluation criteria of the AASHTO MASH or of the NCHRP Report 350 is required.
2. For barricades manufactured after December 31, 2019, a copy of the Federal-Aid Eligibility Letter issued by the FHWA to the manufacturer documenting that the barricades meet the crash test and evaluation criteria of the 2016 AASHTO MASH is required.

9.79.03—Construction Methods: The Contractor shall furnish a sufficient number of construction barricades required for the traffic patterns for all operations which are being undertaken concurrently. The barricades shall be constructed in a neat and workmanlike manner to the satisfaction of the Engineer.

Ineffective barricades, as determined by the Engineer and in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor at no cost to the State.

Barricades that are no longer required shall be removed from the Project and shall remain the property of the Contractor.

9.79.04—Method of Measurement: This work will be measured for payment by the number of construction barricades used on the Project.

9.79.05—Basis of Payment: This item will be paid for at the Contract unit price each for "Construction Barricade" of the type specified and used on the Project. Each barricade will be paid for once, regardless of

the number of times it is used on the Project.

Pay Item

Construction Barricade (Type)

Pay Unit

ea.

SECTION 9.81 42 INCH TRAFFIC CONE

Replace Section 9.81 in its entirety with the following:

SECTION 9.81 42 INCH TRAFFIC CONE

9.81.01—Description: This item shall consist of furnishing 42-inch retroreflective traffic cones required on the Project to meet the requirements of the traffic control plans, as stated in the item "Maintenance and Protection of Traffic," as shown on the plans or as directed by the Engineer.

The Contractor shall have available on the Project a sufficient number of traffic cones to fulfill all the requirements as specified in the Contract and to replace those which have become damaged.

9.81.02—Materials: The traffic cone shall be manufactured of 2 piece construction - cone and stabilizer base. The cone shall be constructed of impact-resistant orange plastic or rubber of a thickness able to withstand impact without damage to cones or vehicles. The bottom of the cone shall be 8 1/2 inch conical diameter tapering to the top of the cone which shall be 3 1/2 inch conical diameter. The design of the device will allow for the installation of a weighted stabilizer base. The stabilizer base shall not be round in shape. It shall have a hole in the middle to allow for quick placement over the cone. The base shall be constructed of impact-resistant black plastic or rubber ballasted to 18 lbs.

Retroreflective stripes shall be fabricated from retroreflective sheeting. All stripes shall be of one type of sheeting. Retroreflective sheeting shall be as specified in M.18.09.

The following documentation shall be submitted by the Contractor prior to using traffic cones on the Project:

1. For traffic cones manufactured on or before December 31, 2019 and used for the duration of their normal service life, a copy of the manufacturer's self-certification that the traffic cones comply with the requirements of AASHTO MASH or NCHRP Report 350 is required.
2. For traffic cones manufactured after December 31, 2019, a copy of the manufacturer's self-certification that the traffic cones comply with the requirements of the 2016 edition of the AASHTO MASH is required.

9.81.03—Construction Methods: The stabilizer base shall be attached to the traffic cone in accordance with the manufacturer's instructions. The Contractor shall ensure that the devices are kept clean and bright.

9.81.04—Method of Measurement: This item will be measured for payment by the number of traffic cones used on the Project.

9.81.05—Basis of Payment: This item will be paid for at the Contract unit price for "42 Inch Traffic Cone" used on the Project. Each cone will be paid for once, regardless of the number of times it is used on the Project.

Any traffic cones that are missing, damaged or defaced so that they are not effective, as determined by the Engineer, and in accordance with ATSSA "Quality Guidelines for Temporary Traffic Control Devices and Features," shall be replaced by the Contractor at no cost to the State.

When the traffic cones are no longer required on the Project, they shall remain the property of the Contractor.

| | |
|----------------------|----------|
| Pay Item | Pay Unit |
| 42 Inch Traffic Cone | ea. |

**SECTION 10.18
NAVIGATION LIGHT**

Delete Section 10.18 in its entirety.

SECTION 11.12
MAGNETIC VEHICLE DETECTOR

Delete Section 11.12 in its entirety.

SECTION M.03 PORTLAND CEMENT CONCRETE

In the list of Articles, change the title of Article M.03.07 as follows:

M.03.07—Adhesive Anchors

Replace Subarticle M.03.01-4 with the following:

4. Water: All water used in the mixing of concrete shall be odorless and clear in appearance. Surface water may be used if not taken from shallow or muddy sources; classified as Class C or Class D on the Department of Energy and Environmental Protection (DEEP) Water Quality Classification mapping; and accommodations have been made to prevent contaminants from entering the supply to the satisfaction of the Engineer. The Engineer may request that water from any surface or ground source be tested in accordance with [ASTM C1602](#) and [ASTM D512](#) if the appearance or scent of the water is suspect. To be acceptable, the pH of the water must not be less than 6.0 or greater than 8.0 and Chloride Ion Concentration of the water must not exceed 250ppm. Potable water taken directly from a municipal or regional water supply may be used for mixing concrete without testing. Heating or cooling of water may be required to meet mix temperature requirements at time of placement.

Replace the 1st paragraph of Article M.03.02 with the following:

1. Standard CTDOT Mix Designs: Standard Mix Designs shall be designed in accordance with applicable sections of ACI 211 and ACI 318. The mixtures shall consist of Portland cement, fine aggregate, coarse aggregate, admixtures, and water proportioned in accordance with Table M.03.02-1. The mixtures shall also be designed to obtain the plastic properties of Portland cement concrete as specified in Table 6.01.03-2.

Replace Article M.03.07 with the following:

M.03.07—Adhesive Anchors

The [adhesive](#) anchor material shall be epoxy or polyester polymer resin. It shall not contain any metals or other products that promote corrosion of steel. The Contractor shall supply the Engineer with a Certified Test Report and Materials Certificate for the [adhesive](#) anchor material in accordance with [1.06.07](#) or [1.20-1.06.07](#). When requested by the Engineer, the Contractor shall also provide samples of the [adhesive](#) anchor material.

Replace Article M.03.08 with the following:

M.03.08—Joint Materials

1. Transverse Joints for Concrete Pavement: Transverse joints shall consist of corrosion resistant load transfer devices, poured joint seal and in the case of expansion joints, expansion joint filler, all meeting the following requirements:

- (a) The corrosion resistant load transfer device shall be coated steel or sleeved steel or be made of corrosion resistant material. The dimensions of any devices used shall be as shown on the plans, exclusive of any coating or sleeving. Core material of coated or sleeved metallic devices shall be steel meeting the requirements of AASHTO M 255 Grade [75](#), or steel having equal or better properties and approved by the Engineer. Nonmetallic devices shall meet the strength requirements applicable to metallic devices.
- (b) All coated load transfer devices shall meet the requirements of AASHTO M 254. Uncoated or sleeved load transfer devices shall meet the applicable physical requirements of AASHTO M 254. The use of field applied bond breakers will not be permitted.

- (c) The basis of acceptance for corrosion resistant load transfer devices shall be the submission of Certified Test Reports meeting the requirements of 1.06.07 or 1.20-1.06.07 demonstrating that the load transfer device meets the requirements of AASHTO M 254 for the type of device supplied. The Engineer reserves the right to reject any load transfer device deemed unsatisfactory for use.

2. Longitudinal Joint Devices for Concrete Pavement: The metal used in the fabrication of longitudinal joint devices shall meet ASTM requirements for each type of metal used. The dimensions shall be as shown on the plans.

3. Joint Filler for Concrete Sidewalks and Curbing: Expansion joint filler shall be either preformed expansion joint filler or preformed rubber as indicated on the plans and shall meet the following requirements:

- (a) Preformed expansion joint filler shall be a resilient bituminous cellular type that meets the physical requirements of AASHTO M 213 and the testing requirements of ASTM D545.
- (b) Preformed rubber joint filler shall be semi-rigid, non-extruding, resilient type, closed-cell polypropylene foam meeting the requirements of ASTM D3189.

Dimensions shall be as specified or shown on the plans; and tolerances of plus 1/16 inch thickness, plus 1/8 inch depth and plus 1/4 inch length will be permitted.

4. Expansion Joint Fillers for Bridges and Bridge Bearings:

- (a) Preformed expansion joint filler for bridges shall meet the requirements of AASHTO M 153, Type I or Type II.
- (b) Pre-molded expansion joint filler for bridge bearings shall meet the requirements of AASHTO M 33.

5. Joint Sealants:

- (a) **Joint Sealer for Pavement:** The joint sealer for pavement shall be a rubber compound of the hot-poured type and shall meet the requirements of ASTM D6690 unless otherwise noted on the plans or in the special provisions.
- (b) **Joint Sealer for Structures:** Structure joint sealers shall be one of the following type sealants:
1. Where "Joint Seal" is specified on the plans, it shall meet the requirements of ASTM C920 Type S (Single Component), Grade P (Pourable, Self-leveling), or Grade NS (Non-sag type), Class 50, or other approved single component polyurethane-base elastomeric sealant.

A Certified Test Report will be required in accordance with 1.06.07 or 1.20-1.06.07.

2. Where "Silicone Joint Sealant" is specified on the plans, it shall be one of the following sealants manufactured by the Dow Corning Corporation, or an approved equal:
 - i. DOWSIL 888 Silicone Joint Sealant
 - ii. DOWSIL 890-SL Self-Leveling Silicone Joint Sealant

6. Closed Cell Elastomer: The closed cell elastomer shall meet the requirements of ASTM D1056, Grade 2B2. The elastomer shall have a pressure-sensitive adhesive backing on one side.

The Contractor shall deliver the closed cell elastomer to the job site a minimum of 30 days prior to installation. Prior to the delivery of the closed cell elastomer, the Contractor shall notify the Engineer of the date of shipment and the expected date of delivery. Upon delivery of the closed cell elastomer to the job site, the Contractor shall immediately notify the Engineer.

Each separate length, roll or container shall be clearly tagged or marked with the manufacturer's name, trademark and lot number. A lot is defined as that amount of closed cell elastomer manufactured at 1 time from 1 batch of elastomer. A batch is defined as that amount of elastomer prepared and compounded at 1 time. The Contractor shall furnish a Certified Test Report in accordance with 1.06.07 or 1.20-1.06.07.

If requested by the DMT, the Contractor shall furnish a 1 foot length of closed cell elastomer in each lot for purposes of inspection and testing by the Engineer.

**SECTION M.04
BITUMINOUS CONCRETE MATERIALS**

Replace Subarticle M.04.03-2(a) with the following:

2. Acceptance Requirements:

(a) General:

For those mixes with a total estimated project tonnage over 500 tons, a Contractor representative shall obtain a field sample of the material placed at the project site in accordance with AASHTO R 97 or an alternate procedure approved by the Engineer. Sampling from the truck at the Plant in accordance with AASHTO R 97 will be allowed for those mixes with a total estimated project tonnage equal to or less than 500 tons. The Contractor's representative obtaining mix samples must be a certified NETTCP HMA Paving Inspector, NETTCP HMA Plant Technician, or has successfully completed the HMA Field Sampling Course administered by the Connecticut Advanced Pavement Laboratory. Regardless of sampling location, the sample shall be quartered by the Contractor in accordance with AASHTO R 47 and placed in an approved container. For samples obtained at the project site, a Type A Mechanical Splitter shall be used to quarter the sample in accordance with AASHTO R 47. The container shall be sealed with a security tape provided by the Department and labelled to include the project number, date of paving, mix type, lot and subplot numbers and daily tonnage. The minimum weight of each quartered sample shall be 14000 grams. The Contractor shall transport one of the containers to the Departments Central Laboratory in Rocky Hill, retain one of the sealed containers for potential use in dispute resolution and test the remaining samples for acceptance in accordance with past practice.

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 QC and acceptance testing must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP 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.

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

Should the Department be unable to validate the Contractor's acceptance test result(s) for a lot of material, the Engineer will use results from verification testing and re-calculate the pay adjustment for that lot. The Contractor may request to initiate the dispute resolution process in writing within 24 hours of receiving the adjustment and must include supporting documentation or test results to justify the request.

Replace Table M.04.03-1 with the following:

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 R 97 | 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 Gyratory Molds Compacted to N _{des} |
| 6 | AASHTO T 329 | Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method |

Replace Table M.04.03-2 with the following:

**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 125 | 0, Unless requested by the Engineer |
| 126 to 500 | 1 |
| 501 to 1,000 | 2 |
| 1,001 to 1,500 | 3 |
| 1,501 or greater | 1 per 500 tons or portions thereof |

Replace Table M.04.03-3 with the following:

TABLE M.04.03-3: Superpave Acceptance Testing Procedures

| Protocol | Procedure | Description |
|----------|-----------------|---|
| 1 | AASHTO R 97 | 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 2 tests) |
| 9 | AASHTO T 329 | Moisture content of bituminous concrete |

**SECTION M.07
PAINT**

Replace Section M.07 in its entirety with the following:

**SECTION M.07
PAINT****M.07.01—General for All Paints and Enamels****M.07.02—Coating Systems for Structural Steel****M.07.03 through M.07.19 —Vacant****M.07.20—Waterborne Pavement Marking Paint****M.07.21—Hot-Applied Waterborne Pavement Marking Paint****M.07.22—Epoxy Resin Pavement Markings****M.07.23—Vacant****M.07.24—Preformed Black Line Mask Pavement Marking Tape****M.07.25—Vacant****M.07.30—Glass Beads****M.07.01—General for All Paints and Enamels:**

1. Paints and enamels shall consist of pigments of the required fineness and composition, ground in the required vehicle by a suitable grinding machine to the required fineness. All pigments, resins, oils, thinners and driers shall be free from adulterants.

2. Proportions: All proportions in formulas are by weight unless otherwise specified.

3. Fineness: All pigments, except aluminum, unless otherwise specified, shall be finely ground with 100% passing the No. 200 sieve; with no less than 97% passing the No. 325 sieve.

4. Curdling, Livering, Leveling: The paint or enamel shall not liver or curdle. The pigment shall remain in suspension in a satisfactory manner through the expected shelf life specified on the label. The enamel type paints shall level properly and not show brush marks.

5. Colors: All paints and enamels shall be matched to the Department's standard shades.

6. Time of Drying: All paints or enamels, unless otherwise specified, shall dry to full gloss in not more than 18 hours.

7. Weight per Gallon: The weight per gallon of all paints and enamels shall be determined at 77°F.

8. Shipping: All paints and enamels shall be shipped in containers plainly marked with the name, net weight and volume of paint or enamel content. The manufacturer's name, address, date and lot number shall be marked on every package.

9. Samples, Sampling, and Testing: The manufacturer shall supply a Certified Test Report per lot for any pigment, oil, resin, thinner, drier or paint. When a portion of the lot is delivered, a Material Certificate is required. Upon request by the Engineer, the manufacturer shall submit a sample in accordance with the latest edition of the Materials Testing Manual's "[Minimum Schedule for Acceptance Testing](#)."

Sampling and testing shall be performed in accordance with ASTM, Federal Standards, or by methods established by the Department.

M.07.02—Coating Systems for Structural Steel: The coating system used shall be specified in the Contract and shall be selected from the [Northeast Protective Coating Committee's](#) (NEPCOAT's) Specification Criteria for Protective Coatings qualified products list.

Color: The color of the topcoat material shall be as noted on the plans (**AMS-STD-595** Color Number).

Packaging and Labeling of Coating Material: The container shall be designed to store the specific coating material. Each container of coating material shall bear a label that identifies the name of the coating manufacturer, the name of the product, the lot and batch numbers, the date of manufacture and the shelf life expiration date. The label shall also include complete specific instructions for opening the container and for mixing, thinning, and applying the coating material contained therein. If the coating material cannot be positively identified from the label on the container, it shall not be used.

Delivery: Coating material shall be furnished in the manufacturer's original sealed and undamaged container.

Control of Materials: For each coating material, a Materials Certificate shall be submitted in conformance

with 1.06.07 or 1.20-1.06.07. The Material Certificate shall indicate compliance with NEPCOAT Acceptance Criteria for Protective Coatings, List A or B.

M.07.03 through M.07.19—Vacant

M.07.20—Waterborne Pavement-Marking Paint: Pavement-marking paint shall be waterborne paint and shall be white or yellow, depending on its use, for application on bituminous concrete and Portland cement concrete pavement. This paint shall be compatible with the stripe-painting equipment to be used on the Project. All requirements shall be as specified in M.07.21, except as follows:

1. Total nonvolatile compounds shall not be less than 70% by weight.
2. Pigment shall be 50 to 60% by weight.
3. Drying time for no-pick-up shall be 15 minutes or less when tested in accordance with ASTM D711.
4. The Contractor shall provide a Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 for each portion of a batch or lot delivered to the Project site.

M.07.21—Hot-Applied Waterborne Pavement-Marking Paint: Fast-drying waterborne pavement-marking paint to be applied on bituminous concrete and Portland cement concrete pavements shall be the color specified on the plans. This paint shall be capable of being applied with stripe-painting equipment at an application temperature of 130 to 145°F and shall have good spraying characteristics. The Contractor shall provide a Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 for each portion of a batch or lot delivered to the Project site.

General: Specifications and publications that apply are as follows:

- FS TT-P-1952 - Paint, Traffic and Air Field Marking, Waterborne
- Federal Test Method Standard (FTMS) No.141 - Paint, Varnish, Lacquer and Related Materials, Methods of Inspection, Sampling and Testing
- The MUTCD

ASTM Standards:

- D211 - Specifications for Chrome Yellow and Chrome Orange Pigments
- D476 - Classification for Dry Pigmentary for Titanium Dioxide Pigments

Detailed Requirements, Formulation and Manufacture: The paint shall be formulated and manufactured from first-grade raw materials and shall be free from defects and imperfections. The materials shall not exhibit settling or jelling after storage in the sealed containers upon receipt. The paint shall provide the proper anchorage, refraction and reflection for the finished glass spheres when applied as specified.

Composition: The composition of the paint material shall meet the requirements of any applicable Federal, State or Local regulation for products of this type and shall meet the following requirements:

1. Paint shall not contain more than 0.06% lead when tested in accordance with ASTM D3335
2. Total nonvolatile organic compounds shall be a minimum of 76% by weight
3. Pigment shall be 58 to 63% by weight when tested in accordance with ASTM D3723
4. Resin solids shall be composed of 100% acrylic emulsion polymer
5. Volatile organic compounds shall not exceed 1.25 lb./gal. excluding water when tested in accordance with ASTM D2369
6. Flash Point: Closed-cup flash point shall not be less than 145°F
7. Density: Weight per gallon shall not be less than 12.5 lb./gal. when tested in accordance with ASTM D1475

Viscosity: The consistency of the paint shall not be less than 80, nor more than 90 Krebs units when tested in accordance with ASTM D562.

Flexibility: The paint shall not show cracking or flaking when tested in accordance with ASTM D522. The panels shall be lightly buffed with steel wool and thoroughly cleaned with solvent before being used for tests.

Dry Opacity: Both white and yellow paints shall have a minimum contrast ratio of 0.96 when tested in accordance with ASTM D2805. Contrast ratio shall be determined by applying a wet film thickness of 0.005 inch to a standard hiding-power chart. After drying, the black- and- white-reflectance values shall be determined using a suitable reflectometer and the contrast ratio determined.

Bleeding: The paints shall have a minimum bleeding ratio of 0.97 when tested in accordance with FS TT-P-1952.

Abrasion Resistance: No less than 210 liters of sand shall be required to remove paint film when tested in accordance with FS TT-P-1952.

Color: The paint shall not discolor in sunlight and shall maintain colorfastness throughout its life. Color determination shall be made without beads, after a minimum of 24 hours. Paint color shall be in accordance with the MUTCD.

Glass Bead Adhesion: The paint with glass beads conforming to M.07.30, applied at the rate of 6.0 lb./gal. of paint, shall require not less than 150 liters of sand to remove paint film and glass beads.

Scrub Resistance: The paint shall pass 300 cycles minimum when tested in accordance with ASTM D2486.

Drying Time: Drying time to no pick-up shall be 3 minutes or less when tested in accordance with ASTM D711.

M.07.22—Epoxy Resin Pavement Markings:

General Requirements:

Identification: Each container must be labeled with the following information: Name and address of manufacturer, production batch number, date of manufacture, grade name and/or identification number, type of material, number of gallons, Contract number, directions for mixing and application.

Certification: The Contractor shall provide a Material Certificate in accordance with 1.06.07 or 1.20- 1.06.07 for each portion of a batch or lot delivered to the Site.

Detailed Requirements:

(a) **Epoxy Resin Material:** The material shall be composed of epoxy resins and pigments only. The white and the yellow epoxy resin materials shall be composed of approved materials and be lead- and chromium-free.

(b) **Composition:**

| WHITE (percent by weight) | YELLOW (percent by weight) |
|---|----------------------------|
| 20% ± 2% Titanium Dioxide (ASTM D476 Type III) | |
| 80% ± 2% Epoxy Resins | 75% ± 2% Epoxy Resins |

(c) **Color:** The white material shall be in accordance with the MUTCD, when the material is placed in a type EH weatherometer for a period of 500 hours and weathered according to ASTM G152. The yellow material shall be in accordance with the MUTCD.

(d) **Adhesion Capabilities:** When the adhesion of the material to Portland cement concrete is tested in accordance with AASHTO T 237, the failure of the system must take place in the concrete.

(e) **Abrasion Resistance:** When the abrasion resistance of the material is tested according to ASTM D4060 with a CS-17 wheel under a load of 1000 grams for 1000 cycles, the wear index shall be no greater than 82.

(f) **Hardness:** The Type D durometer hardness of the material shall be not less than 75 nor more than 90 when tested in accordance with ASTM D2240 after the material has cured for 72 hours at 73°F ± 3.5°F.

(g) **Tensile Strength:** The tensile strength of the material, when tested in accordance with ASTM D638, shall not be less than 6,000 psi after 72 hours cure at 73°F ± 3.5°F.

(h) **Compressive Strength:** The compressive strength of the material, when tested in accordance with ASTM D695, shall not be less than 12,000 psi after 72 hours cure at 73°F ± 3.5°F.

(i) **Shelf Life:** The individual components shall not require mixing prior to use when stored for a period of 12 months.

(j) **Glass Beads:** The glass beads shall meet the requirements of M.07.30.

M.07.23—Vacant

M.07.24—Preformed Black-Line Mask Pavement-Marking Tape:

General Requirements: The preformed, patterned black-line mask pavement-marking tape shall consist of a matte black, non-reflective tape in widths or sizes sufficiently large to mask the existing markings which are to be temporarily covered.

The patterned masking tape shall be pre-coated with a pressure sensitive adhesive and shall be capable of being adhered to existing markings, on bituminous concrete pavement or Portland cement concrete in accordance with the manufacturer's instructions without the use of heat, solvents or other additional

adhesives, and shall be immediately ready for traffic use after application. The Contractor shall identify equipment necessary for proper application and removal, and make recommendations for application that will assure effective product performance.

The preformed, patterned black-line masking pavement-marking tape shall be suitable for use for 1 year after the date of receipt when stored in accordance with the manufacturer's recommendations.

Detailed Requirements:

- (a) **Composition:** The non-reflective, patterned black-line mask pavement-marking tape shall not contain metallic foil and shall consist of a mixture of high quality polymeric materials, pigments and inorganic fillers distributed throughout its base cross-sectional area, with a matte black non-reflective top layer. The patterned surface shall have a minimum of 20% of the surface area raised and coated with non-skid particles. The channels between the raised areas shall be substantially free of particles. The film shall be pre-coated with a pressure sensitive adhesive. A non-metallic medium shall be incorporated to facilitate removal.
- (b) **Skid Resistance:** The surface of the patterned, non-reflective black-line mask pavement-marking tape shall provide an initial average skid resistance value of 60 British Pendulum Number when tested in accordance with ASTM E303.
- (c) **Thickness:** The patterned material, without adhesive, shall have a minimum thickness of 0.065 inch at the thickest portion of the patterned cross-section and a minimum thickness of 0.02 inch at the thinnest portion of the cross-section.
- (d) **Adhesion:** The black-line mask pavement-marking tape shall adhere to the pavement and existing pavement markings under climatic and traffic conditions normally encountered in the construction work zone.
- (e) **Removability:** The black-line mask pavement-marking tape shall be capable of being removed after its intended use without the use of heat, solvents, grinding, sand or water blasting.

M.07.25—Vacant

M.07.30—Glass Beads: The glass beads shall meet the requirements of AASHTO M 247, Type 1 or 4, depending on application.

**SECTION M.15
HIGHWAY ILLUMINATION**

In the list of Articles, change the title of Article M.15.16 as follows:

| **M.15.16—Vacant**

Replace Article M.15.16 with the following:

| **M.15.16—Vacant**

SECTION M.16
TRAFFIC CONTROL SIGNALS

In the list of Articles, change the title of Articles M.16.08 and M.16.13 as follows:

M.16.08—Pedestrian Pushbutton

M.16.13—Vacant

Replace Subarticle M.16.06-9 in its entirety as follows:

M.16.06—Traffic Signals:

9. Painting: All surfaces of the signal housing, housing door, visors, inside and out, the back surface of the backplate and all brackets and hardware shall be cleaned and coated with a Primer conforming to FS TT-P-1757. The surfaces shall then be finished with 3 coats of infrared oven baked paint applied by the manufacturer, before assembly.

First Coat: The primer shall be iron oxide baking primer and shall meet or exceed the requirements of FS TT-P-664.

Second Coat: Shall be light gray exterior baking enamel and shall comply with FS TT-E-489, either No. 16251, No. 16314, or No. 16376 Gray.

Third Coat: Shall be exterior baked enamel and shall comply with FS A-A-2962.

The housing, housing door, the back surface of the backplate, and all brackets and hardware shall be painted black by the manufacturer. The color shall be Aerospace Material Specification – Standard 595 (AMS-STD-595) Color No. 17038.

At intersections at Merritt Parkway interchanges, the housing, housing door, the back surface of the backplate, and all brackets and hardware shall be painted black by the manufacturer. The color shall be AMS-STD-595 Color No. 14056.

The outside of the visors shall have a dull black finish that meets FS TT-E-527.

The inside of the visors and front surface of the backplate per the MUTCD shall have a dull black finish to minimize light reflection and to increase contrast between the signal indication and its background. The dull black finish shall meet FS TT-E-527.

Replace Subarticle M.16.07-C-2 in its entirety with the following:

M.16.07—Pedestrian Signal:

2. LED: The optical unit shall consist of multiple LED light sources and a regulated power supply assembled as a sealed unit. The diodes shall be arranged to display a full-hand symbol side by side with a full pedestrian symbol. The optical unit shall fit into a standard pedestrian signal housing so that it may be installed into an existing incandescent pedestrian signal. The LED optical unit shall be capable of maintaining message symbol integrity despite any partial loss of LEDs. The beam color shall match that of the incandescent message: walking symbol - lunar white, hand - Portland orange. The beam pattern and intensity shall meet ITE specifications. The intensity may not degrade by more than 10% per annum. The optical unit shall be warranted by the manufacturer for a period of 5 years.

Electrical Requirements:

- Input Voltage: 89 VAC to 135 VAC
- Wattage: 15 Watts
- Input Impedance at 60 Hz must satisfy all conflict monitor requirements.
- A regulated power supply shall be engineered to protect the LEDs from electrical surges and transient voltages.

Replace Subarticles M.16.07-E and M.16.07-F with the following:

E. Hardware: All exposed screws and fasteners shall be stainless steel. All internal screws, fasteners and metal parts shall be stainless steel, non-corrosible materials; or cadmium-plated ferrous materials.

F. Painting: All surfaces of the signal housing, door, all brackets and hardware, and visors, inside and out, shall be finished with 3 coats of infrared-oven- baked paint applied by the manufacturer before

assembly. All brackets and hardware shall be painted **black** by the manufacturer. The color shall be **AMS-STD-595 Color No. 17038**.

First Coat: The primer shall be iron oxide baking primer and shall meet or exceed the requirements of FS TT-P-645.

Second Coat: Shall be light gray exterior baking enamel and shall meet the requirements of FS TT-E-489, No. 16251, No. 16314 or No. 16376 gray.

Third Coat: Shall be exterior-baking enamel and shall meet the requirements of FS A-A-2962.

The housing, housing door, outside of the visor, and all brackets and hardware shall be painted black by the manufacturer. The color shall be **AMS-STD-595 Color No. 17038**.

At intersections at Merritt Parkway interchanges, the housing, housing door, outside of visor, and all brackets and hardware shall be painted dark green by the manufacturer. The color shall be **AMS-STD-595 Color No. 14056**.

The inside of the visor shall have a dull black finish to minimize light reflection and to increase contrast between the signal indication and its background. The dull black finish shall meet FS TT-E-527.

In Article M.16.08, replace the “Painting” Subarticle with the following:

M.16.08—Pedestrian Pushbutton:

Painting: All surfaces of the unit shall be finished with 3 coats of infrared oven-baked paint **applied by the manufacturer**, before assembly.

First Coat: Primer, shall be **iron** oxide baking primer and shall meet **or** exceed performance specification of FS TT-P-664.

Second Coat: Gray Enamel, shall be lusterless and shall comply with FS TT-E-527.

Third Coat: **Black** Enamel, shall be **BLACK** exterior-baking enamel and shall meet the requirements of FS A-A 2962. The color shall be **AMS-STD-595 Color No. 17038**. **At intersections at Merritt Parkway interchanges, the color shall be AMS-STD-595 Color No. 14062.**

Replace Article M.16.13 with the following:

M.16.13—Vacant

In Article M.16.09, replace the “Painting” Subarticle with the following:

M.16.09—Controllers:

Painting: All outside surfaces of the cabinet and door shall be finished with 3 coats of infrared oven-baked paint before assembly.

First Coat: The primer shall be **iron** oxide baking primer and shall meet or exceed FS TT-P-636.

Second and Third Coats: The second and third coats will be aluminum paint meeting the requirements of FS TT-P-320, and Federal Test Method Standard 141. The color shall be **AMS-STD-595 Color No. 17178**.

Replace the last paragraph in Article M.16.17 with the following:

M.16.17—Illuminated Signs:

A weatherproof housing of the dimensions specified on the plans shall be provided to enclose the fiber optic module assembly with bifurcated output fiber bundles, color filters, light sources and transformers. The sign housing frame shall be manufactured from extruded aluminum, 6061-T6, ASTM B221. This assembly shall be provided with a hinged access door. The hinge shall be stainless steel piano type hinge mounted on the left side of the door. All external hardware shall be stainless steel, internal hardware shall be corrosion resistant. The housing shall have a minimum of four 1 inch diameter drainage holes. The entire front face of the sign shall be protected by a 1/8 inch thick sheet of clear polycarbonate mounted in the door frame. The housing shall be Federal **Black** according to **AMS-STD-595 Color No. 17038** and the aluminum front panel shall be flat black according to **AMS-STD-595 Color No. 37031** unless otherwise specified on the plans. **At intersections at Merritt Parkway interchanges, the housing shall be AMS-STD-595 Color No. 14062.** The complete sign assembly shall not weigh more than 150 pounds.

The legend displayed for an "Overhead Illuminated 'Stop Ahead' Sign" shall consist of letters 12 inches high and approximately 9 inches wide formed by fiber optic bundles spaced approximately 1 1/2 inches apart. The sign shall be supplied completely assembled and ready to be checked out.